

COURSE DESCRIPTIONS

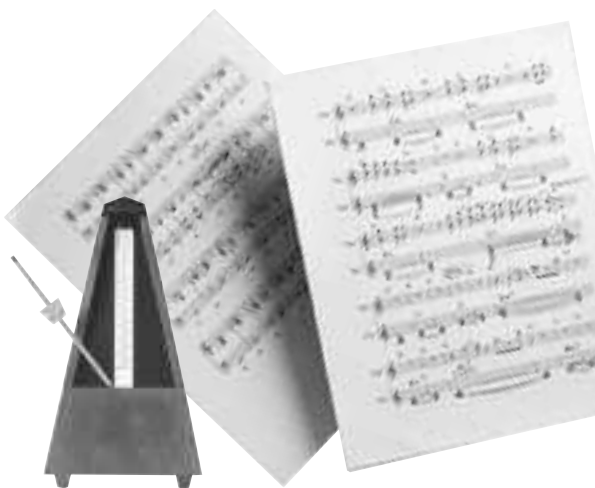
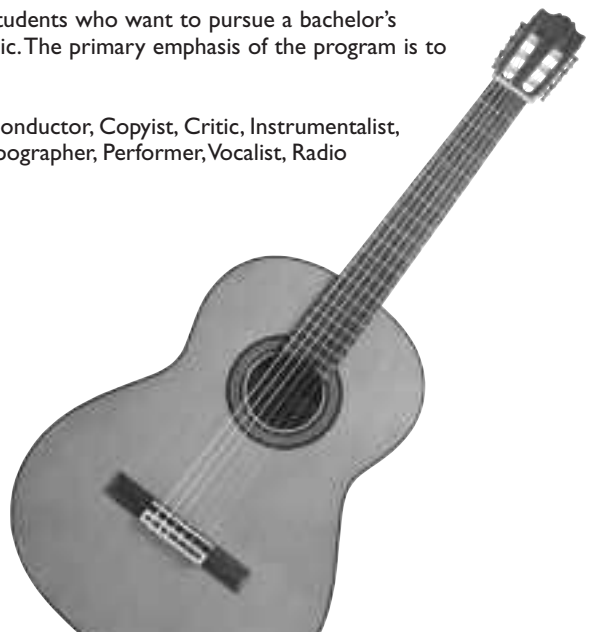
Music Education

The music education program offers lower division preparation for students who want to pursue a bachelor's degree in music education and a California teaching credential in music. The primary emphasis of the program is to prepare students for transfer to four-year music education programs.

CAREER OPPORTUNITIES: Arranger, Choral Director, Composer, Conductor, Copyist, Critic, Instrumentalist, Music Instructor/Professor, Music Librarian, Music Therapist, Music Typographer, Performer, Vocalist, Radio Programmer, Recording Company Representative, Teacher.



Martha Heminger,
Piano Instructor



G r o w i n g F o r Y o u r F u t u r e

EXPLANATION OF ABBREVIATIONS AND COURSE NOTES

Courses which meet the requirements for General Education for the Associate Degree, CSU Certification and the Intersegmental General Education Transfer Curriculum (IGETC) are identified after each course description. The California Articulation Number (CAN) is included below the course title. The CSU and UC indicators are also included after the course description and mean that these courses transfer for at least elective credit to these two public systems of higher education in California.

If you would like more information on how courses meet your specific Associate Degree or transfer objectives, please see a counselor.

AA/AS GE	= Meets general education for the Associate degree.
CAN	= Identifies many transferable, lower division, preparation courses commonly taught on California college and university campuses. Verify the status of all CAN # courses with the Counseling Center.
CSU	= Transfers to the CSU for at least elective credit.
CSU GE	= Meets general education requirements for the California State University system.
IGETC	= Meets Intersegmental General Education Transfer Curriculum requirements.
UC	= Course is transferable to the University of California campuses.
UC credit limit	= Limits the total amount of credit awarded for a series or sequence of courses in the same discipline.

ACCOUNTING

BUSINESS (ACCOUNTING) COURSES

109	ELEMENTARY ACCOUNTING	3 UNITS
	Prerequisite: None Corequisite: None Recommended Preparation: None 3 hours lecture	
	One-semester introduction to elementary accounting principles. Includes journals, ledgers, worksheets and financial statements for the single proprietorship. Designed for the clerical employee or for those who do not intend further study of accounting. <i>(May not be substituted for BUS 120, where required. Not open to students with credit in BUS 120.)</i>	
	CSU	
120	FINANCIAL ACCOUNTING	4 UNITS
	<i>(CAN BUS 2; CAN BUS SEQ A = BUS 120+121)</i> Prerequisite: None Corequisite: None Recommended Preparation: None 4 hours lecture	
	Introduces students to the accounting function and how it is used within our economic society. Views accounting as an information-generating system that communicates financial data to support end users in their economic decision-making. Includes the theory and concepts of accounting, as well as their application to the recording of financial information for the three types of business organizations: sole proprietorship, partnership and corporation. Emphasis on the corporate form of organization.	
	CSU, UC	
121	MANAGERIAL ACCOUNTING	4 UNITS
	<i>(CAN BUS 4; CAN BUS SEQ A = BUS 120+121)</i> Prerequisite: BUS 120 with a grade of "C" or better or "CR" or equivalent Corequisite: None Recommended Preparation: None 4 hours lecture	
	Introduces students to the concepts, methods and procedures for the development and use of accounting information to support and assist management in their internal cost accounting processes and financial decision-making. Includes the theory and concepts of cost accounting, use of financial and accounting information for planning, budgeting and control of operations, and methods and analysis to assist managerial accountants in decision-making activities.	
	CSU, UC	
122	INTERMEDIATE ACCOUNTING	4 UNITS
	Prerequisite: BUS 120 Corequisite: None Recommended Preparation: None 4 hours lecture	
	In-depth study of accounting theories and principles underlying financial statements and the determination of net income. Survey of basic accounting principles. Study of corporate balance sheet items and the analytical processes of statement preparation which include funds-flow and cash-flow reporting.	
	CSU, UC	

124 AUDITING 3 UNITS

Prerequisite: BUS 120
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Study of the role of the auditor in the American economy including the general principles and concepts of auditing duties, ethics, liability and responsibilities of the auditor, and procedures for verification of financial statements including EDP statements.

CSU

129 PAYROLL ACCOUNTING AND BUSINESS TAXES 2 UNITS

Prerequisite: BUS 120
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture

Provides students with an in-depth understanding of payroll accounting. Includes calculations of gross to net pay, coverage of federal and state withholdings and deductions, recording of payroll transactions into the accounting records, and filing of federal and state payroll tax forms. Also includes consideration of factors which determine employee versus independent contractor status, and coverage of business taxes such as sales and property taxes and their filing requirements.

CSU

150 INDIVIDUAL INCOME TAX ACCOUNTING 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Introduces students to federal taxation and focuses on tax preparation as applied to the individual taxpayer. Includes an overview of the income tax environment. Topics include filing status, personal and dependency exemption, itemized and standard deductions, and solving specific problems related to the filing of the Federal Form 1040.

CSU

162 ANALYSIS OF FINANCIAL STATEMENTS 3 UNITS

Prerequisite: BUS 120
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Designed to explore the characteristics of financial statements, to analyze the reported results, and to place the findings from such an analysis in proper perspective. Students will learn how to apply ratios to financial statements, and to interpret their outcomes in order to draw various inferences and/or conclusions from their results.

CSU

176 COMPUTERIZED ACCOUNTING APPLICATIONS 2 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture, 3 hours laboratory

Beginning course in small business accounting using QuickBooks software. Especially beneficial to students, teachers and professionals who are using, or plan to use, personal computers to create a chart of accounts, record customer and vendor transactions, process payroll, and print reports.

CSU

AMERICAN SIGN LANGUAGE**120 AMERICAN SIGN LANGUAGE I 4 UNITS**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture

The beginning course in a series of four American Sign Language courses. Introduction to American Sign Language as used within the Deaf culture. Instruction in the basic structure of the language and development of its use. Introduction to the Deaf culture and history of the language.

AA/AS GE, CSU, CSU GE, IGETC, UC

121 AMERICAN SIGN LANGUAGE II 4 UNITS

Prerequisite: ASL 120 or equivalent
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture

The second course in a series of four American Sign Language (ASL) courses. Students are provided an opportunity to progress and enhance their ability to communicate in American Sign Language. Students will continue the study of cultural analysis and comparisons, receptive skill comprehension, expressive skill production and ASL linguistics.

CSU, CSU GE, IGETC, UC

199 SPECIAL STUDIES OR PROJECTS IN AMERICAN SIGN LANGUAGE 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours

Individual study, research or projects in American Sign Language under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

220 AMERICAN SIGN LANGUAGE III 4 UNITS

Prerequisite: ASL 121 or equivalent
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture

The third course in a series of four American Sign Language (ASL) courses. Students are provided an opportunity to increase their receptive skill comprehension and expressive skill production. Cultural analysis and comparisons will focus on American Deaf cultural processes, practices, and products of Deaf culture.

CSU, CSU GE, IGETC, UC

221 AMERICAN SIGN LANGUAGE IV 4 UNITS

Prerequisite: ASL 220 or equivalent
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture

The last course in a series of four American Sign Language (ASL) courses. The course is taught using American Sign Language. This course is designed to increase receptive and expressive skills, increase literal and inferential comprehension as well as critical analysis of ASL communication. Cross-cultural issues are examined and discussed.

298 SELECTED TOPICS IN AMERICAN SIGN LANGUAGE 1-4 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours

Selected topics in American Sign Language not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN AMERICAN SIGN LANGUAGE 1-4 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours

Selected topics in American Sign Language not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

ANTHROPOLOGY**120 CULTURAL ANTHROPOLOGY 3 UNITS
(CAN ANTH 4)**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

The nature of culture; cultural growth and history; survey of the range of cultural phenomena including material culture, social organization, kinship systems, religion, language and other topics; systematic study of similarities and differences among cultures through investigation of selected societies.

AA/AS GE, CSU, CSU GE, IGETC, UC

**130 INTRODUCTION TO PHYSICAL ANTHROPOLOGY 3 UNITS
(CAN ANTH 2)**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

People's place in nature; physical and behavioral characteristics of primates; principles of evolution and basic outline of human genetics; description of the record of early humans and discussion of explanation of fossils; present day variability among human populations.

AA/AS GE, CSU, CSU GE, IGETC, UC

199 SPECIAL STUDIES OR PROJECTS IN ANTHROPOLOGY 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours

Individual study, research or projects in Anthropology under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

298 SELECTED TOPICS IN ANTHROPOLOGY 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Anthropology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN ANTHROPOLOGY 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Anthropology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

ARABIC

120 ARABIC I 5 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture

Introductory course to the Arabic language and the culture of its speakers. Facilitates the practical application of the language in everyday oral and written communication at the beginning novice level. Since the focus will be on basic communication skills, the class will be conducted in modern standard Arabic as much as possible. While becoming familiar with the Arabic speaking world, students will learn structures that will enable them to function in Arabic in everyday contexts.

AA/AS GE, CSU, CSU GE, IGETC, UC

121 ARABIC II 5 UNITS

Prerequisite: ARBC 120 with a grade of "C" or better or "CR" or two years of high school Arabic or equivalent
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture

Continuation of ARBC 120. Continues to develop oral and written skills based on practical everyday needs. Students with three years of high school Arabic should enroll in ARBC 220.

AA/AS GE, CSU, CSU GE, IGETC, UC

199 SPECIAL STUDIES OR PROJECTS IN ARABIC 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours

Individual study, research or projects in Arabic under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

220 ARABIC III 5 UNITS

Prerequisite: ARBC 121 with a grade of "C" or better or "CR" or three years of high school Arabic or equivalent
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture

Continuation of ARBC 121. Continues to develop oral, listening, reading and writing skills in order to acquire proficiency in Arabic. Students with four years of high school Arabic should enroll in ARBC 221.

AA/AS GE, CSU, CSU GE, IGETC, UC

221 ARABIC IV 5 UNITS

Prerequisite: ARBC 220 with a grade of "C" or better or "CR" or four years of high school Arabic or equivalent
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture

Continuation of ARBC 220. Continues to develop oral, reading, writing and listening skills in order to improve proficiency in Arabic.

AA/AS GE, CSU, CSU GE, IGETC, UC

250 CONVERSATIONAL ARABIC I 3 UNITS

Prerequisite: ARBC 121 or three years of high school Arabic or equivalent

Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Continues to develop oral, reading, writing and listening skills, but with an emphasis in oral proficiency.

AA/AS GE, CSU, CSU GE, UC

251 CONVERSATIONAL ARABIC II 3 UNITS

Prerequisite: ARBC 250 or four years of high school Arabic or equivalent

Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Continues to develop oral, reading, writing and listening skills, but with an emphasis in oral proficiency.

AA/AS GE, CSU, CSU GE, UC

298 SELECTED TOPICS IN ARABIC 1-5 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-15 hours

Selected topics in Arabic not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN ARABIC 1-5 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-15 hours

Selected topics in Arabic not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

ARAMAIC

120 ARAMAIC I 5 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture

Acquaints students with the classical-modern Aramaic alphabet, essentials of grammar and pronunciation and the Chaldean-Assyrian culture and civilization. The origin of the Semitic languages will be surveyed through selected readings and discussions.

AA/AS GE, CSU, CSU GE, UC

121 ARAMAIC II 5 UNITS

Prerequisite: ARAM 120
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture

Helps students to further their knowledge of classical-modern Aramaic grammar. Students will study nouns, pronouns, adjectives and basic verb forms.

AA/AS GE, CSU, CSU GE, IGETC, UC

199 SPECIAL STUDIES OR PROJECTS IN ARAMAIC 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours

Individual study, research or projects in Aramaic under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

220 ARAMAIC III 5 UNITS

Prerequisite: ARAM 121
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture

Helps students to further their knowledge of classical-modern Aramaic grammar. Primary emphasis on the conjugation of verbs, introduction to Aramaic literature and the translation of ancient and modern text materials. Students will also learn how to compose and write essays in modern Aramaic (Chaldean).

AA/AS GE, CSU, CSU GE, IGETC, UC

298 SELECTED TOPICS IN ARAMAIC 1-5 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-15 hours

Selected topics in Aramaic not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN ARAMAIC 1-5 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-15 hours

Selected topics in Aramaic not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

120 TWO-DIMENSIONAL DESIGN 3 UNITS

(CAN ART 14)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory

Develops an understanding of how humans communicate with the visual language. Provides the concepts and vocabulary necessary to analyze and build designs that emphasize unity or diversity and teaches how to make and use patterns, gradients, balance, proportions, focal points, eye movements, major divisions, formats, subtractive color mixing and color harmony. This course is important for anyone who designs with an aesthetic component, i.e., drawing, painting, photography, film, video, theater, illustration, graphic design, cartooning, animation, architecture, sculpture, ceramics, jewelry design, crafts, engineering, interior design, landscape design, flower arranging, etc.

AA/AS GE, CSU, CSU GE, UC

121 PAINTING I 3 UNITS

(CAN ART 10)
 Prerequisite: ART 120
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory

Emphasizes painting tools, materials, techniques and color principles. Students will develop skill in handling form, space, and plastic aspects of acrylic and/or oil paints.

CSU, UC

124 DRAWING I 3 UNITS

(CAN ART 8)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory

Forms the physical and intellectual skills necessary to think visually. Develops an understanding of the fundamental drawing tools and techniques used by old and new master artists alike. Line and shape making strategies will be explored through a variety of right and left brain techniques. The use of scientific perspective, modeling and texture will be integrated into the drawing process. This course is important for anyone who must think and organize visually, i.e. drawing, painting, photography, film, video, theater, illustration, graphic design, cartooning, animation, architecture, sculpture, ceramics, jewelry design, crafts, interior design, landscape design, etc.

AA/AS GE, CSU, CSU GE, UC

125 DRAWING II 3 UNITS

Prerequisite: ART 124
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory

Builds on the drawing techniques and composition concepts covered in ART 124. Introduces brush, pen and ink into the drawing process with an emphasis on line quality and modeling using washes, hatching and stippling. Colored pencil and pastel mediums are explored using a variety of linear and tonal techniques. Scientific perspective is extended from ART 124 to include measuring, inclining planes, circles, shadows and reflections. This course is important for anyone wanting to learn new mediums to address creative problem solving and to refine drawing skills.

CSU, UC

ART**100 ART APPRECIATION 3 UNITS**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

In this introductory course students learn how to examine, compare, analyze, evaluate, interpret, and discuss works of visual art within their cultural contexts. Art media for study will include drawing, painting, printmaking, photography, sculpture, ceramics, textiles, film, architecture, etc. Works for examination will encompass representative artistic styles from western and other major world cultures, and will also include the artistic contributions of women and minority cultures.

AA/AS GE, CSU, CSU GE, IGETC, UC

- 129 THREE-DIMENSIONAL DESIGN 3 UNITS**
(CAN ART 16)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 Introduction to the fundamental principles of three-dimensional composition emphasizing the formal elements and language of design. Basic visual, tactile and conceptual methods of defining space are examined in a series of compositional exercises. A variety of materials are used to explore the elements of line, shape, mass, texture and volume through the application of design principles such as balance, emphasis, rhythm, harmony, contrast, repetition, proportion, scale and unity. The historical development of design and aesthetics is studied along with how social, political and cultural beliefs have influenced artists and design professionals. Assignments are non-technical and do not require prior knowledge of tools and equipment. Three-dimensional design is a comprehensive introductory course that could lead to future study in a diverse range of art and design professions.
AA/AS GE, CSU, CSU GE, UC
- 135 WATERCOLOR I 3 UNITS**
 Prerequisite: ART 124
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 Introduction to basic watercolor tools, materials and techniques. Emphasizes color principles and skill development in handling form, space and the plastic aspects of paint.
CSU, UC
- 140 HISTORY OF WESTERN ART I: PREHISTORIC TO 1250 A.D. 3 UNITS**
(CAN ART 2; CAN ART SEQ A = ART 140+141)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Historical survey of the major art forms (primarily architecture, sculpture, ceramics, painting) of the western world from prehistory to circa 1250 A.D.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 141 HISTORY OF WESTERN ART II: 1250 A.D. TO PRESENT TIME 3 UNITS**
(CAN ART 4; CAN ART SEQ A = ART 140+141)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Historical survey of the major art forms (primarily architecture, sculpture, ceramics, painting, printmaking, photography) of the western world from the late Gothic era to the present.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 144 ARCHITECTURE OF THE 20TH CENTURY 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Meet the 20th Century masters of the giant movements in architecture and environment. Global politics and social economics as the influential factors for the concepts, styles, philosophy and artistic expressions. Experience the landmark sites around the world via film and slide projections, independent studies and field trips.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 145 CONTEMPORARY ART HISTORY: 1945-PRESENT 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Survey of the major artists and art movements from 1945 to the present. Includes such major topics as the analysis and summary of Modernism, the transition from Modern to Post-Modern art, the emergence of non-traditional art media, and the analysis of the influence of global multiculturalism in art. Specific art practices such as painting, sculpture, earthworks, photography, performance, installation, printmaking and architecture will be discussed in relation to the cultural dialogue they establish or to which they respond.
AA/AS GE, CSU, IGETC, UC
- 199 SPECIAL STUDIES OR PROJECTS IN ART 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Art under instructor guidance. Written reports and periodic conferences are required. Content and unit credit to be determined by student/ instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 220 PAINTING II 3 UNITS**
 Prerequisite: ART 121
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 Continuation of Painting I with emphasis on creative problem-solving skills. Student will develop a personal style of expression.
CSU, UC
- 221 PAINTING III 3 UNITS**
 Prerequisite: ART 220
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 Offers a wider selection of painting mediums to include acrylic, oil, egg tempera, casein and encaustic. Students will continue developing a personal style of expression.
CSU, UC

- 222 PAINTING IV 3 UNITS**
 Prerequisite: ART 221
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 Focuses on a series of paintings that develop a personal theme or statement. Advanced painting techniques will be combined with advanced compositional devices.
CSU
- 224 DRAWING III 3 UNITS**
 Prerequisite: ART 125
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 The drawing mediums, skills, techniques and composition concepts used in ART 124 and 125 will be applied to a variety of subject matters. Students will draw different subject matters including but not limited to animals, plants, still life, landscapes, seascapes, cityscapes, etc. Emphasis is on making effective compositions with good craft.
CSU, UC
- 225 DRAWING IV 3 UNITS**
 Prerequisite: ART 224
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 Focuses on drawing-based artwork that results in artwork that has a personal theme or statement. Students will explore several advanced compositional devices while pursuing their themes. This class also emphasizes portfolio preparation.
CSU, UC
- 230 FIGURE DRAWING I 3 UNITS**
(CAN ART 24)
 Prerequisite: ART 124
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 Utilizes the skills and concepts developed in ART 124 to address the drawing of the nude human figure. Students will learn how articulation, standard proportion, bones and muscles influence the rendering of the human form. Drawing will be done from live models with studio lighting. Emphasis on representational drawing with line and value. This course is important for anyone dealing with the human figure, i.e., drawing, painting, sculpture, photography, illustration, graphic design, fashion design, etc.
CSU, UC
- 231 FIGURE DRAWING II 3 UNITS**
 Prerequisite: ART 230
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 Builds on the concepts and skills developed in ART 230. Surface anatomy related to the bone and muscle structure of the human form is studied along with the proportions and anatomy of the human head. Students will work with achromatic and chromatic drawing mediums.
CSU, UC
- 232 FIGURE DRAWING III 3 UNITS**
 Prerequisite: ART 231
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 Concentrates on integrating the human figure into a compositional environment. Figure drawing techniques from ART 230 and 231 will be integrated into the design process.
CSU, UC
- 233 FIGURE DRAWING IV 3 UNITS**
 Prerequisite: ART 232
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 Focuses on figurative artwork that develops a personal theme or statement. Students will be asked to explore several advanced compositional devices while pursuing their themes. This class emphasizes portfolio preparation.
CSU
- 235 WATERCOLOR II 3 UNITS**
 Prerequisite: ART 135
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 Continuation of Watercolor I techniques with emphasis on creative problem solving and aesthetic compositions.
CSU, UC
- 236 WATERCOLOR III 3 UNITS**
 Prerequisite: ART 235
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 Continuation of Watercolor II skill and composition techniques. Students will develop a personal style of expression.
CSU, UC
- 298 SELECTED TOPICS IN ART 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Art not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN ART 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Art not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

ASTRONOMY

- 110 DESCRIPTIVE ASTRONOMY 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Covers the development of modern astronomy and its techniques. Emphasis on the vocabulary of astronomy and the current understanding of our solar system, stellar evolution, our galaxy, and the structure of the universe.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 112 GENERAL ASTRONOMY LABORATORY 1 UNIT**
 Prerequisite: ASTR 110 or concurrent enrollment
 Corequisite: None
 Recommended Preparation: None
 3 hours laboratory
 Planet, stellar and lunar studies; acquaintance with constellations and astronomical coordinates; use of astronomical instruments.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 199 SPECIAL STUDIES OR PROJECTS IN ASTRONOMY 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Astronomy under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 298 SELECTED TOPICS IN ASTRONOMY 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Astronomy not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN ASTRONOMY 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Astronomy not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

AUTOMOTIVE TECHNOLOGY

- 099 INTRODUCTION TO AUTOMOTIVE TECHNOLOGY 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to present basic information about automotive systems. Taught with the consumer in mind, but also serves as an excellent introductory course for those interested in the automotive technology major.
CSU
- 100 INTRODUCTION TO AUTOMOTIVE TECHNOLOGY LAB 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours laboratory
 Basic laboratory environment designed to prepare students for entry into the Automotive Technology major. Covers repairing, servicing and basic diagnostic procedures of a typical passenger car or light truck.
CSU
- 111 INTRODUCTORY TOW TRUCK OPERATOR 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture, 3 hours laboratory
 Detailed study of tow truck operations including: vehicle and equipment operation and terminology, clearing accident scenes, working with law enforcement, reports and documentation, public safety and law enforcement calls, laws pertaining to towing, radio communication, hazardous materials and vehicle recovery operations.
- 114 ADVANCED TOW TRUCK OPERATOR 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 Advanced refresher study of tow truck operations including: vehicle and equipment operation and terminology, clearing accident scenes, working with law enforcement, reports and documentation, public safety and law enforcement calls, laws pertaining to towing, radio communication, hazardous materials and vehicle recovery operations. Designed to meet CHP (TSA) certification standards effective July 1, 2003.
- 120 ENGINE PERFORMANCE I - MECHANICAL AND IGNITION SYSTEMS 5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 6 hours laboratory
 First in a three course series dealing with engine performance. Begins with a review of basic engine mechanical systems and an introduction to vehicle emissions and computer scanners, followed by a detailed study of current ignition systems. Students will be required to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Initial preparation for ASE Engine Performance (A-8) Certification.
CSU

- 121 EMISSION CONTROL LICENSE 5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 6 hours laboratory
 Theory of operation, repair and maintenance of emission control devices with strong emphasis on laws and regulations required for licensing. Additional training covers: loaded mode dyno testing, NOx failure analysis and diagnostics, OBD II, catalytic converter testing and Oxygen sensor diagnosis with a digital storage oscilloscope (DSO). This course is approved by the State of California Bureau of Automotive Repair (BAR) and includes the Basic and Advanced clean air car courses. Designed to prepare students to take the BAR Advanced Emission Specialist Technician (EA) License test.
CSU
- 122 AUTOMOTIVE ELECTRICAL SYSTEMS 5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 6 hours laboratory
 Basic principles of electricity as applied to automobiles. Comprehensive investigation of automotive electrical systems including periodic maintenance, diagnosis, component servicing and adjustment. Students will be expected to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Preparation for ASE A-6 Certification.
CSU
- 123 ENGINE PERFORMANCE II - FUEL SYSTEMS 5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: AUTO 120
 3 hours lecture, 6 hours laboratory
 Second in a three course series dealing with engine performance. Emphasizes the use of computers for the control of fuel and air delivery to the engine. Topics include: input and output devices, basic computer operation, closed loop fuel control, computer-assisted carburetion, computer-controlled fuel injection, turbochargers and superchargers, scan tool diagnostics, digital lab scope diagnostics, OBD II diagnostic. Students will be required to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Final preparation for ASE Engine Performance (A-8) Certification.
CSU
- 124 ENGINE PERFORMANCE III - DRIVABILITY 5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: AUTO 123
 3 hours lecture, 6 hours laboratory
 The capstone course in a three course engine performance series. Students will utilize skills developed in the first two courses to perform drivability diagnostics on all related engine systems. Emphasis on advanced application of scan tools and digital storage oscilloscopes (DSO) in the diagnosis of hard to find system problems, especially intermittent concerns. Students will be required to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Preparation for ASE Advanced Engine Performance (L-1) Certification.
CSU
- 127 ADVANCED AUTOMOTIVE ELECTRICAL SYSTEMS 5 UNITS**
 Prerequisite: AUTO 122
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 6 hours laboratory
 Advanced course in electrical systems designed to develop greater student performance under simulated industry conditions. Students will be expected to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Preparation for ASE A-6 Certification.
CSU
- 129 INTRODUCTION TO ALTERNATIVE FUELS 3.5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 1.5 hours laboratory
 Introductory course in the study of alternative fuels and their delivery systems for automotive and light truck application. The main focus will be centered around Compressed Natural Gas (CNG) and Liquefied Petroleum Gas (LPG) systems. Additionally, electric, hybrid and fuel cell technologies will be discussed. Topics include: environmental concerns, pros and cons of various alternative fuel options, properties and chemical structure of various alternative fuels, safety aspects of each fuel, fuel storage, fuel metering control, retrofitting, installation, and diagnosis and troubleshooting. Recommended that students have a working knowledge of automotive electricity, automotive tune-up and diagnosis, and automotive computer systems.
CSU
- 130 AUTOMOTIVE BRAKES AND BRAKE LICENSE 5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 6 hours laboratory
 Detailed study of automotive brake system service procedures. Laboratory experience covers drum and disc brake system inspection, adjustment and repair procedures. Antilock brake systems. Students will be required to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Preparation for State of California Official Brake Adjusters License and ASE A-5 Certification.
CSU

- 135 ADVANCED BRAKES 5 UNITS**
Prerequisite: AUTO 130
Corequisite: None
Recommended Preparation: None
3 hours lecture, 6 hours laboratory
Advanced course in automotive brake systems emphasizing diagnosis. Designed to develop greater student performance under simulated industry conditions. Students will be required to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Preparation for State of California Official Brake Adjusters License and ASE A-5 Certification.
CSU
- 140 FOUR WHEEL ALIGNMENT 5 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture, 6 hours laboratory
Four wheel alignment principles as applied to checking and correcting alignment settings. Repair and replacement of suspension components, computerized steering and ride controls. Additional training in wheel balancing. Emphasis on practical experience on "live" automobiles. Students will be required to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Preparation for ASE A-4 Certification.
CSU
- 145 ADVANCED FOUR WHEEL ALIGNMENT 5 UNITS**
Prerequisite: AUTO 140
Corequisite: None
Recommended Preparation: None
3 hours lecture, 6 hours laboratory
Advanced course in four wheel alignment emphasizing diagnosis and complete suspension system repair. Designed to develop greater student performance under simulated industry conditions. Students will be required to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Preparation for ASE A-4 Certification.
CSU
- 152 DRIVE TRAIN SYSTEMS 4 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
2.5 hours lecture, 4.5 hours laboratory
In-depth study of hydraulic power transmission and control systems used in automatic transmissions including diagnosis and overhaul of actual transmissions to precise industry standards. Plus, theory of operation, diagnosis, repair and overhaul of manual transmissions, clutches, drivelines and differentials including four wheel drive and front wheel drive. Students will be required to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Preparation for ASE A-2 and A-3 Certification.
CSU
- 155 ADVANCED DRIVE TRAIN SYSTEMS 4 UNITS**
Prerequisite: AUTO 152
Corequisite: None
Recommended Preparation: None
2.5 hours lecture, 4.5 hours laboratory
Advanced course in power drive systems emphasizing advanced diagnosis and repair of drive train systems and components. Designed to develop greater student performance under simulated industry conditions. Students will be required to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Preparation for ASE A-2 and A-3 Certification.
CSU
- 160 AIR CONDITIONING AND HEATING SYSTEMS 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
2 hours lecture, 3 hours laboratory
Study of refrigeration principles with emphasis on servicing, diagnosing, testing and repair or replacement of components. Emphasis on practical experience performing actual repairs. Students will be required to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Preparation for ASE A-7 Certification and EPA-approved CFC Technician Certification.
CSU
- 165 ADVANCED AIR CONDITIONING AND HEATING SYSTEMS 3 UNITS**
Prerequisite: AUTO 160
Corequisite: None
Recommended Preparation: None
2 hours lecture, 3 hours laboratory
Advanced course in automotive environmental control systems emphasizing advanced diagnosis and repair. Designed to develop greater student performance under simulated industry conditions. Students will be required to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Preparation for ASE A-7 Certification.
CSU
- 170 ENGINE OVERHAUL 5 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture, 6 hours laboratory
Diagnosis of engine failures, engine removal and disassembly techniques, engine cleaning and measuring practices, machining principles and assembly procedures. Emphasis on practical experience through actual shop training. Students are required to provide an auto engine for overhaul. Students will be required to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Preparation for ASE A-1 Certification.
CSU

- 175 ADVANCED ENGINE OVERHAUL 5 UNITS**
 Prerequisite: AUTO 170
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 6 hours laboratory
 Advanced course in engine overhaul designed to develop greater student performance under simulated industry conditions. Students will be required to complete associated tasks in the shop as specified by NATEF (National Automotive Training Educational Foundation). Preparation for ASE A-1 Certification.
CSU
- 176 ENGINE MACHINING 5 UNITS**
 Prerequisite: AUTO 175
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 6 hours laboratory
 Third course in the engine repair sequence. Student must have credit in engine overhaul and advanced engine overhaul prior to enrolling in this course. Topics include cylinder boring and honing, rod resizing, replacing valve guides and seats, thread repair, king-pin fitting, replacing wheel studs, pressing bearings, etc. Designed to prepare students for employment in the automotive machine shop field. Preparation for ASE Engine Machinist exams.
CSU
- 180 AUTOMOTIVE SERVICE ADVISOR 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 Prepares the student for working as a service advisor for a large independent garage or dealership. Covers service procedures, customer relations, repair orders and warranty policies.
CSU
- 182 AUTOMOTIVE WORK EXPERIENCE 1-3 UNITS**
 Prerequisite: Completion of a minimum of 10 units in Automotive Program. Must meet State guidelines for work experience.
 Corequisite: None
 Recommended Preparation: None
 5 hours paid or 4 hours unpaid work experience per week per unit
 Students who are employed in the automotive trade full-time or part-time (paid or unpaid) and able to work the minimum required hours during the semester are eligible to enroll in this course. Assessment of student will be performed by instructor in discussion with appropriate supervisor at place of employment. Allows students to further develop skills attained in the classroom setting. *May be repeated up to 5 times for a maximum of 15 units.*
CSU
- 190 ASSET-ORIENTATION, PDI AND LUBRICATION 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture, 3 hours laboratory
 Introduction to the Ford sponsored ASSET program. Students will become familiar with dealership operations, vehicle pre-delivery inspection, and proper lubrication of the various systems of the modern automobile. Complemented by required work experience in the dealership.
CSU
- 191 ASSET-BRAKES AND ALIGNMENT 7 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture, 6 hours laboratory
 Ford ASSET course to include a detailed study of modern automotive braking systems and service procedures. The laboratory will cover drum and disc brake systems inspection, adjustment and repair procedures. Also covers four wheel alignment principles as applied to checking and correcting alignment settings. Repair and replacement of suspension components. Additional training in wheel balancing. Emphasis on practical experience on "live" automobiles. Preparation for ASE Certification. Complemented by required work experience in the dealership.
CSU
- 192 ASSET-DRIVE TRAIN 8 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 5.5 hours lecture, 7.5 hours laboratory
 Ford ASSET course encompassing the study of modern drive train systems. Includes theory of operation, diagnosis, repair and overhaul of manual transmissions, clutches, drivelines and differentials including four wheel drive and front wheel drive. The course also includes the theory of operation, diagnosis, repair and overhaul of automatic transmissions and transaxles. Current computerized control system operation and diagnosis of the drive train will be emphasized. Includes Ford Motor Company certification and preparation for ASE Certification. Complemented by work experience in the dealership.
CSU
- 193 ASSET-ENGINE REPAIR 4.5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 4.5 hours laboratory
 Ford ASSET course to include diagnosis of engine failures, engine removal and disassembly techniques, engine cleaning and measuring practices, machining principles, assembly procedures and in-car repairs. Engine design theory will be discussed. Preparation for ASE Certification. Complemented by required work experience in the dealership.
CSU
- 194 ASSET-TUNE-UP AND EMISSIONS 7 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture, 6 hours laboratory
 Ford ASSET course to include an in-depth study of tune-up and emission systems, beginning with a review of basic engine systems followed by a detailed study of tune-up and emission system diagnostic and repair procedures utilizing state of the art equipment. Includes the State of California Bureau of Automotive "120 Hour Clean Air Car Course," which fulfills requirements to enable students to take the State of California test for smog technicians. Preparation for ASE Certification. Complemented by required work experience in the dealership.
CSU

- 195 ASSET–ELECTRONIC ENGINE CONTROLS** **7 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
5 hours lecture, 6 hours laboratory
Ford ASSET course to include an in-depth study of engine drivability and electronic engine controls on modern automobiles and trucks. Includes the study of basic and electronic ignition systems, early and modern fuel systems, and the repair and diagnosis of these systems. Emphasis on electronic engine control system theory of operation and repair to include discussion of sensors, processors and actuators, and system diagnosis and repair. On-board computer logic and strategies will also be presented. Preparation for ASE Certification. Students who successfully complete this course will receive Ford Motor Company certification in Electronic Engine Control and Diesel Engine Performance Diagnosis.
CSU
- 196 ASSET–ELECTRICAL, ACCESSORIES AND AIR CONDITIONING** **5 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
4 hours lecture, 3 hours laboratory
Ford ASSET course to include electrical systems, theory, diagnosis and repair procedures utilizing state of the art equipment. Systems covered will be storage, generating and starting. Coverage of accessory systems such as lighting, power seats, power door locks, cruise controls, electric windows, electronic dashboards, radios, windshield wipers, etc. Also covered are all major topics dealing with automotive air conditioning including refrigeration theory, system evacuation and recovery, leak repair, compressor repair, component replacement, and manual and automatic temperature control. Preparation for ASE Certification. Complemented by required work experience in the dealership.
CSU
- 197 ASSET–WORK EXPERIENCE** **1-3 UNITS**
Prerequisite: Admission to the ASSET program
Corequisite: None
Recommended Preparation: None
75 hours paid work experience per unit
Ford ASSET work experience. Students will be placed with sponsoring dealer at start of training program. The course is based on paid work experience at the sponsoring dealership. Assessment of student will be performed by ASSET coordinator in discussion with appropriate dealership personnel. Student is expected to work in the area of emphasis that is concurrent with area of training most recently completed at the college. Allows students to further develop skills attained in classroom setting. *Must be repeated 5 times for a total of 13 units.*
CSU
- 199 SPECIAL STUDIES OR PROJECTS IN AUTOMOTIVE TECHNOLOGY** **1-3 UNITS**
Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
3-9 hours
Individual study, research or projects in Automotive Technology under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 200 ASEP–ORIENTATION** **1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
1 hour lecture
Introduction to the General Motors sponsored ASEP program. Students will become familiar with dealer operations. Complemented by required work experience in a dealership.
CSU
- 201 ASEP–ELECTRICAL** **6 UNITS**
Prerequisite: AUTO 200
Corequisite: None
Recommended Preparation: None
4 hours lecture, 6 hours laboratory
General Motors ASEP course to include electrical systems, theory, diagnosis and repair procedures utilizing state of the art equipment. Major topics include electrical laws, batteries, starting and charging systems, wiring diagrams, and introduction to computer controls. Coverage of accessory systems such as lighting, power seats, power door locks, cruise controls, electric windows, electronic dashboards, radios, windshield wipers, etc. Preparation for ASE and GM certification. Complemented by required work experience in a dealership.
CSU
- 202 ASEP–BRAKES AND ALIGNMENT** **7 UNITS**
Prerequisite: AUTO 200
Corequisite: None
Recommended Preparation: None
5 hours lecture, 6 hours laboratory
General Motors ASEP course to include a detailed study of modern automotive braking systems and service procedures, including two and four wheel electronic anti-lock brake system operation and repair. Laboratory experience will cover drum and disc brake system inspection, adjustment and repair procedures. Also covers modern suspension and steering systems including electronic ride control, steering, and four wheel alignment principles as applied to checking and correcting alignment settings. Repair and replacement of suspension components. Additional training in wheel balancing. Emphasis on practical experience on "live" automobiles. Preparation for ASE and GM certification. Complemented by required work experience in a dealership.
CSU

- 203 ASEP—ENGINE REPAIR 4.5 UNITS**
 Prerequisite: AUTO 200
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 4.5 hours laboratory
 General Motors ASEP course to include diagnosis of engine failures, engine removal and disassembly techniques, engine cleaning and measuring practices, machining principles, and assembly procedures in car repairs. Engine design theory will be discussed. Preparation for ASE and GM certification. Complemented by required work experience in a dealership.
CSU
- 204 ASEP—POWER TRAIN 7 UNITS**
 Prerequisite: AUTO 200
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture, 6 hours laboratory
 General Motors ASEP course to include an in-depth study of hydraulic power transmission and control systems used in automatic transmissions, including diagnosis and overhaul of actual transmissions to precise industry standards. Plus, theory of operation, diagnosis, repair and overhaul of manual transmissions, clutches, drivelines and differentials including four wheel drive and front wheel drive. Preparation for ASE and GM certification. Complemented by required work experience in a dealership.
CSU
- 205 ASEP—ENGINE PERFORMANCE AND AIR CONDITIONING 7 UNITS**
 Prerequisite: AUTO 200
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture, 6 hours laboratory
 General Motors ASEP course to include a detailed study of electronic engine controls on modern automobiles. Emphasis on electronic engine control system theory of operation and repair to include discussion of sensors, processors and actuators, and system diagnosis and repair. On-board computer logic and strategies will be presented. Also covers all major topics dealing with automotive air conditioning including refrigeration theory, system evacuation and recovery, leak repair, compressor repair, component replacement, and manual and automatic temperature control. Preparation for ASE and GM certification. Complemented by required work experience in a dealership.
CSU
- 206 ASEP—WORK EXPERIENCE 1-4 UNITS**
 Prerequisite: AUTO 200
 Corequisite: None
 Recommended Preparation: None
 75 hours paid work experience per unit
 General Motors ASEP work experience. Students will be placed with sponsoring dealer at start of training program. This course is based on paid work experience at the sponsoring dealership. Assessment of student will be performed by ASEP coordinator in discussion with appropriate dealership personnel. Student is expected to work in the area of emphasis that is concurrent with area of training most recently completed at the college. Allows students to further develop skills attained in the classroom setting. *Must be repeated for a total of 15 units.*
CSU
- 298 SELECTED TOPICS IN AUTOMOTIVE TECHNOLOGY 1-8 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-24 hours
 Selected topics in Automotive Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN AUTOMOTIVE TECHNOLOGY 1-8 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-24 hours
 Selected topics in Automotive Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

BIOLOGICAL SCIENCES

- 112 CONTEMPORARY ISSUES IN ENVIRONMENTAL RESOURCES 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Through the scientific study of basic concepts in ecology, students apply their knowledge and scientific reasoning to the study of contemporary problems dealing with renewable and nonrenewable resources. Environmental resource problems involving air, water, energy, human population growth, and plant and animal diversity are examined in context of their scientific, political, economic and social implications. Alternatives for resolving existing problems and preventing future ones will be examined.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 115 BIOLOGY OF ALCOHOL AND OTHER DRUGS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Study of the biological principles underlying the effects of the major legal and illegal drugs on the human body. Survey of the commonly abused drugs with regard to their chemical nature, where and how they act and the factors that modify their effects.
AA/AS GE, CSU, CSU GE
- 122 PLANT STRUCTURES AND FUNCTIONS 4 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 3 hours laboratory
 Structural and functional aspects of plants with emphasis on seed producers and applications to horticulture. Includes fundamentals of plant biology, primary and secondary body plan, photosynthesis and respiration, growth and development, water relations and phloem transport, cellular and organismic reproduction, plant heredity and evolution.
AA/AS GE, CSU, CSU GE
- 126 INTRODUCTION TO BIOTECHNOLOGY 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Comprehensive look at how the use of living organisms or their products can enhance our lives and impact society. Fundamentals of molecular biology and immunology, historical review of the developments leading to modern biotechnology, studies of the development and manufacturing of biotechnology products based on the isolation, analysis and manipulation of genes, and applications of the technological developments will be evaluated in their social, legal and ethical contexts
AA/AS GE, CSU, UC
- 128 PRINCIPLES OF BIOLOGY FOR FUTURE EDUCATORS 4 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 3 hours laboratory
 This course addresses the major principles underlying all of biology with an emphasis on evolution, inheritance, cellular life, biodiversity, ecology, and behavior of living organisms. Designed to prepare prospective educators to evaluate their own learning strategies while gaining biological content knowledge, and to explore ways to incorporate biology content into K-12 curricula. Incorporates some of the National Science Education Standards (NSES) for undergraduate professional preparation of teachers. *Not open to students with credit in BIO 130 and 131 or BIO 210, 220 and 221.*
AA/AS GE, CSU, CSU GE, IGETC, UC, UC credit limit
- 130 GENERAL BIOLOGY I 3 UNITS**
(CAN BIOL 2 = BIO 130+131)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Survey of basic biological principles with particular emphasis on the molecular and cellular aspects of the organism. The unifying concepts of biology such as organization, metabolism, genetics and evolution are discussed. *Meets transfer requirements for non-majors.*
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 131 GENERAL BIOLOGY I LABORATORY 1 UNIT**
(CAN BIOL 2 = BIO 130+131)
 Prerequisite: BIO 130 or concurrent enrollment
 Corequisite: None
 Recommended Preparation: None
 3 hours laboratory
 Laboratory experiments on the basic biological principles with particular emphasis on the molecular and cellular aspects of the organism. *Meets transfer requirements for non-majors.*
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 140 HUMAN ANATOMY 5 UNITS**
 Prerequisite: BIO 130 and 131 or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 6 hours laboratory
 Students will embark on a study of the systems of the human body. This is accomplished through a study of the organization of the body's systems from a microscopic level of organization to the gross anatomy level. In addition, the relationship between structure and function will be examined through the study of histological slides, photomicrographs, anatomical models and charts, and mammalian (cat) dissection.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 141 HUMAN PHYSIOLOGY 3 UNITS**
 Prerequisite: BIO 130, 131
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Study of the function and interrelationships of the nervous, endocrine, muscular, circulatory, respiratory, digestive, exocrine and reproductive systems of the human body. Emphasizes the homeostatic nature of these systems with some reference to human disease states.
AA/AS GE, CSU, CSU GE, IGETC, UC

- 198 SUPERVISED TUTORING 0 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 TBA hours
 Uses a variety of educational tools to assist students with various learning needs. Can be used to strengthen prerequisite skills prior to enrolling in a specific course or to receive supplemental assistance while concurrently enrolled in another course. *May be repeated with different content.*
No fee/no credit course.
- 199 SPECIAL STUDIES OR PROJECTS IN BIOLOGY 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Biology under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 210 BIOLOGY II 4 UNITS**
 Prerequisite: MATH 103 or 110 with a grade of "C" or better or "CR" or an equivalent intermediate algebra course
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 3 hours laboratory
 Study of the origin and nature of the different forms of life utilizing evolution as a unifying theme and presenting organismal diversity within a phylogenetic framework. The relationships of environment and lifestyles to form and function will be explored through examination of comparative structure and the physiology, nutrition, circulation, gas exchange, reproduction and development of organisms found in the three domains of life.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 215 STATISTICS FOR LIFE SCIENCES 3 UNITS**
 Prerequisite: MATH 110 or equivalent and BIO 130 or equivalent
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Methods and experience in defining and solving quantitative problems in the life sciences. Emphasis on the design of experiments and the application of a variety of parametric and nonparametric techniques to the analysis of data.
CSU, CSU GE, IGETC, UC, UC credit limit
- 220 PRINCIPLES OF MOLECULAR, CELLULAR AND EVOLUTIONARY BIOLOGY 3 UNITS**
 Prerequisite: CHEM 141 or equivalent
 Corequisite: BIO 221
 Recommended Preparation: None
 3 hours lecture
 Study of the unifying principles of life manifested by cellular structures, functions and evolutionary history. Emphasis on the following topics: cellular processes including energy metabolism, membrane transport and cell division; classical and molecular genetics including recombinant DNA; communication between cells; population genetics and the mechanism of evolution; and the evolutionary basis of species classification. This course, along with BIO 210, is the recommended two-semester sequence for biology majors (BIO 210 is NOT a prerequisite for this course).
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 221 PRINCIPLES OF MOLECULAR, CELLULAR AND EVOLUTIONARY BIOLOGY LABORATORY 1 UNIT**
 Prerequisite: CHEM 141 or equivalent
 Corequisite: BIO 220
 Recommended Preparation: None
 3 hours laboratory
 Investigates some of the general principles of biology presented in BIO 220, allowing students to observe examples of the phenomena using live materials where possible and providing the opportunity to apply concepts learned in BIO 220. Students conduct laboratory exercises which involve observations, demonstrations, experiments, data analyses, computer laboratory simulations and written reports.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 298 SELECTED TOPICS IN BIOLOGY 1-5 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-15 hours
 Selected topics in Biology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN BIOLOGY 1-5 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-15 hours
 Selected topics in Biology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

BUSINESS

- 105 CONTACT CENTER AND HELP DESK PROCEDURES 2.5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 2 hours laboratory
 Many entry-level Information Technology (IT) positions are in customer service and support, providing new employees with an understanding of the company's organization, products and customers. This class introduces students to general troubleshooting and customer service procedures along with the basic skills required to become employed as a Help Desk and/or Contact Center Representative. Students will practice typing at least 25 words per minute with 90% accuracy. Topics include telephone procedures, troubleshooting over the telephone or via e-mail, greeting customers, handling difficult customers, effective communication, teamwork, finding solutions, effective time management, and basic business e-mail polices. Utilizes multiple customer simulation software applications to replicate a customer service help desk environment. Includes attendance guidelines, basic e-mail skills, basic business etiquette, effective troubleshooting procedures, and upgrade selling when appropriate to solve computer and networking problems. Basic keyboard and computer skills are helpful but not mandatory. This class is NOT outbound telemarketing.
CSU
- 106 PROVIDING QUALITY SERVICE 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture
 Provides an overview of the major components of providing quality client service in government, business and non-profit sectors. Topics include developing client profiles, setting quality service objectives, and acquiring a customer service perspective. Case studies and role playing situations will be experienced.
CSU
- 109 ELEMENTARY ACCOUNTING 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 One-semester introduction to elementary accounting principles. Includes journals, ledgers, worksheets and financial statements for the single proprietorship. Designed for the clerical employee or for those who do not intend further study of accounting. *(May not be substituted for BUS 120 where required. Not open to students with credit in BUS 120.)*
CSU
- 110 INTRODUCTION TO BUSINESS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Provides a comprehensive view of today's dynamic American business and the global economy. Topics include starting a small business, satisfying customers, managing operations, motivating employees and building self-managed teams, developing and implementing customer-oriented marketing plans, managing information, managing financial resources, and exploring ethical and social responsibilities of American business.
CSU, UC
- 111 ENTREPRENEURSHIP: STARTING AND DEVELOPING A BUSINESS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to provide the prospective small business manager with the most up-to-date skills necessary in the planning function of opening one's own business. Emphasis on sources of financing, site locations, legal problems, marketing surveys, organizational structure, and self-analysis to determine one's personal readiness for entrepreneurship.
CSU
- 112 ENTREPRENEURSHIP: SUCCESSFUL MARKETING 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to provide the small business owner with the necessary skills to market a product or service. Examines the essential elements of a marketing strategy, the four P's: Product, Place (Distribution), Price and Promotion. Also examines the relationship between sales and marketing and how they function together in the small business environment.
CSU
- 114 EFFECTIVE JOB SEARCH 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 Provides comprehensive and valuable skills that are needed to successfully secure employment. Designed to examine the continuous process of career/life planning through effective, well-planned and efficiently organized job search procedures.
CSU
- 115 HUMAN RELATIONS IN BUSINESS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Covers the human aspects of the organization and the role of the individual within the organization. Emphasis on the role of the individual in the formal and informal structure of the organization, leadership and group dynamics, motivation, job enrichment, organizational change and communications—both verbal and nonverbal—within the organization.
CSU

- 119 ENTREPRENEURSHIP: FINANCING AND WRITING A BUSINESS PLAN 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to provide prospective small business owners or managers with the knowledge required to write a business plan and to understand and control the cash management function of their business. Emphasis on the types of financing, understanding debt vs. equity financing, cash flow analysis, borrowing and investment, forecasting and budgeting.
CSU
- 120 FINANCIAL ACCOUNTING 4 UNITS**
(CAN BUS 2; CAN BUS SEQ A = BUS 120+121)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture
 Introduces students to the accounting function and how it is used within our economic society. Views accounting as an information-generating system that communicates financial data to support end users in their economic decision-making. Includes the theory and concepts of accounting, as well as their application to the recording of financial information for the three types of business organizations: sole proprietorship, partnership and corporation. Emphasis is on the corporate form of organization.
CSU, UC
- 121 MANAGERIAL ACCOUNTING 4 UNITS**
(CAN BUS 4; CAN BUS SEQ A = BUS 120+121)
 Prerequisite: BUS 120 with a grade of "C" or better or "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture
 Introduces students to the concepts, methods and procedures for the development and use of accounting information to support and assist management in their internal cost accounting processes and financial decision-making. Includes the theory and concepts of cost accounting, use of financial and accounting information for planning, budgeting and control of operations, and methods and analysis to assist managerial accountants in decision-making activities.
CSU, UC
- 122 INTERMEDIATE ACCOUNTING 4 UNITS**
 Prerequisite: BUS 120
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture
 In-depth study of accounting theories and principles underlying financial statements and the determination of net income. Survey of basic accounting principles. Study of corporate balance sheet items and the analytical processes of statement preparation which include funds-flow and cash-flow reporting.
CSU, UC
- 124 AUDITING 3 UNITS**
 Prerequisite: BUS 120
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Study of the role of the auditor in the American economy including the general principles and concepts of auditing duties, ethics, liability and responsibilities of the auditor, and procedures for verification of financial statements including EDP statements.
CSU
- 125 BUSINESS LAW: LEGAL ENVIRONMENT OF BUSINESS 3 UNITS**
(CAN BUS 12)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Legal environment of business, sources of law, constitutional bases of regulation, social and ethical influences, corporate responsibility, judicial and administrative systems, contracts, torts, agency, business organizations, bankruptcy, securities regulation, regulation of property and protection of intellectual property interests, consumer protection, regulation of business to prevent market failures.
CSU, UC
- 128 BUSINESS COMMUNICATION 3 UNITS**
 Prerequisite: ENGL 110 or ESL 106
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Development of the ability to analyze, organize, and compose various types of written and oral business communications with emphasis on the writing of clear, concise and persuasive letters, memos and reports. Note: All assignments must be typed.
CSU
- 129 PAYROLL ACCOUNTING AND BUSINESS TAXES 2 UNITS**
 Prerequisite: BUS 120
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture
 Provides students with an in-depth understanding of payroll accounting. Includes calculations of gross to net pay, coverage of federal and state withholdings and deductions, recording of payroll transactions into the accounting records, and filing of federal and state payroll tax forms. Also includes consideration of factors which determine employee versus independent contractor status, and coverage of business taxes such as sales and property taxes and their filing requirements.
CSU
- 141 ENTREPRENEURSHIP: MANAGING A NEW BUSINESS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to help students apply theories of marketing, management, personnel, finance and production to problems encountered daily in managing a business. Focuses on practical solutions to common business management problems.
CSU

- 146 MARKETING 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Focuses on the function of marketing in an organization. Examines the essential elements of a marketing strategy: product, promotion, distribution, price, the effect of the business environment on marketing decisions, consumer behavior, identification of markets and current issues in marketing.
CSU
- 150 INDIVIDUAL INCOME TAX ACCOUNTING 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introduces students to federal taxation and focuses on tax preparation as applied to the individual taxpayer. Includes an overview of the income tax environment. Topics include filing status, personal and dependency exemption, itemized and standard deductions, and solving specific problems related to the filing of the Federal Form 1040.
CSU
- 154 DIVERSITY IN THE WORKPLACE 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Teaches students about the historical perspective of diversity in the workplace; motivates them in defining and developing a manager's responsibilities as it relates to diversity in the workplace; explores and sensitizes students to the unique problems of diversity in the workplace; and assists them in developing effective solutions to problems.
CSU
- 155 HUMAN RESOURCES MANAGEMENT 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introduction to the management of human resources and an understanding of the impact and accountability to the organization of human resource activities. Global human resource strategies; social and organizational realities; legal implications affecting people at work; union/non-union practices; employee compensation and benefits; employee rights; safety issues.
CSU
- 156 PRINCIPLES OF MANAGEMENT 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Planning, organizing, directing and controlling for management. Interaction of the functions includes setting objectives, MBO, decision-making tools, alternative organization structures, leadership, motivation, communication, group dynamics, management of stress and change, time management, and women in management. Survey of the quantitative tools available to the manager.
CSU
- 157 PRINCIPLES OF LEADERSHIP 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Develops insight into the multiplicity of roles and responsibilities which the leader must fulfill, focusing on personal, work and social environments. Deals with leadership as a function of selecting, motivating and directing others toward an agreed upon goal.
CSU
- 159 MANAGEMENT INTERNSHIP 3 UNITS**
ABCD Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 225 hours paid or 180 hours unpaid work experience
 Field work in management. Students will be required to maintain a diary of their weekly activities and submit a comprehensive report of their observations upon completion. Students will meet at least once during the semester to compare field experiences and submit paperwork.
CSU
- 162 ANALYSIS OF FINANCIAL STATEMENTS 3 UNITS**
 Prerequisite: BUS 120
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to explore the characteristics of financial statements, to analyze the reported results, and to place the findings from such an analysis in proper perspective. Students will learn how to apply ratios to financial statements, and to interpret their outcomes in order to draw various inferences and/or conclusions from their results.
CSU
- 176 COMPUTERIZED ACCOUNTING APPLICATIONS 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture, 3 hours laboratory
 Beginning course in small business accounting using QuickBooks software. Especially beneficial to students, teachers and professionals who are using, or plan to use, personal computers to create a chart of accounts, record customer and vendor transactions, process payroll, and print reports.
CSU
- 195 FAMILY INCOME MANAGEMENT 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Management of personal income and expenditures for the individual and the family throughout the life cycle, through awareness of values, goals and the decision-making process. Advertising, consumer protection, purchasing skills and consumer laws will be covered as they apply to use of credit, housing, risk protection, health care, food, clothing and transportation. Money management and financial planning will include budgeting, institutional savings and checking services, investments, taxes and estate planning. The impact of inflation, business cycle and other current issues will be included.
CSU

199 SPECIAL STUDIES OR PROJECTS IN BUSINESS 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours

Individual study, research or projects in Business under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

240 SQL FOR BUSINESS APPLICATIONS 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: CIS 140 or equivalent
 2 hours lecture, 3 hours laboratory

This course covers Structured Query Language (SQL) that provides a unified language that lets you query, manipulate or control data in a business applications environment. This hands-on course provides basic knowledge of how to extract data from databases including Oracle and Microsoft SQL Server using SQL, Transact-SQL, SQL*Plus, and PL/SQL. It covers topics necessary to query data for use in typical business applications analysis from an Oracle9i/10g or Microsoft SQL Server database.

242 DATA MINING 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: CIS 140 or equivalent
 2 hours lecture, 3 hours laboratory

This class provides an introduction to the fundamental concepts of data mining. The class will explore motivation for and applications of data mining and survey current techniques and models used in data mining. Data mining development cycle and potential pitfalls of machine learning will also be covered.

298 SELECTED TOPICS IN BUSINESS 1-4 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours

Selected topics in Business not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN BUSINESS 1-4 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours

Selected topics in Business not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

BUSINESS OFFICE TECHNOLOGY**095 KEYBOARDING SKILL REINFORCEMENT 1 UNIT**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours laboratory

Designed for students who have completed BOT 100 and want to reinforce their skills before advancing to the next level of keyboarding. Begins with a keyboard review, then progresses to practice and timings designed to improve keyboarding speed and accuracy. **Credit/No Credit only. Non-associate degree applicable.**

096 COMPUTER BASICS FOR THE OFFICE 1 UNIT

Prerequisite: None
 Corequisite: None
 Recommended Preparation: BOT 100 or equivalent and ENGL 098R or ESL 105 or equivalent reading level
 .5 hour lecture, 1.5 hours laboratory

Designed to give students with little or no computer experience the basic information and skills needed to operate a computer efficiently in an office environment. Includes overview of the components of a computer system hardware and software, proficiency in using a mouse, storing information, using the Internet, and purchasing and maintaining a computer. Recommended that students complete a basic keyboarding course prior to enrolling in this course. **Credit/No Credit only. Non-associate degree applicable.**

097 WINDOWS BASICS FOR THE OFFICE 1 UNIT

Prerequisite: None
 Corequisite: None
 Recommended Preparation: BOT 100 or equivalent, BOT 096 or concurrent enrollment or equivalent, and ENGL 098R or ESL 105 or equivalent reading level
 .5 hour lecture, 1.5 hours laboratory

Designed for students with little or no computer experience. Students will learn to use the Windows operating system efficiently to create and manage files and folders. **Credit/No Credit only. Non-associate degree applicable.**

100 BASIC KEYBOARDING 1 UNIT

Prerequisite: None
 Corequisite: None
 Recommended Preparation: ENGL 098R or ESL 105 or equivalent reading level
 3 hours laboratory

Beginning keyboarding techniques for students who wish to use keyboarding skills for inputting information on computers. Taught on computers using appropriate software. Emphasis on the development of speed and accuracy by use of touch keyboarding methods, development of touch skills on the 10-key pad, understanding of basic vocabulary and concepts used in keyboarding operations for inputting and retrieving information, and composition at the keyboard. For students with physical disabilities that may impair proficiency, emphasis will be on the quality of output instead of speed, and on the use of alternative input devices.

CSU

- 101A KEYBOARDING/DOCUMENT PROCESSING** **1.5 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: BOT 100 with a grade of "C" or better or "CR" or equivalent, and ENGL 098R or ESL 105 or equivalent reading level
1 hour lecture, 1.5 hours laboratory
Equivalent to the first half of BOT 101. Focuses on learning or reviewing the alphabetic and numeric keyboard including the 10-key pad for numeric data entry. Students will learn basic features of Microsoft Word to produce simple memos, letters and reports. Keyboarding software will be used to build speed and accuracy. Students wishing to progress to BOT 102AB should also complete BOT 101B. *Not open to students with credit in BOT 101.*
CSU
- 101B KEYBOARDING/DOCUMENT PROCESSING** **1.5 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: BOT 101A or equivalent and ENGL 098R or ESL 105 or equivalent reading level
.5 hour lecture, 3 hours laboratory
Equivalent to the second half of BOT 101. Students will use Microsoft Word to produce correctly formatted and accurate business documents including letters, reports and tables. Students will also use keyboarding software to build speed and accuracy. *Not open to students with credit in BOT 101.*
CSU
- 102A INTERMEDIATE KEYBOARDING/ DOCUMENT PROCESSING I** **1.5 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: BOT 101 or 101AB with a grade of "C" or "CR" or equivalent
1 hour lecture, 1.5 hours laboratory, 1.5 units
Equivalent to the first half of BOT 102. Students review and create business documents to apply formatting skills taught in BOT 101 or 101AB, and then are introduced to new formatting and report styles options including agendas, formal reports and multipage tables. This course begins with intermediate Microsoft Word functions so entering students should be proficient in using basic Word features and should key a minimum of 30 net words per minute on a 5-minute timed writing. *Not open to students with credit in BOT 102.*
CSU
- 102B INTERMEDIATE KEYBOARDING/ DOCUMENT PROCESSING II** **1.5 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: BOT 102A with a grade of "C" or "CR"
.5 hour lecture, 3 hours laboratory
Equivalent to the second half of BOT 102. Students continue to create business documents, applying new formatting skills including using templates, designing letterheads and office forms, and learning specialized applications such as medical and legal forms. This course begins with intermediate Microsoft Word functions so entering students should be proficient in using basic Word features and should key a minimum of 35 net words per minute on a 5-minute timed writing. *Not open to students with credit in BOT 102.*
CSU
- 103A BUILDING KEYBOARDING SKILL I** **.5 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: BOT 100 or equivalent
1.5 hours laboratory
Designed for students who have completed a keyboarding course but wish to work further on developing speed and accuracy. Students should know the alphabetic keyboard by touch and key at a minimum rate of 20 net words per minute on a 5-minute timed writing. Students keying at a lower rate should enroll in BOT 095.
CSU
- 103B BUILDING KEYBOARDING SKILL II** **.5 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: BOT 103A or equivalent
1.5 hours laboratory
Continuation course in building keyboarding speed and accuracy. Students should be keying by touch at a minimum rate of 30 net words per minute on a 5-minute timed writing. Students keying at a lower rate should enroll in BOT 103A.
CSU
- 103C BUILDING KEYBOARDING SKILL III** **.5 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: BOT 103B or equivalent
1.5 hours laboratory
Continuation course in building keyboarding speed and accuracy. Entering students should be keying by touch at a minimum rate of 40 net words per minute on a 5-minute timed writing. Students keying at a lower rate should enroll in BOT 103B.
CSU
- 104 FILING AND RECORDS MANAGEMENT** **1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: ENGL 098R or ESL 105 or equivalent reading level
.5 hour lecture, 1.5 hours laboratory
Instruction in the Association of Records Managers and Administrators (ARMA) filing rules and techniques which are widely used in business to create and maintain files. Alphabetic, numeric, geographic and subject filing rules are included. Also includes instruction in records management including rules for retention, transfer and disposition of records. Students use a microcomputer software package to learn basic filing rules.
CSU
- 105 DATA ENTRY SKILLS** **1 UNIT**
Prerequisite: BOT 100 with a grade of "C" or better or "CR" or equivalent
Corequisite: None
Recommended Preparation: BOT 096
.5 hour lecture, 1.5 hours laboratory
Designed for students who wish to prepare for employment in the data entry field. Emphasis on development of speed and accuracy in the use of the microcomputer alphabetic keyboard and numeric keypad to reach employable levels of skill. Students will complete assignments, drills, and timed speed and accuracy tests.
CSU

107 OFFICE SYSTEMS AND PROCEDURES 2 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: BOT 096 and 097, 101AB or equivalent or concurrent enrollment, and ENGL 098R or ESL 105 or equivalent reading level

2 hours lecture

Includes office ethics and professionalism; prioritizing and productivity; human relations; working in teams; customer service skills; telephone skills; scheduling appointments; using email, copiers, fax machines and scanners; handling office mail; and using the Internet for common office functions such as travel reservations and ordering supplies.

CSU**108 USING CALCULATORS TO SOLVE BUSINESS PROBLEMS 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: ENGL 098R or ESL 105 or equivalent reading level

.5 hour lecture, 1.5 hours laboratory

Introduces the 10-key, digital display electronic calculator. Students will build skill in performing fundamental arithmetic operations using a calculator. Topics include use of decimals, fractions, constants, discounts, percentages and memory keys.

CSU**114 ESSENTIAL WORD 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: BOT 096 and 097, 101AB or equivalent, and ENGL 098R or ESL 105 or equivalent reading level

.5 hour lecture, 1.5 hours laboratory

Designed for students who want to learn the most commonly used features of a current popular word processing software package. Upon completion, students will be proficient in using text editing and formatting commands to produce typical business documents, and in using the mail merge feature to produce form letters, labels and envelopes. Students who wish to study word processing software in more depth should consider enrolling in BOT 120, 121, 122. (Specific software versions to be identified in class schedule.) *Not open to students with credit in BOT 121 or 122.*

CSU**115 ESSENTIAL EXCEL 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: BOT 096, 097 and 100 or equivalent, and ENGL 098R or ESL 105 or equivalent reading level

.5 hour lecture, 1.5 hours laboratory

Designed for students who want to become proficient in the most commonly used features of Microsoft Excel. Basic spreadsheet concepts and terms will be introduced. Students will learn how to create, format and revise spreadsheets and charts, and to create basic formulas and templates. The use of simple macros will be introduced. Students who desire more in-depth coverage of these and additional topics should consider enrolling in BOT 123, 124, 125. *Not open to students with credit in BOT 124 or 125.*

CSU**116 ESSENTIAL ACCESS 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: BOT 096, 097 and 100 or equivalent, and ENGL 098R or ESL 105 or equivalent reading level

.5 hour lecture, 1.5 hours laboratory

Designed for students who want to become proficient in the most commonly used features of Microsoft Access. Basic database concepts and terms will be introduced. Students will learn how to create, format, edit and revise simple databases, to sort and filter records, to use queries, and to create forms, reports and labels. Students who desire more in-depth coverage of these and additional topics should consider enrolling in CIS 140 or BOT 126, 127, 128. *Not open to students with credit in BOT 127 or 128.*

CSU**117 ESSENTIAL POWERPOINT 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: BOT 096, 097 or equivalent, BOT 114 or equivalent, and ENGL 098R or ESL 105 or equivalent reading level

.5 hour lecture, 1.5 hours laboratory

Designed for students who want to become proficient in the most commonly used features of Microsoft PowerPoint. Basic concepts and terms will be introduced. Students will learn how to create, format and revise PowerPoint presentations, including animation effects. Students who desire more in-depth coverage of these and additional topics should consider enrolling in BOT 129, 130, 131. *Not open to students with credit in BOT 130 or 131.*

CSU**118 INTEGRATED OFFICE PROJECTS 1 UNIT**

Prerequisite: BOT 102AB, 107, 115, 116, 117 with a grade of "C" or better or "CR" or equivalent

Corequisite: None

Recommended Preparation: ENGL 098R or ESL 105 or equivalent reading level

3 hours laboratory

Capstone course designed for BOT majors who have completed prerequisite courses in all applications of the Microsoft Office suite (Word, Excel, Access, PowerPoint) and have keyboarding skills of a minimum 40 net words per minute. Students will apply their skills to complete projects that integrate these applications. Students will also use the Internet to complete projects.

CSU**120 COMPREHENSIVE WORD, LEVEL I 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: BOT 096, 097 or equivalent, BOT 101AB or equivalent, and ENGL 098R or ESL 105 or equivalent reading level

.5 hour lecture, 1.5 hours laboratory

First in a three-level course sequence designed to give students thorough coverage of most features of Microsoft Word. Students who complete all three levels will be prepared to take the Microsoft Office User Specialist (MOUS) certification examination or similar examinations. Students wishing less comprehensive coverage of Word should consider enrolling in BOT 114.

CSU

- 121 COMPREHENSIVE WORD, LEVEL II 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: BOT 120 or equivalent
.5 hour lecture, 1.5 hours laboratory
Second in a three-level course sequence designed to give students thorough coverage of most features of Microsoft Word. Students who complete all three levels will be prepared to take the Microsoft Office User Specialist (MOUS) certification examination or similar examinations.
CSU
- 122 COMPREHENSIVE WORD, LEVEL III 1 UNIT**
Prerequisite: BOT 121 with a grade of "C" or better or "CR" or equivalent
Corequisite: None
Recommended Preparation: None
.5 hour lecture, 1.5 hours laboratory
Third in a three-level course sequence designed to give students thorough coverage of most features of Microsoft Word. Students who complete all three levels will be prepared to take the Microsoft Office User Specialist (MOUS) certification examination or similar examinations. Students should consider enrolling in BOT 280 prior to taking the examination.
CSU
- 123 COMPREHENSIVE EXCEL, LEVEL I 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: BOT 096, 097, 100 or equivalent
.5 hour lecture, 1.5 hours laboratory
First in a three-level course sequence designed to give students thorough coverage of most features of Microsoft Excel. Students who complete all three levels will be prepared to take the Microsoft Office User Specialist (MOUS) certification examination or similar examinations. Students wishing less comprehensive coverage of Excel should consider enrolling in BOT 115.
CSU
- 124 COMPREHENSIVE EXCEL, LEVEL II 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: BOT 123 or equivalent
.5 hour lecture, 1.5 hours laboratory
Second in a three-level course sequence designed to give students thorough coverage of most features of Microsoft Excel. Students who complete all three levels will be prepared to take the Microsoft Office User Specialist (MOUS) certification examination or similar examinations.
CSU
- 125 COMPREHENSIVE EXCEL, LEVEL III 1 UNIT**
Prerequisite: BOT 124 with a grade of "C" or better or "CR" or equivalent
Corequisite: None
Recommended Preparation: None
.5 hour lecture, 1.5 hours laboratory
Third in a three-level course sequence designed to give students thorough coverage of most features of Microsoft Excel. Students who complete all three levels will be prepared to take the Microsoft Office User Specialist (MOUS) certification examination or similar examinations. Students should consider enrolling in BOT 281 prior to taking the examination.
CSU
- 126 COMPREHENSIVE ACCESS, LEVEL I 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: BOT 096, 097, 100 and 116 or equivalent, and ENGL 098R or ESL 105 or equivalent reading level
.5 hour lecture, 1.5 hours laboratory
First in a three-level course sequence designed to give students thorough coverage of most features of Microsoft Access. Students who complete all three levels will be prepared to take the Microsoft Office User Specialist (MOUS) certification examination or similar examinations. Students wishing less comprehensive coverage of Access should consider enrolling in BOT 116.
CSU
- 127 COMPREHENSIVE ACCESS, LEVEL II 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: BOT 126 or equivalent
.5 hour lecture, 1.5 hours laboratory
Second in a three-level course sequence designed to give students thorough knowledge of most features of Microsoft Access. Students who complete all three levels will be prepared to take the Microsoft Office User Specialist (MOUS) certification examination or similar examinations.
CSU
- 128 COMPREHENSIVE ACCESS, LEVEL III 1 UNIT**
Prerequisite: BOT 127 with a grade of "C" or better or "CR" or equivalent
Corequisite: None
Recommended Preparation: None
.5 hour lecture, 1.5 hours laboratory
Third in a three-level course sequence designed to give students thorough knowledge of most features of Microsoft Access. Students who complete all three levels will be prepared to take the Microsoft Office User Specialist (MOUS) certification examination or similar examinations. Students should consider enrolling in BOT 282 prior to taking the examination.
CSU
- 129 COMPREHENSIVE POWERPOINT, LEVEL I 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: BOT 101AB, 114 and 120 or equivalent, and ENGL 098R or ESL 105 or equivalent reading level
.5 hour lecture, 1.5 hours laboratory
First in a three-level course sequence designed to give students thorough coverage of most features of Microsoft PowerPoint. Students who complete all three levels will be prepared to take the Microsoft Office User Specialist (MOUS) certification examination or similar examinations. Students wishing less comprehensive coverage of PowerPoint should consider enrolling in BOT 117.
CSU

- 130 COMPREHENSIVE POWERPOINT, LEVEL II 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: BOT 129 or equivalent
 .5 hour lecture, 1.5 hours laboratory
 Second in a three-level course sequence designed to give students thorough coverage of most features in Microsoft PowerPoint. Students who complete all three levels will be prepared to take the Microsoft Office User Specialist (MOUS) certification examination or similar examinations.
CSU
- 131 COMPREHENSIVE POWERPOINT, LEVEL III 1 UNIT**
 Prerequisite: BOT 130 with a grade of "C" or better or "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None
 .5 hour lecture, 1.5 hours laboratory
 Third in a three-level course sequence designed to give students thorough coverage of most features in Microsoft PowerPoint. Students who complete all three levels will be prepared to take the Microsoft Office User Specialist (MOUS) certification examination or similar examinations. Students should consider enrolling in BOT 283 prior to taking the examination.
CSU
- 150 USING MICROSOFT PUBLISHER 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: BOT 101AB or 121 or equivalent
 .5 hour lecture, 1.5 hours laboratory
 Introductory course in Microsoft Publisher for those students who wish to acquire a basic understanding of concepts and terminology for the production and design of professional quality publications. Emphasis on graphics, word processing and page layout.
CSU
- 151 USING MICROSOFT OUTLOOK 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: BOT 096, 097, 101AB, 114 or 120 or equivalent
 .5 hour lecture, 1.5 hours laboratory
 Designed to offer students proficiency in the use of Microsoft Outlook to create email messages, maintain personal calendars and schedules, plan work, maintain contact lists, and organize information.
CSU
- 198 SUPERVISED TUTORING 0 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 TBA hours
 Uses a variety of educational tools to assist students with various learning needs. Can be used to strengthen prerequisite skills prior to enrolling in a specific course or to receive supplemental assistance while concurrently enrolled in another course. *May be repeated with different content.*
No fee/no credit course.
- 199 SPECIAL STUDIES OR PROJECTS IN BUSINESS OFFICE TECHNOLOGY 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Business Office Technology under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 201 ADVANCED KEYBOARDING/DOCUMENT PROCESSING 3 UNITS**
 Prerequisite: BOT 102AB with a grade of "C" or better or "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None
 1.5 hours lecture, 4.5 hours laboratory
 Advanced keyboarding for further development of keyboarding skills to meet professional placement requirements. Students will apply intermediate and advanced features of Microsoft Word to create complex business documents with minimum instruction. Students will use computer software for building speed and accuracy on 5-minute timed writings to attain the speed and accuracy required for professional office positions.
CSU
- 203 OFFICE PROJECT COORDINATION 1 UNIT**
 Prerequisite: BOT 122, 125, 128, 131 and 151 with a grade of "C" or better or "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours laboratory
 This capstone course gives students who have comprehensive knowledge of Microsoft Word, Excel, Access, PowerPoint and Outlook the opportunity to integrate those skills by assuming responsibility for completing a given project from inception to completion.
CSU
- 223* OFFICE WORK EXPERIENCE 1 UNIT**
 Prerequisite: Limited to BOT majors who have completed at least 12 units in the major
 Corequisite: None
 Recommended Preparation: Keyboarding and computer skills as well as training in a variety of office procedures as required by most worksites
 5 hours work experience
 Work experience in an office setting. Trainee spends 60-75 hours per semester in on-the-job training.
CSU
- 224* OFFICE WORK EXPERIENCE 2 UNITS**
 Prerequisite: Limited to BOT majors who have completed at least 12 units in the major
 Corequisite: None
 Recommended Preparation: Keyboarding and computer skills as well as training in a variety of office procedures as required by most worksites
 10 hours work experience
 Work experience in an office setting. Trainee spends 120-150 hours per semester in on-the-job training.
CSU

225* OFFICE WORK EXPERIENCE 3 UNITS

Prerequisite: Limited to BOT majors who have completed at least 12 units in the major

Corequisite: None

Recommended Preparation: Keyboarding and computer skills as well as training in a variety of office procedures as required by most worksites

15 hours work experience

Work experience in an office setting. Trainee spends 180-225 hours per semester in on-the-job training.

CSU

280 PREPARING FOR PERFORMANCE EXAMINATIONS IN MICROSOFT WORD .5 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: BOT 122 or equivalent

1.5 hours laboratory

Designed for students who have completed BOT 122 or the equivalent. Students will use testing software to prepare for the Microsoft Office User Specialist (MOUS) certification examination to prepare for employment examinations or to receive a BOT certificate of proficiency in MS Word with detailed competencies. *May be repeated up to 3 times. Credit/No Credit only.*

281 PREPARING FOR PERFORMANCE EXAMINATIONS IN MICROSOFT EXCEL .5 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: BOT 125 or equivalent

1.5 hours laboratory

Designed for students who have completed BOT 125 or the equivalent. Students will use testing software to prepare for the Microsoft Office User Specialist (MOUS) certification examination to prepare for employment examinations or to receive a BOT certificate of proficiency in MS Excel with detailed competencies. *May be repeated up to 3 times. Credit/No Credit only.*

282 PREPARING FOR PERFORMANCE EXAMINATIONS IN MICROSOFT ACCESS .5 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: BOT 128 or equivalent

1.5 hours laboratory

Designed for students who have completed BOT 128 or the equivalent. Students will use testing software to prepare for the Microsoft Office User Specialist (MOUS) certification examination to prepare for employment examinations or to receive a BOT certificate of proficiency in MS Access with detailed competencies. *May be repeated up to 3 times. Credit/No Credit only.*

283 PREPARING FOR PERFORMANCE EXAMINATIONS IN MICROSOFT POWERPOINT .5 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: BOT 131 or equivalent

1.5 hours laboratory

Designed for students who have completed BOT 131 or the equivalent. Students will use testing software to prepare for the Microsoft Office User Specialist (MOUS) certification examination to prepare for employment examinations or to receive a BOT certificate of proficiency in MS PowerPoint with detailed competencies. *May be repeated up to 3 times. Credit/No Credit only.*

298 SELECTED TOPICS IN BUSINESS OFFICE TECHNOLOGY 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-9 hours

Selected topics in Business Office Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN BUSINESS OFFICE TECHNOLOGY 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-9 hours

Selected topics in Business Office Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

*For additional information, see "Work Experience Requirements" under Academic Policies.

CADD TECHNOLOGY

The CADD (Computer Aided Drafting and Design) Technology program at Cuyamaca College is revised from Drafting Technology to reflect changes in the industry and in the Engineering program requirements at SDSU.

115 ENGINEERING GRAPHICS 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

2 hours lecture, 4 hours laboratory

Fundamentals of engineering graphics as a universal language of communication in all engineering fields. Includes organization and drawing layouts, text, dimensions, scales, multiview projections, and pictorial drawings to visualize, represent and document basic engineering problems. Use of freehand sketching only and introduction to computer aided drafting (CAD). *Not open to students with credit in DTEC/ENGR 124 or ENGR 115.*

CSU, UC, UC credit limit

120 BASIC CAD 3 UNITS

ABCD Prerequisite: CADD 115 or ENGR 100 or equivalent

Corequisite: None

Recommended Preparation: None

2 hours lecture, 4 hours laboratory

CAD fundamentals in geometric construction, multiview and singleview projections, section views, dimensions and text. Basic 2D drawing techniques and commands in AutoCAD with emphasis on mechanical drawings.

CSU, UC, UC credit limit

125 3D PARAMETRIC SOLID MODELING 3 UNITS

Prerequisite: CADD120ABCD or ENGR 119 or equivalent

Corequisite: None

Recommended Preparation: None

2 hours lecture, 4 hours laboratory

Advanced graphic communication using 3D Parametric Modeling CAD software including wireframe construction, feature based part construction using extrudes, cuts and revolves, advanced surface shaping using lofts and sweeps, assembly construction and constraining. The course will continue to develop 2D drafting skills including proper organization and layout of component drawing views, dimensioning and tolerancing, descriptive geometry and manufacturing processes. *Also listed as ENGR 125. Not open to students with credit in ENGR/DTEC 125.*

CSU, UC, UC credit limit

126 ELECTRONIC DRAFTING 3 UNITS

Prerequisite: CADD 120ABCD or equivalent

Corequisite: None

Recommended Preparation: None

2 hours lecture, 4 hours laboratory

Application of electronic graphics to create all aspects of engineering support documentation. Includes all types: block diagrams, flow charts, wiring, and mechanical enclosures. Also covers Schematic Capture and Printed Circuit Board (PCB) layout and design. Use of AutoCAD, Visio and PCB123 software. ASME, ANSI, Military and NASA standards for engineering are discussed. *Not open to students with credit in DTEC 126.*

CSU

127 SURVEY DRAFTING TECHNOLOGY 3 UNITS

Prerequisite: CADD 120ABCD or equivalent

Corequisite: None

Recommended Preparation: None

2 hours lecture, 4 hours laboratory

Professional Civil Engineering/Surveyor's office method drafting course that applies the basic skills and techniques acquired in CADD/ENGR 115. Areas covered are land surveying, land development procedures, legal descriptions, topographical analysis, earthworks, geographic control and subdivision processes. *Not open to students with credit in DTEC 127.*

CSU

128 DIMENSIONING AND TOLERANCING 3 UNITS

Prerequisite: CADD 120ABCD or equivalent

Corequisite: None

Recommended Preparation: CADD/ENGR 125

3 hours lecture

Basic study in dimensioning and tolerancing of engineering drawings using ASME/ANSI Y14.5M-1994 specification. *Not open to students with credit in DTEC 128.*

CSU

131 ARCHITECTURAL AUTOCAD 3 UNITS

Prerequisite: CADD 120ABCD or equivalent

Corequisite: None

Recommended Preparation: None

2 hours lecture, 4 hours laboratory

Application of architectural graphics, symbols, patterns, layouts, text, dimensions and scales to develop design drawings for small architecture, interior design and space planning projects. Use of AutoCAD commands and techniques in Model Space and Paper Space environments. Processes in developing contract documents for small scale architectural projects based on UBC standards. *Not open to students with credit in DTEC 131.*

CSU

132 3D AUTOCAD 3 UNITS

Prerequisite: CADD 120ABCD or equivalent

Corequisite: None

Recommended Preparation: None

2 hours lecture, 4 hours laboratory

Concepts and application of 3D coordinate systems in AutoCAD to create wireframe, wiremesh, and 3D surfaces in multiview projections. Use of Model Space and Paper Space environments for different drawing scales and scale factors. Construction of 3D solid models to develop orthographic multiview projections, sections, dimensions and text for production drawings. *Not open to students with credit in DTEC 132.*

CSU

133 ARCHITECTURAL REVIT 3 UNITS

Prerequisite: CADD 131 or equivalent

Corequisite: None

Recommended Preparation: None

2 hours lecture, 4 hours laboratory

Application of the 3D parametric solid modeling software program, Revit, in architectural projects. Use of the predefined parametric objects, associated commands, techniques and processes required for the development of professional standards contract documents for small scale projects.

199 SPECIAL STUDIES OR PROJECTS IN CADD TECHNOLOGY 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours

Individual study, research or projects in CADD Technology under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

298 SELECTED TOPICS IN CADD TECHNOLOGY 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in CADD Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN CADD TECHNOLOGY 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in CADD Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

CHEMISTRY**115 FUNDAMENTALS OF CHEMISTRY 4 UNITS (CAN CHEM 6)**

Prerequisite: MATH 090 with a grade of "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None

3 hours lecture, 3 hours laboratory

Elementary principles of inorganic and general chemistry with a brief introduction to organic and biochemistry. Previous chemistry background is not required. Recommended for students who need only a one-semester general chemistry course and for students entering paramedical and allied health fields. Students will not receive credit toward graduation for more than one of the following courses: CHEM 115 and 120.

AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

116 INTRODUCTORY ORGANIC AND BIOCHEMISTRY 4 UNITS

Prerequisite: CHEM 115 with a grade of "C" or better or "CR" or equivalent

Corequisite: None

Recommended Preparation: None

3 hours lecture, 3 hours laboratory

The study of carbon compounds with emphasis on their structure, properties and reactivity. Introduction to the structure of the major classes of biomolecules—carbohydrates, lipids and proteins—and their relationship to the major classes of organic compounds.

AA/AS GE, CSU, CSU GE, IGETC, UC, UC credit limit

120 PREPARATION FOR GENERAL CHEMISTRY 4 UNITS

Prerequisite: MATH 110 with a grade of "C" or better or "CR" or equivalent

Corequisite: None

Recommended Preparation: None

3 hours lecture, 3 hours laboratory

Elementary principles of chemistry approached from a problem-solving perspective necessary to succeed in CHEM 141. Intensive study in the areas of problem solving, stoichiometry, chemical nomenclature, basic atomic theory and bonding, solutions, acid-base chemistry, redox reactions and gas laws. Laboratory will be an introduction to quantitative techniques, descriptive chemistry, gas laws, error analysis and data treatment. Students will not receive credit toward graduation for more than one of the following courses: CHEM 115 and 120.

AA/AS GE, CSU, CSU GE, IGETC, UC, UC credit limit

141 GENERAL CHEMISTRY I 5 UNITS (CAN CHEM 2; CAN CHEM SEQ A = CHEM 141+142)

Prerequisite: CHEM 120 with a grade of "C" or better or "CR" or equivalent or the Chemistry 141 assessment and MATH 110 with a grade of "C" or better or "CR" or equivalent

Corequisite: None

Recommended Preparation: None

3 hours lecture, 6 hours laboratory

Basic principles and concepts of chemistry with emphasis in the areas of stoichiometry, thermochemistry, atomic structure, chemical bonding and gas laws. The laboratory is an introduction to quantitative analysis and the principles of atomic and molecular structures.

AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

- 142 GENERAL CHEMISTRY II** **5 UNITS**
(*CAN CHEM 4; CAN CHEM SEQ A = CHEM 141+142*)
Prerequisite: CHEM 141 (grade of "C" or better recommended)
Corequisite: None
Recommended Preparation: None
3 hours lecture, 6 hours laboratory
Basic principles and calculations of chemistry with emphasis in the areas of equilibrium, thermodynamics, descriptive chemistry of the periodic table, intermolecular forces, properties of liquids, solids and solutions, kinetics, electrochemistry, coordination compounds and radiochemistry. The laboratory will continue on the same basis as CHEM 141, but will also include some qualitative analysis.
CSU, CSU GE, IGETC, UC
- 199 SPECIAL STUDIES OR PROJECTS IN CHEMISTRY** **1-3 UNITS**
Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
3-9 hours
Individual study, research or projects in Chemistry under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 231 ORGANIC CHEMISTRY I** **5 UNITS**
Prerequisite: CHEM 142
Corequisite: None
Recommended Preparation: None
4 hours lecture, 3 hours laboratory
Synthesis and reactions of carbon compounds, primarily aliphatic compounds. The relationship of structure to properties, reactivity and mechanism of reaction will be emphasized. This course, which is equivalent to the first semester of a two-semester sequence offered at four-year institutions, is intended for biology, chemistry and pre-medical majors needing either one or two semesters of organic chemistry.
CSU, CSU GE, IGETC, UC
- 298 SELECTED TOPICS IN CHEMISTRY** **1-5 UNITS**
Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
1-15 hours
Selected topics in Chemistry not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN CHEMISTRY** **1-5 UNITS**
Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
1-15 hours
Selected topics in Chemistry not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

CHILD DEVELOPMENT

- 123 INTRODUCTION TO PROGRAMS AND CURRICULUM FOR YOUNG CHILDREN** **3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
Overview of the field of child development. Covers developmentally appropriate curriculum practices, regulations, classroom environment and management techniques for a variety of early childhood programs. Students will explore career options and their aptitude for this profession. Students are required to observe and report on different types of programs in the community.
CSU
- 124 INFANT AND TODDLER DEVELOPMENT** **3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
Study of the process of human development from conception to 36 months as determined by heredity, society and human interaction with implications for child guidance. Prenatal development and the birth process are emphasized. Observations of a neonate, infant and toddler are required.
CSU
- 125 CHILD GROWTH AND DEVELOPMENT** **3 UNITS**
(*CAN FCS 14*)
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
Study of the process of human development from conception through adolescence as determined by heredity, society and personal human interaction with implications for child guidance. Observation of children of various ages is an integral part of this course.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 126 ART FOR CHILD DEVELOPMENT** **3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
Exploration of the importance and value of creative art activities for young children. Experiences with a variety of art media; evaluation and selection of materials appropriate for toddlers, preschool children and children with special needs.
CSU
- 127 SCIENCE AND MATHEMATICS FOR CHILD DEVELOPMENT** **3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: CD 125
3 hours lecture
Exploration of the importance and value of science and mathematics in programs for young children. Understanding and devising ways of teaching basic concepts, evaluating activities and constructing appropriate materials for young children and children with special needs. Use of computers with children is included.
CSU

- 128 MUSIC AND MOVEMENT FOR CHILD DEVELOPMENT 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Exploration of the importance and meaning of music and movement for toddlers, preschool children and children with special needs. Areas emphasized will be listening skills, singing, movement education and creating instruments.
CSU
- 129 LANGUAGE AND LITERATURE FOR CHILD DEVELOPMENT 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CD 125
 3 hours lecture
 Designed to help teachers build language opportunities into every curriculum area, and to explore methods of fostering language and emerging literacy skills for young children and children with special needs. Includes the study of children's literature, standards for evaluating books and computer software, techniques of storytelling and puppetry.
CSU
- 130 CURRICULUM: DEVELOPMENTALLY APPROPRIATE PRACTICES 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CD 123, 125, 126, 127, 128, 129 and 131
 3 hours lecture
 Advanced course in developmentally appropriate curriculum practices for early childhood programs. Looks at contemporary philosophies and current best practices in curriculum activities, methods and materials appropriate for planning a program for young children.
CSU
- 131 CHILD, FAMILY AND COMMUNITY 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CD 123 and 125 with a grade of "C" or better
 3 hours lecture
 Study of the influence of different variables impacting the child and family dynamic. Emphasis on establishing effective teacher, caregiver and family relationships. Community resources and agencies that strengthen families will be examined. Students will have the opportunity to develop strategies to support the wide range of families in a multicultural society. Required by the California State Department of Social Services for teachers and directors.
CSU
- 132 OBSERVATION AND GUIDANCE FOR CHILD DEVELOPMENT 2 UNITS**
 Prerequisite: Completion of the following with a grade of "C" or better: CD 123, 125, 126, 127, 128, 129, 131 and 130 or 143
 Corequisite: CD 133
 Recommended Preparation: None
 2 hours lecture
 Student formulation and application of child guidance techniques based on observation and experiences at the school in which the student is doing his/her field work experience.
CSU
- 133 FIELD EXPERIENCE FOR CHILD DEVELOPMENT 2 UNITS**
 Prerequisite: Completion of the following with a grade of "C" or better: CD 123, 125, 126, 127, 128, 129, 130 and 131
 Corequisite: CD 132 or previous enrollment
 Recommended Preparation: None
 10 hours paid or 8 hours unpaid work experience per week
 Under supervision at approved field placement sites, students will participate in all classroom activities. Students will develop and supervise learning experiences, conduct group-times, handle routines and respond to individual and group needs of young children.
CSU
- 134 HEALTH, SAFETY AND NUTRITION FOR TEACHERS OF YOUNG CHILDREN 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Emphasizes strategies for applying holistic health, safety and nutrition in schools and child care settings. For teachers, parents or others who desire current information on concepts of health, safety and nutrition as it applies to children from infancy through school age. Covers laws, practices and curriculum regarding accident prevention, childhood illness and nutritional guidelines that will help adults to assist children to develop good habits, attitudes and responses that lead to healthy and safe lifestyles.
CSU
- 135 PARENT-CHILD INTERACTION 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 For teachers, parent educators and parents which offers skills and resources that promote more effective parent-child interaction. The parent-child relationship throughout the life cycle will be emphasized. Issues include sex education, divorce, single parenting, aging and death.
CSU
- 136 ADULT SUPERVISION: THE MASTER TEACHER'S ROLE 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: 12 units of CD as defined by Title 22 licensing regulations: 3 units in Child Growth and Development (CD 125), 3 units in Child, Family and Community (CD 131), 6 units in Program Curriculum (CD 123 or 126 or 127 or 128 or 129 or 130), and currently teaching in a preschool or child care setting in the role of lead teacher or head teacher or other supervisory capacity.
 3 hours lecture
 Principles and practical techniques for working with and fostering the professional development of co-teachers, aides, parents, student teachers and volunteers in preschool and child care programs. Emphasis on the role of the classroom teacher or director who functions as master teacher, lead teacher and/or mentor to adults while simultaneously addressing the needs of children, families and the program. Students will have opportunities to develop skills in delegation as well as adult problem solving and communication.
CSU

- 137 ADMINISTRATION OF CHILD DEVELOPMENT PROGRAMS I 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: 12 units in Child Development as required by Title 22 licensing regulations: 3 units of Child Development (CD 125), 3 units of Child, Family and Community (CD 131), and 6 units of Program Curriculum (CD 123 and 126 or 127 or 128 or 129 or 130)
 3 hours lecture
 This course is designed for the beginning director of child care and preschool programs. It includes administrative tools, knowledge and techniques needed to organize, open and operate a child development facility. Topics include budget, management, regulatory laws, and development of school policies and procedures. This course is required by the California Department of Social Services and California Department of Education for child care and preschool program directors and site supervisors.
CSU
- 138 ADMINISTRATION OF CHILD DEVELOPMENT PROGRAMS II 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CD 137
 3 hours lecture
 Provides an advanced level of administrative and managerial knowledge needed to operate a child care center as a successful business. Emphasis on analysis and application of business theory and principles in the areas of budget, personnel, environmental design, program, and business communication.
CSU
- 139 INFANT/PARENT DEVELOPMENT 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1.5 hours lecture, 1.5 hours laboratory
 Lecture and discussion group to support parents as growing adults while helping them to understand and appreciate principles of infant and toddler development. Enrolled parents will bring their infants to each three-hour class meeting for interaction and observation by child development students.
CSU
- 141 WORKING WITH CHILDREN WITH SPECIAL NEEDS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Focuses on strategies for working with children with special needs, including physical challenges, learning difficulties, prenatal exposure to drugs, limited English skills, giftedness and behavior disorders. With an emphasis on inclusion in the regular classroom and child care settings, the class will include compliance with legislation, referral processes, working with families, and modification of environment and curriculum.
CSU
- 143 INFANT/TODDLER CURRICULUM 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CD 124 or 125
 3 hours lecture
 Prepares students to develop an infant and/or toddler curriculum including design of a developmentally appropriate learning environment. Examination of the philosophies and methods currently in practice. Teacher competencies necessary for work with children in these stages will be emphasized.
CSU
- 145 CHILD ABUSE AND FAMILY VIOLENCE IN OUR SOCIETY 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Child abuse and neglect, domestic violence, elder abuse and community violence, as well as safety and self protection will be examined with an emphasis on how the classroom teacher, foster parents and members of the general public can recognize, prevent, report and intervene in cases of child abuse and domestic violence.
CSU
- 148 CURRICULUM FOR SCHOOL AGE CHILD CARE 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CD 125
 3 hours lecture
 Covers the developmental needs, appropriate curriculum and guidance techniques for children ages 6 to 12 in a child care setting. Meets Title 22 curriculum requirements for teachers and directors in extended day care programs. Also useful for recreation and youth group activities.
CSU
- 149 SCHOOL AGE CHILD CARE PROGRAM PLANNING 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CD 148
 3 hours lecture
 Continuation and expansion of principles introduced in CD 148 with a focus on overall program design for school age child care. Special emphasis on working with children labeled "at risk" and parent communication.
CSU
- 150 FIELD EXPERIENCE FOR SCHOOL AGE CHILD CARE 2 UNITS**
 Prerequisite: CD 125, 131, 134, 148, 149
 Corequisite: CD 132 or previous enrollment
 Recommended Preparation: None
 10 hours paid or 8 hours unpaid work experience per week
 Under supervision at an approved field placement site in a school age child care program, the student will participate in all activities. The student will develop and supervise learning experiences, conduct activities, handle daily routines and respond to individual and group needs.
CSU

- 152 DIVERSITY ISSUES IN EARLY CHILDHOOD EDUCATION 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Analysis of the many contexts and variables related to an individual's socialization process and how these factors impact on one's work with children and families. Using an anti-bias approach, examines and discusses topics related to ethnicity, religion, race, sex, disability and lifestyles as represented in schools and society at large. Students will better understand their own attitudes toward groups other than their own and apply this knowledge to their work with young children. Applicable to the Child Development Permit Master Teacher multicultural specialization. Relevant for parents and others who work with families and children.
CSU
- 157 FOOD AND NUTRITION FOR CHILDREN 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 This course is designed to provide students with information and resources related to the nutritional needs of children from birth until approximately 12 years of age. Course content includes menu planning and nutrition education, food safety, storage and preparation appropriate for a wide variety of indoor and outdoor settings.
CSU
- 170 FIELD EXPERIENCE WITH INFANTS AND TODDLERS 2 UNITS**
 Prerequisite: Completion of the following with a grade of "C" or better: CD 123, 124, 125, 126, 127, 128, 129 and 143
 Corequisite: CD 132 or previous enrollment
 Recommended Preparation: None
 10 hours paid or 8 hours unpaid work experience per week
 Under supervision at approved field placement sites, students will participate in all classroom activities. Students will design and modify the environment, develop and supervise learning experiences, handle routines and respond to individual and group needs under two years of age.
CSU
- 199 SPECIAL STUDIES OR PROJECTS IN CHILD DEVELOPMENT 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Child Development under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 200 INTRODUCTION TO OUTDOOR EDUCATION PROGRAMS 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CD 125
 1 hour lecture
 This course is designed as an introduction and exploration of outdoor education programs for students considering employment in camp settings. Students will be introduced to a variety of program philosophies and special interest camps. Outdoor safety, environmental awareness, and designing meaningful activities that are engaging and appropriate for children are the main emphasis of the course. The class will have a practical application component. Students will be expected to participate in a field trip to a local outdoor outfitter. Provides an overview of classes required in the Outdoor Leadership certificate of proficiency and may assist students in determining future educational goals.
CSU
- 201 CREATIVE ACTIVITIES FOR OUTDOOR PROGRAMS 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CD 125
 1 hour lecture
 This course is designed for students planning to work in outdoor education or environmental education programs. Focuses on the planning and development of craft projects appropriate for outdoor education settings. Projects will incorporate environmental and science-related concepts. Emphasis on practical application including arts and crafts materials and using craft activities and projects as instructional tools. Students will present projects and compile a resource of the ideas presented in class for future reference.
CSU
- 202 FIELD EXPERIENCE FOR RECREATIONAL LEADERSHIP 1 UNIT**
 Prerequisite: CD 125, 200, 201 with a grade of "C" or better or "CR"
 Corequisite: None
 Recommended Preparation: None
 75 hours paid or 60 hours unpaid work experience
 Under the supervision of an approved field placement site, students will participate in recreational program activities in an outdoor education or camp facility. Students will take part in planned recreational activities, develop and implement learning adventures, supervise groups of multi-aged children using positive group management techniques, respond to individual needs, participate in all aspects of camp life including meal preparation and service, setting up, taking down and maintaining outdoor equipment, and assuring the health, safety and enjoyment of camp participants. *Note: Fingerprinting will be required for field experience site and some sites may require CPR certification.*
CSU

210 WORKING WITH YOUNG CHILDREN WITH CHALLENGING BEHAVIORS 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

This course provides students with a practical foundation for working with children with challenging behaviors in early childhood programs. Key components are developmentally appropriate guidance and proactive management techniques, preventative and intervention strategies, and adaptations of environment and settings. The importance of a child's developmental age, family involvement and community resources will be included.

211 FIELD EXPERIENCE IN EARLY CHILDHOOD INTERVENTION 2 UNITS

Prerequisite: Completion of the following with a grade of "C" or better: CD 125, 141, 145, 210 and two of the following: CD 126, 127, 128, 129

Corequisite: CD 132 or previous enrollment
 Recommended Preparation: CD 131, 134

10 hours paid or 8 hours unpaid work experience per week

This course provides a supervised field experience as an assistant in an inclusive group early childhood or special education program or an individual early intervention setting. Under supervision, students will participate in routines and procedures and will develop and implement appropriate activities as required.

298 SELECTED TOPICS IN CHILD DEVELOPMENT 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Child Development not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN CHILD DEVELOPMENT 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Child Development not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

COMMUNICATION**110 INTRODUCTION TO MASS COMMUNICATION 3 UNITS**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

This course is designed to provide students with a basic understanding of mass media practices and influences in the United States (and globally). Topics of discussion will include current media practices, problems, issues and significant trends with special emphasis on the ways media and society influence and change each other. Students will explore the history of mass media theories, ethics, roles and responsibilities, contributions of diverse groups, gender issues, and legal rights and restrictions. Mass media contexts will include news advertising, public relations, photojournalism, newspapers, radio, television, film, recording industry, book publishing, network/cable and online communication.

120 INTERPERSONAL COMMUNICATION 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

This course provides an opportunity for students to learn and apply in daily life practical principles of interpersonal communication. The emphasis is on personal, situational and cultural influences and interaction. It is designed to assist students in improving their own interpersonal communication skills. Attention is given to human perception, interpersonal dynamics, listening, conflict management, verbal and nonverbal symbol systems.

AA/AS GE, CSU, CSU GE

122 PUBLIC SPEAKING (CAN SPCH 4) 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

This course offers an opportunity for general improvement in the basic process of public speaking with emphasis on individual to audience contexts. Introduction to rhetorical theory is included. Attention is given to the basic elements of topic selection, analysis of diverse audiences, research, organization, argumentation and delivery of speeches and presentations.

AA/AS GE, CSU, CSU GE, IGETC, UC

123 ADVANCED PUBLIC SPEAKING 3 UNITS

Prerequisite: COMM 122 with a grade of "C" or better or "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Advanced training in the preparation and delivery of common types of public speaking. Emphasis on the fundamental processes of oral communication.

CSU, UC

- 124 INTERCULTURAL COMMUNICATION 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 To experience and learn about intercultural communication: the study of face-to-face communication between persons with significantly different beliefs, values, expectations and assumptions. Theoretical overview is presented; however, the course emphasis relies on its unique composition of students from a variety of cultural backgrounds (national origin, ethnicity, age, gender, etc.) who are encouraged to enroll. The resulting student-to-student dynamic offers a unique opportunity to experience and learn about practical similarities and differences between people of different cultural backgrounds.
AA/AS GE, CSU, CSU GE, UC
- 135 FUNDAMENTALS OF ORAL INTERPRETATION 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to give students an opportunity to develop skills in oral interpretation of various types of literature. Emphasis on the pleasure to be gained from reading fine literature aloud to others.
CSU, UC
- 136 READERS THEATRE 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to teach the theory, concepts and history of Readers Theatre; to give students the opportunity to learn the principles of literary analysis and oral interpretation; and to study methodologies and techniques in the development of written material from text into a medium of group communication.
CSU, UC
- 137 SMALL GROUP COMMUNICATION 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 This course offers training for participation in and leadership of the various forms of small group communication. It is concerned with the basic tools of critical thinking such as evidence, reasoning, language and relevant psychological factors. In addition to examining these basic tools, students become familiar with discussion techniques and learn the characteristics and limitations of, and uses for various discussion forms.
AA/AS GE, CSU, UC
- 145 ARGUMENTATION 3 UNITS**
(CAN SPCH 6)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 This course emphasizes the construction and analysis of public argument. It covers the theory of argument, the processes and development of arguments, and the application of argument to decision making.
AA/AS GE, CSU, CSU GE, UC
- 199 SPECIAL STUDIES OR PROJECTS IN COMMUNICATION 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Communication under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 240 INTERCOLLEGIATE FORENSICS 3 UNITS**
ABCD Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Designed to give students an opportunity to improve their public speaking skills through intercollegiate forensic competition and other realistic speaking situations outside the classroom. Class and individual instruction is provided in the following speaking categories: public address, oral interpretation, impromptu, debate, and readers theatre. *May be taken for 4 semesters.*
CSU
- 298 SELECTED TOPICS IN COMMUNICATION 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Communication not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN COMMUNICATION 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Communication not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

COMPUTER AND INFORMATION SCIENCE

Students who wish to enroll in Microsoft applications (Word, Excel, PowerPoint) should refer to Business Office Technology.

105 INTRODUCTION TO COMPUTING 3 UNITS

Prerequisite: None
Corequisite: None
Recommended Preparation: None
2 hours lecture, 3 hours laboratory

Introductory small computing course for those desiring beginning computer knowledge and skills. Includes an overview of a typical personal computer system including input and output devices, the processor, and storage devices. Also includes hands-on experience with a computer and popular application software. Emphasis on those skills and knowledge needed to use and maintain a home or small business computer.

CSU

110 PRINCIPLES OF INFORMATION SYSTEMS 4 UNITS

(**CAN CSCI 2**)
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture, 3 hours laboratory

Develops basic knowledge of computers and information systems. Broad overview of topics includes computer organization, hardware and software systems, and application software. Approximately one-third of the course will include hands-on problem solving using spreadsheets. The remainder consists of hands-on problem solving using tools including databases, presentation graphics and word processing. (Specific software packages to be identified in class schedule.)

CSU, UC

120 COMPUTER MAINTENANCE AND A+ CERTIFICATION 3 UNITS

Prerequisite: None
Corequisite: None
Recommended Preparation: CIS 110
2 hours lecture, 3 hours laboratory

Prepares students for the A+ Certification exam, an industry-sponsored test that establishes a benchmark level of knowledge and competence expected of computer service technicians in entry-level positions. A+ Certification also serves as the foundation for computer service professionals who are pursuing other valuable industry certifications such as the Cisco Certified Networking Associate (CCNA), Network+, and Microsoft Certified Professional (MCP). While preparing for the A+ Certification exam, students will gain a comprehensive knowledge base in computer hardware, DOS and Windows operating systems, networking basics, printers, and customer service. Hands-on labs using the latest computer components and operating systems will also provide an opportunity for students to enhance their skills in assembling, disassembling, servicing, troubleshooting, and upgrading advanced computer and networking systems.

CSU

121 NETWORK CABLING SYSTEMS 3 UNITS

Prerequisite: None
Corequisite: None
Recommended Preparation: None
2 hours lecture, 3 hours laboratory

Designed for individuals interested in the physical aspects of computer network installation and cabling. Focuses on cabling issues related to network/Internet connections and provides an understanding of industry trends and standards, types of cabling, physical and logical network topologies, and issues related to physical plant characteristics. Students will develop skills in installing jacks, stringing and mounting cable, cable testing, choice of wiring closets, and patch panel installation. Provides extensive hands-on use of the computer labs for documentation and design purposes as well as conducting Internet research.

CSU

125 NETWORK + CERTIFICATION 3 UNITS

Prerequisite: None
Corequisite: None
Recommended Preparation: Basic computer skills (basic knowledge of computer hardware, operating systems and applications software)
2 hours lecture, 3 hours laboratory

This practical course is intended for anyone interested in learning computer networking with an emphasis on earning the Computing Technology Industry Association's certification Network+. The Network+ certification is a foundation-level, vendor-neutral international industry credential that validates the knowledge of networking professionals. Earning a Network+ certification demonstrates that a candidate can describe the features and functions of networking components, and possesses the knowledge and skills needed to install, configure and troubleshoot basic networking hardware, protocols and services. The certification indicates technical ability in the areas of media and topologies, protocols and standards, network implementation, and network support. Throughout the course, theory will be demonstrated and practiced in laboratory exercises. Lectures, laboratories and practical assignments will emphasize skills needed to work effectively in the networking environment and to earn the Network+ certification.

140 DATABASES 3 UNITS

Prerequisite: None
Corequisite: None
Recommended Preparation: CIS 110
2 hours lecture, 3 hours laboratory

Beginning course in database software to provide students with a solid background in database applications and operation. Students will create, update and retrieve information using a computer and database software. Beneficial for students who wish to use the computer to file, organize, retrieve and create reports from data.

CSU

- 161 FUNDAMENTALS OF TELECOMMUNICATIONS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CIS 120, 121
 2 hours lecture, 3 hours laboratory
 This course introduces students to the basic concepts of telecommunications, beginning with how communication signals are generated, encoded, transmitted and received over telecommunications channels. Theory of analog and digital signals, frequency spectra, bandwidth, modulation, and multiplexing techniques are introduced and demonstrated. Covers the history of telecommunications technologies, industry and governmental policy and how this history has led to the modern public telecommunications networks. Networking systems and equipment are explored including transmission and reception technology, switching systems, and transmission media such as optical fiber, copper and wireless. Finally, students are introduced to the technological advances in broadband and convergence technologies and the merging of voice, data and video applications on a single network. The laboratory portion of the course allows students to verify concepts introduced in class and develop the prerequisite knowledge and skills required to build, test, operate and maintain telecommunications networks.
CSU
- 162 NETWORK DIAGRAMMING USING MS VISIO 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CIS 161, 201
 3 hours laboratory
 Networking and telecommunications professionals must know how to create technical diagrams and drawings and to use computer tools to manage Information Technology (IT) projects. Using the Visio Professional program from Microsoft, students will learn how to create basic and advanced networking and telecommunications diagrams and drawings, building plans, project schedules and flow charts. Students will also learn how to visualize and develop presentations of ideas and complex technical and business information systems. Challenging case studies will be used to provide real-world technical and business experiences.
CSU
- 170 COMPUTER GRAPHICS 3 UNITS**
ABCD Prerequisite: None
 Corequisite: None
 Recommended Preparation: CIS 110
 2 hours lecture, 3 hours laboratory
 Beginning course in producing computer graphics utilizing a personal computer. Lectures, demonstrations and hands-on experience operating a computer and laser printer using page composition and graphics software. Utilizes a popular graphics software package to produce graphical presentations. (Specific software packages to be identified in class schedule.)
CSU
- 190 INTRODUCTION TO WINDOWS OPERATING SYSTEMS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CIS 110
 2 hours lecture, 3 hours laboratory
 Beginning course to provide hands-on understanding and use of a Windows operating system. Installation and configuration will be covered. Keyboard and mouse commands will be utilized in efficient operation of a computer system. Topics include the use of a computer operating system to install new programs, perform software maintenance, and customize computer software installations to accommodate individual preferences. Additional topics may include connecting computers to networks and peripheral equipment such as printers, scanners, and modems. (Specific software packages to be identified in class schedule.)
CSU
- 191 INTRODUCTION TO UNIX OPERATING SYSTEM 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CIS 110, 120
 2 hours lecture, 3 hours laboratory
 Introductory course designed to provide an understanding of the history and advantages of the UNIX operating system. Topics include the history and evolution of the UNIX operating system, file and directory manipulation, screen editing with vi, permissions, customizing the user's environment, simple shell programming, X-Windows and special features of the shell. Students will be able to troubleshoot common installation and configuration problems and set up and maintain user accounts. Lecture material reinforced with practical lab exercises.
CSU
- 198 SUPERVISED TUTORING 0 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 TBA hours
 Uses a variety of educational tools to assist students with various learning needs. Can be used to strengthen prerequisite skills prior to enrolling in a specific course or to receive supplemental assistance while concurrently enrolled in another course. *May be repeated with different content. No fee/no credit course.*
- 199 SPECIAL STUDIES OR PROJECTS IN COMPUTER AND INFORMATION SCIENCE 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Computer and Information Science under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

200 INTRODUCTION TO COMPUTER NETWORKING 3 UNITS

Prerequisite: CIS 190

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Designed as an introduction to Local Area Networks (LANs) with emphasis on basic server administration skills. Students will create a LAN using a popular network operating system. Next, students will add peripherals and will use software tools to control their operation. LAN protocols will be covered and Internet protocols will be covered in depth. Throughout this course, theory will be demonstrated in laboratory exercises. (Specific software packages to be identified in class schedule.)

CSU**201 CISCO NETWORKING ACADEMY I 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: CIS 120, 190, A+ Certification or one year of industry experience

2 hours lecture, 3 hours laboratory

The first of four courses designed to provide classroom and laboratory experience in current and emerging networking technology that will empower students to enter employment and/or further their education and training in the computer networking field. Includes safety, networking, network terminology and protocols, network standards, Local Area Networks (LANs), Wide Area Networks (WANs), Open System Interconnection (OSI) models, cabling, cabling tools, routers, router programming, star topology, Internet Protocol (IP) addressing, and network standards. Particular emphasis on the use of decision-making and problem-solving techniques in applying science, mathematics, communication, and social studies concepts to solve networking problems. Instruction and training provided in the proper care, maintenance and use of networking software, tools and equipment, and all local, state and federal safety, building and environmental codes and regulations.

CSU**202 CISCO NETWORKING ACADEMY II 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Student must complete CIS 201 or semester I of the Cisco Networking Academy at any accredited institution. The second of four courses designed to provide classroom and laboratory experience in current and emerging networking technology that will empower students to enter employment and/or further their education and training in the computer networking field. Includes safety, networking, network terminology and protocols, network standards, Local Area Networks (LANs), Wide Area Networks (WANs), Open System Interconnection (OSI) models, Ethernet, Token Ring, Fiber Distributed Data Interface, Transmission Control Protocol/Internet Protocol (TCP/IP) addressing protocol, dynamic routing, routing, and the network administrator's role and function. Particular emphasis on the use of decision-making and problem-solving techniques in applying science, mathematics, communication and social studies concepts to solve networking problems. Instruction and training provided in the proper care, maintenance and use of networking software, tools and equipment, and all local, state and federal safety, building and environmental codes and regulations.

CSU**203 CISCO NETWORKING ACADEMY III 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Student must complete CIS 202 or semester II of the Cisco Networking Academy at any accredited institution. The third of four courses designed to introduce new content and extend previously learned networking skills that will empower students to enter the workforce and/or further their education and training in the computer networking field. Introduces and extends knowledge and practical experience with switches, Local Area Network (LAN) and Virtual Local Area Network (VLAN) design, configuration and maintenance. Students develop practical experience in skills related to configuring LANs, Wide Area Networks (WANs), Novell networks, Internetwork Packet Exchange (IPX) routing and Interior Gateway Routing Protocol (IGRP) protocols and network troubleshooting.

CSU**204 CISCO NETWORKING ACADEMY IV 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Student must complete CIS 203 or semester III of the Cisco Networking Academy at any accredited institution. The fourth of four courses designed to introduce new content and extend previously learned networking skills that will empower students to enter the workforce and/or further their education and training in the computer networking field. A task analysis of current industry standards and occupation analysis was used in the development of content standards. Introduces and extends the student's knowledge and practical experience with Wide Area Networks (WANs), Integrated Services Digital Networks (ISDNs), and Point-to-Point Protocols (PPP) and Frame Relay design, configuration and maintenance. Students develop practical experience in skills related to configuring WANs, ISDNs, PPP and Frame Relay protocols and network troubleshooting.

CSU**205 CISCO NETWORKING ACADEMY V 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Student must complete CIS 204 or semester IV of the Cisco Networking Academy at any accredited institution. A follow-up course designed to introduce new content and extend previously learned networking skills that will empower students to enter the workforce and/or further their education and training in the computer networking field. A task analysis of current industry standards and occupation analysis was used in the development of content standards. Focuses on advanced routing and using Cisco routers connected in Local Area Networks (LANs) and Wide Area Networks (WANs) typically found at medium to large network sites. Upon completion, students will be able to select and implement the appropriate Cisco IOS (Internet over Satellite) services required to build a scalable routed network.

CSU

- 211 WEB MARKUP LANGUAGES 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: CIS 110
2 hours lecture, 3 hours laboratory
Hands-on training in web publishing using a markup language such as HTML, XHTML, or XML and a stylesheet language such as CSS (Cascading Style Sheets) or XSL (eXtensible Stylesheet Language). Students will create a simple website and upload it to a web server. Techniques for creating web presentations compliant with current World Wide Web Consortium (W3C) standards and viewable by most web browsers will be stressed. Topics include formatting text, organizing a website, integrating images, linking to external files, linking to email and FTP sites, principles of good web design, lists, tables, frames, imagemaps, forms, stylesheets, and the cascade mechanism.
CSU
- 212 INTRODUCTION TO DREAMWEAVER 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: CIS 211
2 hours lecture, 3 hours laboratory
Introductory web development course emphasizing production and design using web authoring software. Students will apply skills and concepts to plan and develop a small website.
CSU
- 213 ADVANCED DREAMWEAVER 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: CIS 140, 212
2 hours lecture, 3 hours laboratory
Covers intermediate topics in web design and production such as Cascading Style Sheets, frames, forms, JavaScript, database integration, usability and accessibility. Students will complete a series of short assignments as well as a final project.
CSU
- 214 WEB SERVER MANAGEMENT 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: CIS 190, 290
2 hours lecture, 3 hours laboratory
Focuses on installing, configuring, maintaining and managing Internet and intranet web servers containing multiple websites using both Microsoft Internet Information Server and Apache. Students will install and configure a web server and related services. Security and maintenance techniques will be used. (Specific software packages to be identified in class schedule.)
CSU
- 215 JAVASCRIPT PROGRAMMING 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: CIS 211, CS 119 or programming experience
2 hours lecture, 3 hours laboratory
Introductory course in JavaScript programming focusing on creating interactive web pages. Topics include integrating JavaScript with HTML (Hypertext Markup Language), event-handling, array, and writing and calling JavaScript functions. Students will use JavaScript to perform real-world tasks and create a variety of effects including form validations, image rollovers, pull-down menus, pop-up windows, form calculations, and more.
CSU
- 216 ACTIVE SERVER PAGES 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: CIS 211 or HTML experience; CIS 212 or experience developing a website; CIS 213; CS 180ABCD or 182 or experience with Visual Basic or Java
2 hours lecture, 3 hours laboratory
Covers the development of programs used in websites using Active Server Pages (ASP) to deliver dynamic web content. Topics include database connectivity, security and e-commerce applications in website operations. Emphasis on programming in ASP to create dynamic web content.
CSU
- 219 PHP/MYSQL DYNAMIC WEB-BASED APPLICATIONS 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: CIS 140 (or some experience with database development), 211 (or proficiency with HTML or XHTML)
2 hours lecture, 3 hours laboratory
This course provides students with the knowledge and skills necessary to use the PHP scripting language to develop dynamic web-based applications. Topics of study include the fundamentals of scripting, using PHP with HTML forms, creating functions, and integrating with the MySQL database.
- 221 DIGITAL VIDEO EDITING AND DVD PRODUCTION 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: CIS 110 or basic computer skills
Using video editing software, students will produce video in a variety of formats including web video and DVDs with menus. Video editing techniques will be emphasized. Students will also learn how to shoot video with a digital camera and import video captured from a variety of sources.
CSU

- 230 DESKTOP PUBLISHING 3 UNITS**
ABCD Prerequisite: None
 Corequisite: None
 Recommended Preparation: Students should be able to create, edit and print documents using word processing software and create simple graphics.
 2 hours lecture, 3 hours laboratory
 Uses a modern desktop publishing software program to demonstrate the principles of publication and design, page layout techniques, typesetting fundamentals, integration of text and graphics, hard disk management, and output to color and monochrome printers. (Specific software packages to be identified in class schedule.)
CSU
- 240 ADVANCED DATABASES 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CIS 140
 2 hours lecture, 3 hours laboratory
 Continuation of the study of database software. Students will create, update and retrieve information using applications based on the database programming language or Structured Query Language (SQL). Beneficial for students who wish to create very efficient customized applications.
CSU
- 242 DATABASE DESIGN 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CIS 140, 240 or equivalent
 2 hours lecture, 3 hours laboratory
 Design and implement a Structured Query Language (SQL) Server database. Create and maintain database objects and implement database integrity. Use Transact-SQL to query a SQL Server database and manage and manipulate data stored in that database. Manage a SQL Server database by setting appropriate security settings. Perform maintenance and optimization of a SQL Server database.
- 261 TELECOMMUNICATIONS AND CONVERGENCE TECHNOLOGIES 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CIS 161, 201
 2 hours lecture, 3 hours laboratory
 This unique course combines topics such as basic telecommunications engineering and preparation for the Convergence Technologies Professional (CTP) Certification with comprehensive hands-on labs. Students learn signal analysis, modulation, multiplexing, access techniques and antenna design. Emerging technologies such as 10 Gigabit Ethernet, Voice over IP (VOIP), wireless networks and broadband access, digital IP-based network video cameras, free-space optics, and convergence technologies are explored and demonstrated. Prepares students to take the CTP Certification exam sponsored by the Telecommunications Industry Association (TIA), an industry-recognized certification often required for employment in the field of telecommunications. The laboratory component allows students to verify concepts introduced in class and develop the prerequisite knowledge and skills required to design, build, test, operate and maintain modern telecommunications networks.
CSU
- 262 FUNDAMENTALS OF WIRELESS LANs 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CIS 202 or semester II of the Cisco Networking Academy at any accredited institution, CIS 120 or A+ equivalent and CIS 121 or equivalent
 2 hours lecture, 3 hours laboratory
 Introductory course in wireless LANs (Local Area Networks) focusing on the design, planning, implementation, operation and troubleshooting of wireless LANs. Covers material included in the Cisco Wireless LAN Support Specialist designation (WLANFE 9E0-581) and the Certified Wireless Network Administrator (CWNA) exam, the first of four exams for CWNE. A valid CCNA (Certified Cisco Network Administrator) is required to be eligible for the above WLANFE 9E0-581 exam. Includes a comprehensive overview of technologies, security and design "best practices" with particular emphasis on hands-on skills in the following areas: wireless LAN setup and troubleshooting; 802.1x and 802.1x technologies, products and solutions; site surveys; resilient WLAN (Wireless Local Area Network) design, installation and configuration; WLAN security - 802.1x, EAP, LEAP, WEP, SSID; and vendor interoperability strategies.
CSU
- 263 FUNDAMENTALS OF NETWORK SECURITY 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CIS 120, 190, 202
 2 hours lecture, 3 hours laboratory
 Entry-level course in network security that addresses the various aspects of designing and implementing a secure network. This course is intended to serve the needs of individuals interested in understanding the field of network security and how it relates to other areas of Information Technology (IT). Covers materials included in the CompTia (Computing Technology Industry Association) Security+ exam.
CSU
- 267 DIRECTED WORK EXPERIENCE IN CIS 1-4 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 5 hours paid or 4 hours unpaid work experience per week per unit
 Work experience in a computer and information science occupation category for students seeking experience in computer science or information systems. *May be repeated for a maximum of 12 units.*
CSU

- 270 ABCD ADVANCED GRAPHICS 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: Students should be able to create, edit and manipulate graphics using a current graphics program. This knowledge may have been obtained through CIS 170ABCD or equivalent experience.
2 hours lecture, 3 hours laboratory
Continuation of CIS 170ABCD, presenting advanced concepts of computer graphics including draw and paint programs, scanning, tracing, styles and templates, importing, exporting, vector and bitmap files. Lectures, demonstrations and hands-on experience in graphics utilizing a personal computer. Students will operate a computer and laser printer using page composition and graphics software. Utilizes popular graphics software to produce images. (Specific software packages to be identified in class schedule.)
CSU
- 290 WINDOWS SYSTEM ADMINISTRATION 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: CIS 120, 190
2 hours lecture, 3 hours laboratory
Comprehensive introduction to multi-user, multi-tasking operating systems and networked operating systems. Students will explore a variety of topics including installation procedures, security issues, back-up procedures and remote access. Command line and graphical operating systems will be covered. Students will also attach peripherals and download and install software drivers. (Specific software packages to be identified in class schedule.)
CSU
- 291 UNIX SYSTEM ADMINISTRATION 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: CIS 120, 191
2 hours lecture, 3 hours laboratory
The basic skills necessary to be an effective UNIX system administrator are introduced. Designed for new UNIX administrators who wish to know more about the operations of the system. Covers basic administration topics such as disk management, system initialization, adding and removing users, backups and printing. UNIX server programs such as Apache, DNS, DHCP, Mail and Samba will also be covered.
CSU
- 292 UNIX SHELL PROGRAMMING 2 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: CIS 120, 191
1 hour lecture, 3 hours laboratory
Introduction to programming with utilities and shell scripting languages in a UNIX environment. Covers the essential aspects of shell programming including similarities and differences among the three most popular shells: the Bourne shell, the C shell, and the Korn shell. Students will learn features including command line argument processing, debugging techniques, the use of sed to edit files, and the use of awk to format output.
CSU
- 298 SELECTED TOPICS IN COMPUTER AND INFORMATION SCIENCE 1-4 UNITS**
Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
1-12 hours
Selected topics in Computer and Information Science not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN COMPUTER AND INFORMATION SCIENCE 1-4 UNITS**
Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
1-12 hours
Selected topics in Computer and Information Science not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

COMPUTER SCIENCE

119 PROGRAM DESIGN AND DEVELOPMENT 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: CIS 110, intermediate algebra
3 hours lecture

Introductory course in program design and development using Java to serve as a foundation for more advanced programming, computer science or networking courses. Emphasizes the development of problem-solving skills as it introduces students to computer science through the use of a modern object-oriented programming language. Devotes attention to the development of effective software engineering practices emphasizing such principles as design decomposition, encapsulation, procedural abstraction, testing and software reuse. Students will learn and apply standard programming constructs, problem-solving strategies, the concept of an algorithm, fundamental data structures, the machine representation of data, introductory graphics and networking. *Student must also be enrolled in CS 119L.*

CSU, UC

119L PROGRAM DESIGN AND DEVELOPMENT LAB 1 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: CIS 110, intermediate algebra
3 hours laboratory

Laboratory tutorials, drills and programming problems designed to help students master the concepts and programming projects presented/assigned in CS 119. *Student must also be enrolled in CS 119. Credit/No Credit only.*

CSU, UC

180 ABCD INTRODUCTION TO VISUAL BASIC PROGRAMMING 4 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: CS 119 or previous programming experience, intermediate algebra

3 hours lecture, 3 hours laboratory

Introduction to computer programming using Visual Basic. Emphasis on practical applications of programming for today's technology. Laboratory instruction will include program development and execution.

CSU, UC

181 INTRODUCTION TO C++ PROGRAMMING 4 UNITS

(CAN CSCI 18)

Prerequisite: None

Corequisite: None

Recommended Preparation: CS 119, intermediate algebra

3 hours lecture, 3 hours laboratory

Introduction to computer programming using C++. Students with no previous programming experience in C++ learn how to plan and create well-structured programs. Students will learn how to write programs using sequence, selection and repetition structures, as well as how to create and manipulate sequential access files, structs, classes, pointers, and arrays.

CSU, UC

182 INTRODUCTION TO JAVA PROGRAMMING 4 UNITS

Prerequisite: MATH 110 or equivalent (intermediate algebra)

Corequisite: None

Recommended Preparation: CS 119 or experience programming in C++ or Java

3 hours lecture, 3 hours laboratory

Introductory course in the basics of the Java programming language focusing on object-oriented methodology. Topics include classes, methods, parameters, arrays, modularity, abstraction, exception handling, and stream and file I/O. In addition to writing and using new classes, students will utilize the AWT and/or Swing libraries of classes. Basic inheritance is introduced, although this is covered in more depth in the intermediate Java programming class (CS 282).

CSU, UC

199 SPECIAL STUDIES OR PROJECTS IN COMPUTER SCIENCE 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

3-9 hours

Individual study, research or projects in Computer Science under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

280 ABCD INTERMEDIATE VISUAL BASIC PROGRAMMING 4 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: CS 180ABCD

3 hours lecture, 3 hours laboratory

Continuation of CS 180ABCD, providing the programmer with professional training with emphasis on documentation, structured programming and programming to professional standards using Visual Basic.

CSU, UC

281 INTERMEDIATE C++ PROGRAMMING 4 UNITS

Prerequisite: CS 181

Corequisite: None

Recommended Preparation: None

3 hours lecture, 3 hours laboratory

Continuation of CS 181, designed to provide the programmer with professional training in memory management, documentation, structured programming, and programming to professional standards using C++. Explores some of the more advanced concepts of preprocessing, low-level data objects, recursion, and dynamic data structures including linked lists, stacks, queues, and trees. Laboratory instruction includes program development and execution.

CSU, UC

282 INTERMEDIATE JAVA PROGRAMMING AND FUNDAMENTAL DATA STRUCTURES 4 UNITS

Prerequisite: CS 182; MATH 175 or equivalent

Corequisite: None

Recommended Preparation: None

3 hours lecture, 3 hours laboratory

Continuation of CS 182. Students will learn to implement and analyze a variety of data structures and the algorithms used with those data structures. Students will learn to create their own abstract data types and how and when to utilize them. Fundamental data structures include multidimensional arrays, linked lists, stacks, queues, heaps, trees, and hash tables. Students will learn when to use which of the available dynamic memory data structures. Tools for analyzing and predicting run time and memory usage are introduced, as is "big-oh" notation. A variety of sort algorithms are reviewed, analyzed for best, worst and average case performance, and compared with tree traversal algorithms. Students will develop increased sophistication in object-oriented basics such as inheritance, encapsulation, design of abstract data types, and polymorphism. Students will gain experience working on larger programs and managing large, multi-programmer projects. Laboratory instruction includes program development and execution.

CSU, UC

289 COMPUTER ORGANIZATION AND SYSTEMS PROGRAMMING 4 UNITS

Prerequisite: CS 282

Corequisite: None

Recommended Preparation: None

3 hours lecture, 3 hours laboratory

Introduction to the organization of modern digital computers, beginning with the standard von Neumann model and then moving forward to more recent architectural concepts. A specific architecture/machine will be utilized to study computer architecture at the assembly language and C interface level. Differences in the internal structure and organization of a computer lead to significant differences in performance and functionality; this course addresses some of the various options involved in designing a computer system, and the range of design considerations and trade-offs involved in the design process. Focuses on understanding the components of a computer and their inter-relationships. Programming assignments using C and assembly language will be used to reinforce these concepts including data representation, flow control, addressing techniques, subroutine linkage, macros, interrupts, and traps.

CSU, UC

298 SELECTED TOPICS IN COMPUTER SCIENCE 1-4 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-12 hours

Selected topics in Computer Science not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN COMPUTER SCIENCE 1-4 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-12 hours

Selected topics in Computer Science not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

DRAFTING TECHNOLOGY

(SEE CADD TECHNOLOGY)

The Drafting Technology program at Cuyamaca College underwent revision in order to respond to changes in the industry and in the Engineering program requirements at SDSU. Students currently in the program will be able to complete needed courses. If a Modification of Major is needed, please see a counselor.

ECONOMICS

110 ECONOMIC ISSUES AND POLICIES 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

One-semester economics course designed to give students a general elementary knowledge of basic economic concepts and to serve as an introduction to more advanced economics courses. Surveys current economic subjects including consumer economics, inflation, recession, competition, monopoly, world trade and competing economic systems. *May not be taken if ECON 120 or 121 has been taken.*

AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

120 PRINCIPLES OF MACROECONOMICS 3 UNITS (CAN ECON 2)

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Introduction to principles of economic analysis, economic institutions and issues of public policy. Emphasis on macroanalysis including national income accounting, money and banking, business cycles and economic stabilization. There will be some use of graphs and elementary algebra.

AA/AS GE, CSU, CSU GE, IGETC, UC

121 PRINCIPLES OF MICROECONOMICS 3 UNITS**(CAN ECON 4)**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Introduction to principles of economic analysis, economic institutions and issues of public policy. Emphasis on the direction of production, allocation of resources, distribution of income through the price system (microanalysis) and international economics. There will be some use of graphs and elementary algebra.

AA/AS GE, CSU, CSU GE, IGETC, UC**124 PRINCIPLES OF ECONOMICS
COMPUTER LAB .5 UNIT**

Prerequisite: None

Corequisite: ECON 120 or 121

Recommended Preparation: None

1.5 hours laboratory

Complements ECON 120 and 121 by providing computer-based tutorials to introduce the principles of economic analysis, economic institutions and issues of public policy. *May be repeated for a maximum of 1 unit.*

Credit/No Credit only.**199 SPECIAL STUDIES OR PROJECTS
IN ECONOMICS 1-3 UNITS**

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

3-9 hours

Individual study, research or projects in Economics under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

298 SELECTED TOPICS IN ECONOMICS 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-9 hours

Selected topics in Economics not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN ECONOMICS 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-9 hours

Selected topics in Economics not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU**EDUCATION****110 INTRODUCTION TO
AMERICAN EDUCATION 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Elective course for students interested in exploring career opportunities as a teacher and in strengthening their skills as an instructional aide. In-depth look at teaching methodologies which can be applied by instructional aides and reapplied as a teacher.

CSU**199 SPECIAL STUDIES OR PROJECTS
IN EDUCATION 1-3 UNITS**

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

3-9 hours

Individual study, research or projects in Education under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

214 DEVELOPING AN ONLINE COURSE 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

In this introduction to successful online course design and instruction, participants will experience components of an online course from both student and teacher perspectives. Participants will learn to use technologies to support online instruction and will develop sample content and online course components within course management systems such as Blackboard or WebCT. Appropriate pedagogy will be emphasized. *It is recommended that students have basic computer skills (word processing, PowerPoint, email, web browsing).*

CSU**298 SELECTED TOPICS IN EDUCATION 1-3 UNITS**

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-9 hours

Selected topics in Education not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN EDUCATION 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-9 hours

Selected topics in Education not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

ELECTRONICS TECHNOLOGY

- 110 INTRODUCTION TO BASIC ELECTRONICS** **4 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 3 hours laboratory
 Exploratory course of study in the laws of physics as they relate to electricity and electronics. Topics include: the history of electrical science, atomic structure, basic electrical laws, DC and AC circuits, semiconductors, integrated circuits, amplifiers, wave forms, electrical test equipment, circuit construction and electrical safety. Background in basic algebra and use of scientific calculators is highly desirable.
AA/AS GE, CSU, CSU GE
- 199 SPECIAL STUDIES OR PROJECTS IN ELECTRONICS TECHNOLOGY** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Electronics Technology under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 298 SELECTED TOPICS IN ELECTRONICS TECHNOLOGY** **1-4 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours
 Selected topics in Electronics Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN ELECTRONICS TECHNOLOGY** **1-4 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours
 Selected topics in Electronics Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

ENGINEERING

- 100 INTRODUCTION TO ENGINEERING AND ENGINEERING GRAPHICS** **2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture, 3 hours laboratory
 Introduction to the engineering profession including an overview of the various fields of engineering, engineering history and ethics. Fundamentals of graphics as a language for communication in all engineering fields. Includes geometric construction, multiview projections and pictorial drawing. Application of graphics to the visualization, representation and documentation of engineering problems. Strong emphasis on engineering design and problem-solving techniques.
CSU, UC
- 119 BASIC ENGINEERING CAD** **3 UNITS**
 Prerequisite: CADD 115 or ENGR 100 or equivalent
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 CAD fundamentals for engineers. Basic 2D drawing techniques and commands in AutoCAD. Includes geometric construction, multiview and singleview projections, section views, dimensions, and text. *Not open to students with credit in DTEC 130.*
CSU, UC, UC credit limit
- 120 ENGINEERING COMPUTER APPLICATIONS** **3 UNITS**
 Prerequisite: MATH 180 or concurrent enrollment
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Use of computerized mathematical analysis, computer programming and computer graphics as tools for solving engineering problems.
CSU, UC
- 125 3D PARAMETRIC SOLID MODELING (CAN ENGR 2)** **3 UNITS**
 Prerequisite: CADD 120ABCD or ENGR 119 or equivalent
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 Advanced graphic communication using 3D Parametric Modeling CAD software including wireframe construction, feature based part construction using extrudes, cuts and revolves, advanced surface shaping using lofts and sweeps, assembly construction and constraining. The course will continue to develop 2D drafting skills including proper organization and layout of component drawing views, dimensioning and tolerancing, descriptive geometry and manufacturing processes. *Also listed as CADD 125. Not open to students with credit in CADD 125 or DTEC 125.*
CSU, UC, UC credit limit

- 170 MECHATRONICS: INTRODUCTION TO MICROCONTROLLERS 1.5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture, 2 hours laboratory
 Introductory use of microcontrollers to operate motors, lights and other electromechanical devices according to a program and in response to inputs from mechanical, optical and electrical sensors. The microcontrollers will be programmed using a specialized form of the BASIC programming language.
- 171 MECHATRONICS: INTRODUCTION TO ROBOTICS 1.5 UNITS**
 Prerequisite: ENGR 170 or equivalent
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture, 2 hours laboratory
 Development of a wheeled robot that will advance, retreat and turn (a) based on commands from a human operator, (b) according to a fixed program, and (c) autonomously, based on programmed "behavior" and data from sensors.
- 172 MECHATRONICS: INTERMEDIATE MICROCONTROLLERS 1.5 UNITS**
 Prerequisite: ENGR 170 or equivalent
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture, 2 hours laboratory
 Development of custom circuits using microcontrollers. Interrupt and exception handling, redirection and branching, and direct access to registers. Control of servo and stepper motors, and high power circuits.
- 173 MECHATRONICS: INTERMEDIATE ROBOTICS 1.5 UNITS**
 Prerequisite: ENGR 171 or equivalent
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture, 2 hours laboratory
 Development of a walking robot that will advance, retreat, and turn (a) based on commands from a human operator, (b) according to a fixed program, and (c) autonomously, based on programmed "behavior" and data from sensors.
- 199 SPECIAL STUDIES OR PROJECTS IN ENGINEERING 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Engineering under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 200 ENGINEERING MECHANICS—STATICS 3 UNITS (CAN ENGR 8)**
 Prerequisite: PHYC 190 with a grade of "C" or better
 Corequisite: MATH 280
 Recommended Preparation: None
 3 hours lecture
 Engineering applications of the principles of static equilibrium of force systems acting on particles and rigid bodies. Centroids and moments of inertia, analysis of trusses, frames and machines, forces in beams, introduction to dry friction.
CSU, UC
- 210 ELECTRIC CIRCUITS 3 UNITS (CAN ENGR 12)**
 Prerequisite: MATH 280, PHYC 200
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Theory course dealing with the concepts of circuit analysis by reduction methods, source transformation, loop and nodal analysis, alternating current circuits, impedance, power and phasor diagrams.
CSU, UC
- 218 PLANE SURVEYING 4 UNITS (CAN ENGR 10)**
 Prerequisite: MATH 170 or concurrent enrollment
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 6 hours laboratory
 Use, care and adjustment of surveying instruments. Fundamental surveying methods, traverse measurements and area computations. Introduction to horizontal and vertical curves, stadia, construction layout. Introduction to topographic mapping. Earth work computations. *(Also listed under Surveying)*
CSU, UC
- 220 ENGINEERING MECHANICS—DYNAMICS 3 UNITS**
 Prerequisite: ENGR 200
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Kinematics and kinetics of particles and rigid bodies. Newtonian laws of motion, work and energy; linear and angular momentum. Application to engineering problems. Vector notation will be used.
CSU, UC
- 240 ADVANCED SURVEYING 4 UNITS**
 Prerequisite: ENGR 218
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 3 hours laboratory
 Topographic, hydrographic and geodetic surveying. Precise equipment and control surveying, city and land surveys. Astronomical observations. State plane coordinates system. Route location and layout, transition, horizontal and vertical curves. Introduction to electronic and photogrammetric methods. U.S. Public Land Surveys and legal descriptions and an introduction to Global Positioning System (G.P.S.). *(Also listed under Surveying)*
CSU, UC

260 ENGINEERING MATERIALS 3 UNITS**(CAN ENGR 4)**

Prerequisite: CHEM 141 or equivalent, PHYC 190 or equivalent

Corequisite: None

Recommended Preparation: None

3 hours lecture

Atomic and molecular structure of materials utilized in engineering. Analysis of the relationships between structure of materials and their mechanical, thermal, electrical, corrosion and radiation properties, together with examples of specific application to engineering problems.

CSU, UC**270 DIGITAL SYSTEMS 4 UNITS**

Prerequisite: MATH 180

Corequisite: None

Recommended Preparation: None

3 hours lecture, 3 hours laboratory

Analysis, simulation and construction of combinational and sequential digital logic systems.

CSU, UC**298 SELECTED TOPICS IN ENGINEERING 1-4 UNITS**

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-12 hours

Selected topics in Engineering not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN ENGINEERING 1-4 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-12 hours

Selected topics in Engineering not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU**ENGLISH****049A BASIC SPELLING AND PHONICS 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

1 hour lecture

Students will learn to hear and use the sounds of the English phonetic system to improve their reading and spelling skills. Focuses on those parts of the English sound system that are consistent and regular. Learn common spelling rules. *Not open to students with credit in ENGL 049. Credit/No Credit only. Non-associate degree applicable.*

049B INTERMEDIATE SPELLING AND PHONICS 1 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: None

1 hour lecture

In this second spelling and phonics course, students will continue their study of the English spelling system by focusing on the way words look. Students will learn common spelling rules as well as exceptions to the rules, and be introduced to common spelling demons. Learn strategies for committing words to memory. **Credit/No Credit only. Non-associate degree applicable.**

053 BEYOND BASIC WRITING 1 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: None

1 hour lecture

Designed for individualized and group instruction, focusing on writing skills essential for effective expression in all college classrooms. Workshop approach allows for directed practice in areas of need as determined by the instructor and student. *May be repeated for a maximum of 4 units. Credit/No Credit only. Non-associate degree applicable.*

071 UPGRADE YOUR SENTENCES .5 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: None

.5 hour lecture

Mini-course which focuses on writing complete, error-free sentences using effective punctuation and transitional devices. Learn to identify and correct sentence boundary problems and to structure simple and complex sentences with clarity and precision. *May be repeated for a maximum of 2 units. Credit/No Credit only. Non-associate degree applicable.*

079 HOW WRITERS GET STARTED WITH COMPUTERS .5 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: None

.5 hour lecture

Hands-on mini-course in which students learn how to use the computer as a study assistant and communication tool for writing classes. The basics made simple: sending email, saving files, word processing, formatting, printing, searching the Web for research assignments, and much more. New writing technologies for self-empowerment in the digital age. *May be repeated for a maximum of 2 units. Credit/No Credit only. Non-associate degree applicable.*

- 090 BASIC ENGLISH SKILLS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: Placement based on assessment process
 3 hours lecture, 1 hour laboratory
 Designed to teach basic English skills through lecture, small group and individualized instruction. Promotes knowledge of spelling, vocabulary and grammar. Students will also demonstrate their knowledge by writing sentences and short paragraphs. **Credit/No Credit only. Non-associate degree applicable.**
- 090R READING SKILLS DEVELOPMENT 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: Placement based on assessment process or equivalent skills. Recommend concurrent enrollment in ENGL 090
 3 hours lecture, 1 hour laboratory
 Designed as a developmental course for all students needing to improve basic reading skills. Focuses on building vocabulary, improving comprehension of short reading selections, increasing reading speed and introducing basic study skills. **Credit/No Credit only. Non-associate degree applicable.**
- 098 ENGLISH FUNDAMENTALS 4 UNITS**
 Prerequisite: Credit in ENGL 090 and 090R or equivalent or assessment recommendation for ENGL 098
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture
 A course in basic English skills. Students will study grammar, punctuation and standard written English usage. With an introduction to the writing process, students will learn basic sentence patterns to compose paragraphs and one multi-paragraph essay. *It is recommended that students also enroll in ENGL 098R.* **Non-associate degree applicable.**
- 098R READING FUNDAMENTALS 3 UNITS**
 Prerequisite: Credit in ENGL 090 and 090R or equivalent or assessment recommendation for ENGL 098
 Corequisite: None
 Recommended Preparation: Strongly recommend concurrent enrollment in ENGL 098
 3 hours lecture, 1 hour laboratory
 Designed to provide an introduction to effective reading skills and strategies. Focuses on expanding vocabulary, improving reading comprehension and increasing reading speed. Students will also learn basic strategies for critical thinking. **Non-associate degree applicable.**
- 110 COLLEGE COMPOSITION 3 UNITS**
(formerly ENGL 111)
 Prerequisite: ENGL 098 or ESL 106 with a grade of "C" or better or "CR" or equivalent or assessment with an appropriate score
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 1 hour laboratory
 Designed to prepare students for entry into ENGL 120 (English 1A, traditional freshman composition for transfer). Students will practice the writing process by composing sentences, paragraphs and essays with emphasis on correct and effective expression through the study of appropriate language skills. Readings will be studied to stimulate clarity of thought and written expression. By the end of the course, students will be able to write a basic position paper by using and acknowledging at least one source.
AA/AS GE, CSU
- 110R PRINCIPLES OF COLLEGE READING 3 UNITS**
(formerly ENGL 111R)
 Prerequisite: Successful completion of ENGL 098R or assessment recommendation for ENGL 110
 Corequisite: None
 Recommended Preparation: Recommend concurrent enrollment in ENGL 110
 3 hours lecture, 1 hour laboratory
 Designed to provide effective reading skills and strategies necessary for the reading of college level material. Focuses on developing vocabulary geared toward college textbooks and learning strategies for efficient reading comprehension and retention. Students will also learn college level inferential and critical reading skills.
- 120 COLLEGE COMPOSITION AND READING 3 UNITS**
(CAN ENGL 2; CAN ENGL SEQ A = ENGL 120+122)
 Prerequisite: ENGL 110 with a grade of "C" or better or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 1 hour laboratory
 Traditional freshman composition course. Students will study the elements and principles of composition through the practice of writing narrative and expository essays and a research paper. Utilizing word processing in the computer lab, revision is stressed as a means of achieving effective skills in writing. Assigned readings stimulate critical thinking and effective writing. Emphasis on using outside sources and documenting them according to MLA format.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 120R ADVANCED READING AND CRITICAL THINKING SKILLS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: Successful completion of ENGL 110R or equivalent based on reading assessment measures. Recommend concurrent enrollment in ENGL 120.
 3 hours lecture
 Focuses on critical thinking and analytical interpretation of college reading selections in the sciences and liberal arts. Students will learn strategies to improve their vocabulary and reading comprehension, as well as increase reading speed and fluency.
CSU
- 122 INTRODUCTION TO LITERATURE 3 UNITS**
(CAN ENGL 4; CAN ENGL SEQ A = ENGL 120+122)
 Prerequisite: ENGL 120 with a grade of "C" or better or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introduces literature through the reading, analysis and discussion of various genres such as myths, folktales, essays, short stories, poems, plays and novels. Literature encompasses different time periods and a variety of male and female authors from around the world. Students will use the literature to write critical and appreciative essays.
AA/AS GE, CSU, CSU GE, IGETC, UC

- 124 ADVANCED COMPOSITION: CRITICAL REASONING AND WRITING 3 UNITS**
 Prerequisite: ENGL 120 with a grade of "C" or better or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 1 hour laboratory
 Designed to develop critical thinking, reading and writing skills beyond the level achieved in ENGL 120. Focuses on the development of logical reasoning and analytical and argumentative writing skills.
CSU, CSU GE, IGETC, UC
- 126 CREATIVE WRITING 3 UNITS**
(CAN ENGL 6)
 Prerequisite: ENGL 110 with a grade of "C" or better or "CR" or assessment for ENGL 120 or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 This course affords students the opportunity to write short prose, poetry and drama. In a positive atmosphere, students will explore, study and analyze techniques in the works of professional writers and in the works of students. Ample opportunity will be directed toward publication of students' work.
CSU, UC
- 135-138 NEWSPAPER PRODUCTION 4 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 3 hours laboratory
 Provides practice in producing tabloids and newsletters, particularly the campus newspaper. Instruction in the basic principles of journalism including how to gather, evaluate and write basic types of news stories, and to implement them in the production of the campus newspaper. Additional hours per week outside of class required.
CSU
- 150 LIBRARY RESEARCH METHODS 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 Designed to give students confidence in doing research and to provide skills for compiling a term paper. Introduces students to the role of information and libraries, time management skills in research, use of computerized and standard library sources, and a brief introduction to the Internet. Emphasis on using information as a basis for effective decision-making to improve personal and professional endeavors. Students will design a research project, implement an efficient research strategy, and complete a written research project.
CSU, UC credit limit
- 171 HOW WRITERS GET MOTIVATED TO WRITE 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 Mini-course emphasizing effective strategies for thinking and writing creatively. How to get motivated and focused when faced with writing assignments and exams. Methods for effective thinking out loud and on paper. Strategies for success in college writing and test-taking for any level of student. **Credit/No Credit only.**
- 198 SUPERVISED TUTORING 0 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 TBA hours
 Uses a variety of educational tools to assist students with various learning needs. Can be used to strengthen prerequisite skills prior to enrolling in a specific course or to receive supplemental assistance while concurrently enrolled in another course. *May be repeated with different content.*
No fee/no credit course.
- 199 SPECIAL STUDIES OR PROJECTS IN ENGLISH 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in English under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 201 INTRODUCTION TO IMAGES OF WOMEN IN LITERATURE 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: ENGL 120
 3 hours lecture
 Focuses on women and their roles in society as portrayed in various forms of literature, past and present. Students may read poetry, short stories, novels, plays, and view films which will provide them with a broad base for understanding the changing role of women throughout history. Works by significant male and female authors will be used reflecting a broad spectrum of political, cultural and historical views. Authors sampled may include Jane Austen, George Eliot, Virginia Woolf, William Shakespeare, Amy Tan, Alice Walker, Sandra Cisneros, Norman Mailer, Thomas Hardy, Ernest Hemingway, Sylvia Plath and others.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 202 INTRODUCTION TO FILM AS LITERATURE 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: ENGL 120
 3 hours lecture
 Survey course to study film as a 20th century form of literature. Students will view a variety of films spanning the 100 years of film history, from the silent era to the present, to develop an understanding of the different types of films, the film-making process itself, and the historical, political and sociological context of cinema. Key figures in film history such as Buster Keaton, John Ford, Orson Welles, Alfred Hitchcock, Spike Lee, Woody Allen, Akira Kurosawa and others will be studied.
AA/AS GE, CSU, CSU GE, IGETC, UC

- 207 ROMANTIC FICTION 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Literature survey course that focuses on the reading and analysis of romance novels. Beginning with the female gothic, the class will cover the development of the popular romance novel. Covers the classic novels of Radcliffe, Burney, Bronte and Austen as well as more modern American and English romance novelists. Oral and written discussion of readings and their relevance to current trends will be emphasized. Analytical or original creative writings will be included.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 214 MASTERPIECES OF DRAMA 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: ENGL 120
 3 hours lecture
 Surveys masterpieces in drama beginning with works from ancient Greece and concluding with plays from the 20th century. Although other types of drama may be discussed, the primary texts will be comedies and tragedies. Representative playwrights include Sophocles, William Shakespeare, Moliere, Henrik Ibsen, Susan Glaspell, Eugene O'Neill, Arthur Miller, Samuel Beckett, Lorraine Hansberry, August Wilson and others. Texts will be read, analyzed, discussed, and written about in essay format.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 217 FANTASY AND SCIENCE FICTION SURVEY 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: ENGL 120
 3 hours lecture
 Survey course designed as a reading course of fantasy and science fiction, a unique literary genre with an unparalleled and still growing popularity. Readings selected cover a diverse spectrum of fantasy and science fiction. Oral and written discussion of such readings and their relevance to current trends will be emphasized. Analytical or original creative writings will be included.
AA/AS GE, CSU, CSU GE, UC
- 221 BRITISH LITERATURE I 3 UNITS**
(CAN ENGL 8; CAN ENGL SEQ B = ENGL 221+222)
 Prerequisite: ENGL 120 with a grade of "C" or better or equivalent
 Corequisite: None
 Recommended Preparation: ENGL 122
 3 hours lecture
 Surveys British literature from the Old English Period to the Romantic Period. Students will read and interpret literature from historical, social and philosophical viewpoints. Authors sampled may include Geoffrey Chaucer, William Langland, Edmund Spenser, William Shakespeare, Ben Johnson, John Milton, Lady Mary Wroth, Aphra Behn, and Jonathan Swift.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 222 BRITISH LITERATURE II 3 UNITS**
(CAN ENGL 10; CAN ENGL SEQ B = ENGL 221+222)
 Prerequisite: ENGL 120 with a grade of "C" or better or equivalent
 Corequisite: None
 Recommended Preparation: ENGL 122
 3 hours lecture
 Surveys British literature from the Romantic Period to the present. Students will read and interpret literature against a background of the historical, social and philosophical developments of the time. Authors sampled may include William Blake, Mary Wollstonecraft, William Wordsworth, Samuel Coleridge, Lord Byron, Percy Shelley, John Keats, Elizabeth Browning, Lord Tennyson, Robert Browning, Emily Bronte, Matthew Arnold, Christina Rossetti, Oscar Wilde, Jane Austen, Thomas Hardy, William Yeats, Virginia Woolf, James Joyce, Doris Lessing and Derek Walcott.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 231 AMERICAN LITERATURE I 3 UNITS**
(CAN ENGL 14; CAN ENGL SEQ C = ENGL 231+232)
 Prerequisite: ENGL 120 with a grade of "C" or better or equivalent
 Corequisite: None
 Recommended Preparation: ENGL 122
 3 hours lecture
 First course in the study of American literature which explores literary works and their political, religious, economic and aesthetic context from pre-colonial America until 1860. Reading selections may consist of poetry, short stories, novels and nonfiction prose, including essays and autobiographies. Authors studied include various anonymous Native Americans, Pedro de Castañeda, William Bradford, Anne Bradstreet, Benjamin Franklin, Thomas Jefferson, Judith Sargent Murray, Washington Irving, Catherine Sedgwick, James Fennimore Cooper, Henry David Thoreau, Walt Whitman and many others. Selections from the major writers will be read, analyzed, discussed and written about in essay format.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 232 AMERICAN LITERATURE II 3 UNITS**
(CAN ENGL 16; CAN ENGL SEQ C = ENGL 231+232)
 Prerequisite: ENGL 120 with a grade of "C" or better or equivalent
 Corequisite: None
 Recommended Preparation: ENGL 122
 3 hours lecture
 Second course in the study of American literature which explores literary works and their political, religious, economic and aesthetic context from 1860 to the present. Reading selections may consist of poetry, short stories, novels, plays and nonfiction prose, including essays. Authors to be studied include Abraham Lincoln, Frederick Douglass, Mark Twain, Edgar Allan Poe, Walt Whitman, Emily Dickinson, Eugene O'Neill, Gertrude Stein, Langston Hughes, Ernest Hemingway, John Steinbeck, Toni Morrison and others. Selections from the major writers will be read, analyzed, discussed and written about in essay format.
AA/AS GE, CSU, CSU GE, IGETC, UC

270 WORLD LITERATURE I 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: ENGL 120
 3 hours lecture

Surveys major works from various continents and cultures prior to 1500 A.D. Focuses on the historical, social, philosophical and cultural aspects of literature and studies the roles of women and men. Minority perspectives will be included. Students will read works from the ancient Mediterranean world, South and East Asia, Europe, Middle East, Africa, and the early Americas.

AA/AS GE, CSU, CSU GE, IGETC, UC

271 WORLD LITERATURE II 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: ENGL 120
 3 hours lecture

Surveys major works from various continents and cultures from 1500 A.D. to the present. Focuses on the historical, social, philosophical and cultural aspects of literature and studies the roles of women and men. Minority perspectives will be included. Students will read works from Asia, the Middle East, Africa, Europe, the Americas, Australia and New Zealand.

AA/AS GE, CSU, CSU GE, IGETC, UC

275 LITERARY PERIOD 3 UNITS**276 MAJOR AUTHOR 3 UNITS****277 LITERARY THEME 3 UNITS**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: ENGL 120
 3 hours lecture

These courses are designed to provide an in-depth study of a literary period (275), a major author (276), or a theme in literature (277). The readings selected will cover a diverse spectrum of literature drawn from one literary period (e.g., ENGL 275 Literary Period: American Romantic Poets), one major author (e.g., The Short Stories of Flannery O'Connor), or a theme in literature (e.g., Chicano Literature), in addition to at least one secondary work focusing on the literature. Oral and written discussion of such readings and their relevance to the period, author or theme will be emphasized. May be repeated as the subject matter changes as indicated in the subtitle (e.g., Short Stories of Flannery O'Connor or Poetry of Emily Dickinson).

AA/AS GE, CSU, CSU GE, IGETC, UC

298 SELECTED TOPICS IN ENGLISH 1-4 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours

Selected topics in English not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN ENGLISH 1-4 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours

Selected topics in English not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

ENGLISH AS A SECOND LANGUAGE

English as a Second Language classes are designed to improve English reading, writing, grammar, listening and speaking skills. Learning English will help students attain employment or pursue degree and certificate programs that use the English language for instruction. Classes at the 100 level and above can be used as elective credit for the Associate Degree. ESL 103 and 106 transfer as elective credit to CSU/UC.

The ESL program is divided into four levels. Students should see a counselor to select additional courses in other areas for which their language skills will be acceptable.

Level I: Basic college ESL focuses on reading short passages, writing sentences, connecting them into basic paragraphs, and having discussions using the present, past and future verb tenses.

ESL 096	English as a Second Language I	5
ESL 097	Listening and Speaking I	3
ESL 098	ESL Reading and Vocabulary Development I	3
ESL 099A	ESL for the Workplace I	3

Level II: Low-intermediate college ESL focuses on reading short academic passages, writing complete paragraphs, discussing topics and giving short presentations using the simple, progressive, and present and past perfect verb tenses.

ESL 099A or B	ESL for the Workplace I or II	3
ESL 100	English as a Second Language II	5
ESL 101	Listening and Speaking II	3
ESL 102	ESL Reading and Vocabulary Development II	3

Level III: High-intermediate college ESL focuses on reading more complex academic passages, connecting paragraphs into short essays, note-taking and study skills, and orally presenting academic work using all verb tenses.

ESL 099B	ESL for the Workplace II	3
ESL 103	English as a Second Language III	5
ESL 104	Listening and Speaking III	3
ESL 105	ESL Reading and Vocabulary Development III	3

Level IV: Advanced college ESL focuses on reading college level texts, writing more complex essays, increasing note-taking and study skills, and presenting oral reports using all verb tenses.

ENGL 098R	Reading Fundamentals	3
ESL 106	English as a Second Language IV	5

Students will receive an "ESL Certificate of Completion" when they complete ESL 106 with a grade of "C" or better.

ENGLISH AS A SECOND LANGUAGE COURSES

- 010 AMERICAN CULTURE I 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 First course in American culture which allows students to practice applied reading, writing, listening and speaking skills gained in the first two levels of the ESL program. Study various aspects of American culture such as lifestyles, institutions, values and issues. **Credit/No Credit only. Non-associate degree applicable.**
- 020 AMERICAN CULTURE II 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Second course in American culture which allows students to practice applied reading, writing, listening and speaking skills gained in the third and fourth levels of the ESL program. Study various aspects of American culture such as lifestyles, attitudes, government, customs and traditions. **Credit/No Credit only. Non-associate degree applicable.**
- 025 ESL WORKPLACE SKILLS LAB 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours laboratory
 ESL instruction in preparation for a vocational program. Students will work independently to complete computer modules in a vocational area in order to increase knowledge of vocabulary and subject matter. Provides complementary instruction in language and academic skills necessary for students to succeed in a vocational program. Vocational areas offered will be listed in class schedule. **Credit/No Credit only. Non-associate degree applicable.**
- 096 ENGLISH AS A SECOND LANGUAGE I 5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: Placement based on assessment process or equivalent skills
 5 hours lecture, 1 hour laboratory
 First core course in the study of English reading, writing and grammar designed for students whose first language is other than English. Includes the study of basic reading, paragraph organization and format, grammar, and sentence structure. One hour a week will be spent using the computer lab software designed to reinforce reading, writing and grammar skills introduced in class. **Credit/No Credit only. Non-associate degree applicable.**
- 097 LISTENING AND SPEAKING I 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: Placement based on assessment process or equivalent skills
 3 hours lecture
 First course in the study of English listening and speaking skills designed for students whose first language is other than English. Designed to improve listening comprehension as well as increase fluency and accuracy in spoken English in both academic and vocational environments. Practice skills learned in ESL 096, learn and use new vocabulary, and acquire academic skills such as selective listening, note-taking, and problem solving. **Credit/No Credit only. Non-associate degree applicable.**
- 098 ESL READING AND VOCABULARY DEVELOPMENT I 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: Advisory placement in ESL 096 or equivalent based on assessment process
 3 hours lecture
 Beginning level course designed to extend ESL students' vocabulary and reading ability. Emphasis on improving reading skills and strategies as well as techniques and exercises for developing vocabulary. Students are encouraged to take this class concurrently with ESL 096. **Credit/No Credit only. Non-associate degree applicable.**
- 099A ESL FOR THE WORKPLACE I 3 UNITS**
 Prerequisite: Advisory placement based on assessment process or equivalent skills
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 1 hour laboratory
 First course in the study of English for the workplace for students whose first language is other than English. Supplements language skills taught in ESL 096 and focuses on using English in business situations. Learn simple business vocabulary, basic writing and oral communication skills, and word processing skills. **Credit/No Credit only. Non-associate degree applicable.**
- 099B ESL FOR THE WORKPLACE II 3 UNITS**
 Prerequisite: Advisory placement based on successful completion of ESL 099A or equivalent based on assessment process or equivalent skills
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 1 hour laboratory
 Second course in the study of English for the workplace for students whose first language is other than English. Supplements language skills taught in ESL 100 and develops and adds to business English skills taught in ESL 099A. Learn business vocabulary, intermediate writing and oral communication skills, and computer skills. **Credit/No Credit only. Non-associate degree applicable.**

100 ENGLISH AS A SECOND LANGUAGE II 5 UNITS

Prerequisite: Successful completion of ESL 096 or assessment recommendation for ESL 100

Corequisite: None

Recommended Preparation: None

5 hours lecture, 1 hour laboratory

Second core course in the study of English reading, writing and grammar designed for students whose first language is other than English. Further develops and adds to the basic skills taught in ESL 096. Includes intermediate reading, paragraph writing, grammar and sentence structure. One hour a week will be spent using the computer lab software designed to reinforce reading, writing and grammar skills introduced in class.

101 LISTENING AND SPEAKING II 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: Successful completion of ESL 097 or equivalent based on assessment process

3 hours lecture

Second course in the study of English listening and speaking skills designed for students whose first language is other than English. Further develops and adds to skills learned in ESL 097. Includes intermediate listening comprehension practice as well as discussion and presentation skills in spoken English in both academic and vocational environments. Practice skills learned in ESL 100, learn and use new vocabulary, and practice academic skills such as selective reading and listening, note-taking, using outside resources and problem solving.

102 ESL READING AND VOCABULARY DEVELOPMENT II 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: ESL 098 or advisory placement in ESL 100 or 103 based on assessment process

3 hours lecture

Intermediate level course designed to extend the range of ESL students' vocabulary and reading ability. Focuses on improving reading skills and strategies as well as understanding and use of academic vocabulary. Academic vocabulary development is also an emphasis. Students will gain both a passive and active command of word form and word choice for the intermediate level, and learn a variety of words and how to use them. Students are encouraged to take this class concurrently with ESL 100.

103 ENGLISH AS A SECOND LANGUAGE III 5 UNITS

Prerequisite: Successful completion of ESL 100 or assessment recommendation for ESL 103

Corequisite: None

Recommended Preparation: None

5 hours lecture, 1 hour laboratory

Third core course in the study of English reading, writing and grammar designed for students whose first language is other than English. Further develops and adds to skills taught in ESL 100. Includes high-intermediate reading, paragraph and short essay writing, grammar and sentence structure. One hour a week will be spent using the computer lab software designed to reinforce reading, writing and grammar skills introduced in class.

CSU, UC credit limit

104 LISTENING AND SPEAKING III 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: Successful completion of ESL 101 or equivalent based on assessment process

3 hours lecture

Third course in the study of English listening and speaking skills designed for students whose first language is other than English. Further develops and adds to skills learned in ESL 101. Includes high-intermediate listening comprehension practice as well as discussion and presentation skills in spoken English in both academic and vocational environments. Practice skills learned in ESL 103, learn and use new vocabulary, and practice academic skills such as close reading and listening, note-taking, analyzing and classifying, using outside resources and problem solving.

105 ESL READING AND VOCABULARY DEVELOPMENT III 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: ESL 102 with a grade of "C" or better or advisory placement in ESL 103 or 106 based on assessment process

3 hours lecture

Third and final course designed to extend ESL students' academic vocabulary and ability to read college-level texts at the advanced level. Focuses on improving reading skills and strategies as well as understanding and use of academic vocabulary. Students learn a variety of words and how to use them. Students are encouraged to take this class concurrently with ESL 103.

106 ENGLISH AS A SECOND LANGUAGE IV 5 UNITS

Prerequisite: Successful completion of ESL 103 or assessment recommendation for ESL 106

Corequisite: None

Recommended Preparation: None

5 hours lecture, 1 hour laboratory

Fourth core course in the study of English reading, writing and grammar for students whose first language is other than English. Further develops and adds to skills taught in ESL 103. Includes advanced reading, paragraph and essay writing, grammar and sentence structure. One hour a week will be spent using the computer lab software designed to reinforce reading, writing and grammar skills introduced in class.

CSU, UC credit limit

199 SPECIAL STUDIES OR PROJECTS IN ENGLISH AS A SECOND LANGUAGE 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

3-9 hours

Individual study, research or projects in English as a Second Language under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

298 SELECTED TOPICS IN ENGLISH AS A SECOND LANGUAGE 1-5 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-15 hours

Selected topics in English as a Second Language not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN ENGLISH AS A SECOND LANGUAGE 1-5 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-15 hours

Selected topics in English as a Second Language not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

119 ENTREPRENEURSHIP: FINANCING AND WRITING A BUSINESS PLAN 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Designed to provide prospective small business owners or managers with the knowledge required to write a business plan and to understand and control the cash management function of their business. Emphasis on the types of financing, understanding debt vs. equity financing, cash flow analysis, borrowing and investment, forecasting and budgeting.

CSU**141 ENTREPRENEURSHIP: MANAGING A NEW BUSINESS 3 UNITS**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Designed to help students apply theories of marketing, management, personnel, finance and production to problems encountered daily in managing a business. Focuses on practical solutions to common business management problems.

CSU

ENTREPRENEURSHIP–SMALL BUSINESS MANAGEMENT

BUSINESS (ENTREPRENEURSHIP) COURSES

111 ENTREPRENEURSHIP: STARTING AND DEVELOPING A BUSINESS 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Designed to provide the prospective small business manager with the most up-to-date skills necessary in the planning function of opening one's own business. Emphasis on sources of financing, site locations, legal problems, marketing surveys, organizational structure, and self-analysis to determine one's personal readiness for entrepreneurship.

CSU**112 ENTREPRENEURSHIP: SUCCESSFUL MARKETING 3 UNITS**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Designed to provide the small business owner with the necessary skills to market a product or service. Examines the essential elements of a marketing strategy, the four P's: Product, Place (Distribution), Price and Promotion. Also examines the relationship between sales and marketing and how they function together in the small business environment.

CSU

ENVIRONMENTAL HEALTH AND SAFETY TECHNOLOGY

100 INTRODUCTION TO ENVIRONMENTAL AND OCCUPATIONAL SAFETY AND HEALTH (OSH) TECHNOLOGY 4 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture

Designed to provide a general overview of the environmental technology (EnvT) field with emphasis on hazardous materials, hazardous waste management, and their effect upon the environment and worker health and safety. Discussion of the history of pollution and workplace hazards leading to current legislation, and current best practices of handling hazardous substances to minimize the harmful impact on society and the environment will be stressed.

CSU**110 POLLUTION PREVENTION 3 UNITS**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Centers on various raw materials and chemicals used in industry, examining the changes that occur as they move through the industrial process and understanding the material balance concept of inventory. Discussion of applicable regulations will be included. Topics include the importance of waste minimization/pollution prevention concepts, storm water management, and residential waste generation, reduction and prevention. Students will develop a waste source reduction plan.

CSU

- 130 ENVIRONMENTAL/OCCUPATIONAL HEALTH EFFECTS OF HAZARDOUS MATERIALS 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
Covers the acute and chronic health effects produced by exposure to chemical, physical and biological agents. Emphasis on hazardous materials commonly associated with industrial operations, waste disposal, and remediation sites. Topics include routes of entry, toxic effects, risk evaluation, permissible exposure limits, medical surveillance, control methods for reducing exposure, and using Material Safety Data Sheets (MSDS) to develop strategies to reduce worker exposure.
CSU
- 135 GENERAL INDUSTRY SAFETY STANDARDS 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
Designed to provide an overview of elements which are incorporated in a comprehensive general industrial safety program (Cal/OSHA). Emphasizes methods used to reduce accidents/injuries through application of workplace health protection and safety fundamentals. Topics include protocols, safety audits, data collection and analysis techniques, interpretation of safety data, safety inspections, development and implementation of safety programs, worker education, and essential Personal Protection Equipment (PPE).
CSU
- 145 CONSTRUCTION SAFETY STANDARDS 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: ENVT 100
3 hours lecture
This course introduces students to the California and Federal (Cal/OSHA and Fed/OSHA) construction safety standards and regulations. Topics include an integrated study of hazard recognition and abatement principles related to the construction worksite, and study of compliance issues and challenges facing safety professionals including mishap and case study analysis, California and Federal construction safety standards, worksite inspection, interfacing with compliance officials, vertical and horizontal standards, and common construction industry compliance issues.
- 150 HAZARDOUS WASTE MANAGEMENT APPLICATIONS 4 UNITS**
Prerequisite: ENVT 100 or concurrent enrollment
Corequisite: None
Recommended Preparation: None
4 hours lecture
Overview of hazardous waste regulations with emphasis on generator compliance, site investigation and remediation, permitting, enforcement and liability. Lecture portion explains the hazardous waste regulatory framework, introduces students to the wide variety and types of environmental resources available, and develops research skills in the hazardous waste area. Laboratory portion complements the lectures by providing hands-on application of the regulations at the technician level. Proper methods of preparing a hazardous waste manifest, labeling of storage containers, sampling and analysis, preparing a Phase I Environmental Audit, and selecting environmental consultants are among the many skills developed in the laboratory.
CSU
- 199 SPECIAL STUDIES OR PROJECTS IN ENVIRONMENTAL HEALTH AND SAFETY TECHNOLOGY 1-3 UNITS**
Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
3-9 hours
Individual study, research or projects in Environmental Health and Safety Technology under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 200 HAZARDOUS MATERIALS MANAGEMENT (HMM) APPLICATIONS 4 UNITS**
Prerequisite: ENVT 100 or concurrent enrollment
Corequisite: None
Recommended Preparation: None
4 hours lecture
Requirements and applications of federal, state and local hazardous material laws and regulations. Emphasizes program compliance with the OSHA Hazard Communication Plan, EPA Community Right-To-Know, Department of Transportation, Proposition 65, and Emergency Response Plan. Lecture portion provides an understanding of the legal framework of hazardous materials laws and requirements. Step-by-step program developments: written plan, obtaining/interpreting MSDSs, labeling, emergency responders site map, shipping, handling and training. Laboratory portion: students will develop plans related to hazardous materials management through hands-on program development: DEH/HMD Hazardous Material Business Plan, OSHA Hazardous Communication Plan, and components of a CalARP and RMP as well as planning and reporting functions.
CSU

- 201 INTRODUCTION TO INDUSTRIAL HYGIENE AND OCCUPATIONAL HEALTH 4 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: ENVT 100 or concurrent enrollment
 3 hours lecture, 3 hours laboratory
 Anticipation, recognition, reevaluation and control of biological, chemical and physical hazards in the workplace. Introduction to the development of industrial hygiene, occupational health and safety as a professional discipline. Provides student with an understanding of basic physiological processes and the effects caused by occupational exposure to hazards. Students will survey various occupational health and safety programs and government regulations. Familiarizes students with industrial hygiene monitoring and sampling techniques for airborne contaminants, noise, heat, radiation and illumination.
CSU
- 205 SAFETY AND RISK MANAGEMENT ADMINISTRATION 4 UNITS**
 Prerequisite: ENVT 100 or concurrent enrollment
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture
 Hands-on instruction on how accidents and incidents occur in the occupational health and safety environment. Instruction in the establishment and maintenance of safety programs and comprehensive analysis of occupational health programs with emphasis on safety program management. Topics include: planning approaches to safety and health management used by international, national and local regulatory agencies, insurance companies and professional societies; risk management; worker compensation; employee accommodations and the workplace. Students will develop plans related to safety and risk management.
CSU
- 210 INDUSTRIAL WASTEWATER AND STORMWATER MANAGEMENT 4 UNITS**
 Prerequisite: ENVT 100 or concurrent enrollment
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture
 Overview of water/wastewater regulations with emphasis on federal, state and local regulatory standards. Integrated study of the principles of wastewater and stormwater management including hydrology, water distribution, wastewater collection, stormwater management and overall safe drinking water issues.
CSU
- 215 AIR QUALITY MANAGEMENT 3 UNITS**
 Prerequisite: ENVT 100 or concurrent enrollment
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Overview of air quality regulations with an emphasis on federal, state and local requirements. Integrated study of the principles of air permits and permit compliance including source testing, emission reduction, inspections, monitoring, stationary and mobile sources, air toxics, new equipment shakedown, and overall global air quality issues.
CSU
- 230 SAFETY AND EMERGENCY RESPONSE 4 UNITS**
 Prerequisite: ENVT 100 or concurrent enrollment
 Corequisite: None
 Recommended Preparation: ENVT 130 or equivalent
 3 hours lecture, 3 hours laboratory
 Designed to provide students with hands-on instruction in safety and emergency response to chemical and physical exposures in industrial and field settings. Topics include: hazard analysis; contingency planning; housekeeping and safety practices including proper use and selection of PPE, site control and evaluation; handling drums and containers; field sampling and monitoring; proper use of instruments; incident response planning; emergency response including field exercises in the use of PAPR and SCBA; and an understanding of the ICS system. Satisfies requirements for generalized employee training under OSHA [29 CFR 1910.120 and Title 8, California Code of Regulations 5192 (e) (3) (A)].
CSU
- 240 COOPERATIVE WORK EXPERIENCE 1-4 UNITS**
 Prerequisite: ENVT 100
 Corequisite: None
 Recommended Preparation: None
 75 hours paid or 60 hours unpaid work experience per unit
 Practical application of principles and procedures learned in the classroom to various phases of Environmental Technology. Work experience will be paid or volunteer positions at local environmental technology industries or governmental agencies that regulate environmental industries. Placement assistance will be provided, but students are required to select and secure a placement site. Minimum of one unit of cooperative work experience is required to complete the ENVT certificate/degree. *May be repeated for a maximum of 8 units.*
CSU
- 298 SELECTED TOPICS IN ENVIRONMENTAL HEALTH AND SAFETY TECHNOLOGY 1-4 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours
 Selected topics in Environmental Health and Safety Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN ENVIRONMENTAL HEALTH AND SAFETY TECHNOLOGY 1-4 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours
 Selected topics in Environmental Health and Safety Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

EXERCISE SCIENCE

Courses which meet the activity requirement for graduation have an asterisk (*). Intercollegiate sports do not meet the activity requirement.

Exercise Science **activity** and **intercollegiate sports** classes which are indicated by a number ONLY (ES 001) may be taken FOUR times. An activity class indicated by a number AND a letter (ES 014A) may be repeated ONCE, provided that the TOTAL enrollment in that type of activity (e.g., body building) not exceed FOUR. Students must progress from beginning through intermediate and advanced levels. The following may not be repeated: ES 080ABCD, ES 084ABCD, ES 088ABCD.

A **physical examination** is recommended for all Exercise Science classes if the student has medical problems or is over the age of 30.

EXERCISE SCIENCE COURSES

<p>001* ADAPTED PHYSICAL EXERCISE 1 UNIT</p> <p>Prerequisite: None Corequisite: None Recommended Preparation: None 1 hour lecture, 1 hour laboratory</p> <p>Assessment of physical performance status and postural evaluation. Individually prescribed exercise program and individually prescribed programs for physically handicapped. Recreational games and individual sports adapted to students' capabilities. Credit/No Credit only. CSU, UC credit limit</p>	<p>009* AEROBIC DANCE EXERCISE 1 UNIT</p> <p>Prerequisite: None Corequisite: None Recommended Preparation: None 2 hours lecture/laboratory</p> <p>Participation in aerobic dance exercise emphasizing conditioning of the musculoskeletal system, improvement of the cardiovascular system, increasing the efficiency of the respiratory system and increasing flexibility. Principles of physical fitness, conditioning and other relevant health-related topics will be covered. CSU, UC credit limit</p>	<p>010* FOODS FOR FITNESS .5-1 UNIT</p> <p>Prerequisite: None Corequisite: None Recommended Preparation: None 1.5 - 3 hours laboratory</p> <p>Fitness Center course designed to teach nutrition guidelines and provide opportunities for students to analyze their eating habits. Format is open-entry/exit, computer log-in. Attendance of 24 class periods is required for .5 unit. Attendance of 48 class periods is required for 1.0 unit. Workouts and consultation with an instructor, as well as written and computer assignments. Each student will be assessed in the areas of fitness and diet and an individualized diet analysis will be provided. Credit/No Credit only. CSU, UC credit limit</p>	<p>011* LIFELONG FITNESS .5-1 UNIT</p> <p>Prerequisite: None Corequisite: None Recommended Preparation: None 1.5- 3 hours laboratory</p> <p>Fitness Center course designed to develop and encourage positive attitudes and habits with regard to cardiovascular efficiency, body composition, muscular strength and endurance, and flexibility. Format is open entry/exit, computer log-in. Attendance of 24 class periods is required for .5 unit. Attendance of 48 class periods is required for 1.0 unit. Each student will be assessed in the areas of body composition, cardiovascular efficiency, muscular strength and endurance, and flexibility. An individual fitness profile will then be established. From this profile an individual fitness prescription will be developed. Fitness activity will primarily utilize exercise equipment organized into an aerobic super circuit with additional activities prescribed in an aerobics machine area, body parts weight training area, and flexibility area. Additional assessment at the conclusion of the semester will provide data necessary to evaluate the accomplishment of stated goals. Credit/No Credit only. CSU, UC credit limit</p>	<p>012* APPLIED FITNESS .5-1 UNIT</p> <p>Prerequisite: None Corequisite: None Recommended Preparation: None 1.5 - 3 hours laboratory</p> <p>Fitness Center course designed to provide advanced exercisers with the opportunity to increase their fitness levels by use of a longer and more demanding aerobic circuit. Format is open entry/exit, computer log-in. Attendance of 24 class periods is required for .5 unit. Attendance of 48 class periods is required for 1.0 unit. Each student will be assessed in the areas of body composition, cardiovascular efficiency, muscular strength and endurance, and flexibility. An individualized fitness program will then be prescribed utilizing goals established jointly by the student and instructor. Credit/No Credit only. CSU, UC credit limit</p>	<p>013* FLEXIBILITY FITNESS 1.5 UNITS</p> <p>Prerequisite: None Corequisite: None Recommended Preparation: None 3 hours lecture/laboratory</p> <p>Flexibility program which provides students with knowledge of their optimal range of motion. Emphasizes participation that suits the needs of all age and ability levels including dancers, athletes, seniors and fitness enthusiasts. CSU, UC credit limit</p>	<p>014A* BEGINNING BODY BUILDING 1.5 UNITS</p> <p>Prerequisite: None Corequisite: None Recommended Preparation: None 3 hours lecture/laboratory</p> <p>Instruction and practice in conditioning, running and resistance exercises, with emphasis on total fitness of the individual. CSU, UC credit limit</p>
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- 014B* INTERMEDIATE BODY BUILDING 1.5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: ES 014A
 3 hours lecture/laboratory
 Instruction and practice in weight lifting and weight training with emphasis on techniques of lifting. Individual program adaptation is stressed.
CSU, UC credit limit
- 014C* ADVANCED BODY BUILDING 1.5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: ES 014B
 3 hours lecture/laboratory
 Advanced skills and techniques of body building.
CSU, UC credit limit
- 015* STRENGTH AND STRETCH 1.5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture/laboratory
 Exercise class for all exercisers providing a progression toward increased flexibility while adding the element of weight training, including injury rehabilitation with a guest trainer. Addresses strengthening specific problem areas of muscle weakness. Students will tone areas not strengthened with dancing or other exercise activities. By focusing on each specific area of the body, students will increase their knowledge of injury prevention. Students will also learn the fundamental principles of physical fitness and its impact on lifelong health and wellness. Emphasizes participation that suits the needs of all age and ability levels including dancers, athletes, seniors and fitness enthusiasts.
CSU, UC credit limit
- 018* CARDIO STRETCH 1.5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture/laboratory
 Exercise class for all exercisers, including injury rehabilitation with a guest trainer. Students will tone areas not strengthened with dancing or other exercise activities. By focusing on each specific area of the body, students will increase their knowledge of total fitness. Students will learn the fundamental principles of physical fitness and its impact on lifelong health and wellness. Emphasizes participation that suits the needs of all age and ability levels including dancers, athletes, seniors and fitness enthusiasts.
CSU, UC credit limit
- 019A* BEGINNING PHYSICAL FITNESS 1.5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture/laboratory
 Instruction in physical conditioning, nutrition and weight control. Open to any student wishing to fulfill one semester of the exercise science activity requirement.
CSU, UC credit limit
- 019B* INTERMEDIATE PHYSICAL FITNESS 1.5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: ES 019A
 3 hours lecture/laboratory
 Further emphasis on individual physical conditioning, nutrition and weight control. Open to any student wishing to fulfill one semester of the exercise science activity requirement.
CSU, UC credit limit
- 019C* ADVANCED PHYSICAL FITNESS 1.5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: ES 019B
 3 hours lecture/laboratory
 Advanced skills and techniques of physical fitness. Emphasis on new concepts and techniques. Open to any student wishing to fulfill one semester of the exercise science activity requirement.
CSU, UC credit limit
- 020* ADAPTED WEIGHT TRAINING 1-1.5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2-3 hours lecture/laboratory
 Weight training class designed to meet the needs of those students who are either temporarily or permanently physically unable to participate in the regular physical education program. Emphasis on an individual program based on the student's limitations and needs. Exercises for general strengthening, body maintenance, relaxation, joint mobility, cardiovascular training, coordination, balance and personal health care planning may be included. **Credit/No Credit only.**
CSU, UC credit limit
- 035 ABC ADAPTED SWIMMING FOR THE PHYSICALLY LIMITED 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture/laboratory
 Instruction and practice in basic swimming skills structured to fit each student's individual needs.
Credit/No Credit only.
CSU, UC credit limit
- 060A* BEGINNING BADMINTON 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture/laboratory
 Presentation of the official singles and doubles games including the six basic strokes, footwork, strategy and etiquette.
CSU, UC credit limit
- 060B* INTERMEDIATE BADMINTON 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: ES 060A
 2 hours lecture/laboratory
 Continuation of ES 060A with emphasis on playing strategy and match play in singles and doubles.
CSU, UC credit limit

<p>060C* ADVANCED BADMINTON 1 UNIT Prerequisite: None Corequisite: None Recommended Preparation: ES 060B 2 hours lecture/laboratory Advanced playing techniques, strategy, knowledge and attitudes for students who wish to excel in badminton and increase aerobic capacity. CSU, UC credit limit</p>	<p>080C* MODERN DANCE III 1.5 UNITS Prerequisite: None Corequisite: None Recommended Preparation: ES 080B 3 hours lecture/laboratory Dance as an art form. More advanced dance skills using the torso in combination with stretches, swings, contractions and releases. Longer combinations at center involving the feet and legs. Floor and recovery sequences combined with floor work and balances. Movement patterns based on spacial design and rhythms. Dances based on different ideas and set to music. Knowledge of the work of leading modern dance companies, choreographers and dancers, locally and nationally. CSU, UC</p>
<p>076A* BEGINNING TENNIS 1 UNIT Prerequisite: None Corequisite: None Recommended Preparation: None 2 hours lecture/laboratory Presentation of the official singles and doubles games including basic strokes, rules, strategy and etiquette. CSU, UC credit limit</p>	<p>080D* MODERN DANCE IV 1.5 UNITS Prerequisite: None Corequisite: None Recommended Preparation: ES 080C 3 hours lecture/laboratory Dance as an art form. Advanced dance skills using the theories of Doris Humphrey, Jose Limon, Martha Graham and others well-known in the modern dance field. Dance technique using an eclectic approach. Choreographed dances based on set themes and using different forms of accompaniment. Knowledge of the work of leading modern dance companies and their choreographers. CSU, UC</p>
<p>076B* INTERMEDIATE TENNIS 1 UNIT Prerequisite: None Corequisite: None Recommended Preparation: ES 076A 2 hours lecture/laboratory Continuation of ES 076A with emphasis on individual stroke analysis, playing strategy and match play, singles and doubles. CSU, UC credit limit</p>	<p>084A* JAZZ DANCE I 1.5 UNITS Prerequisite: None Corequisite: None Recommended Preparation: None 3 hours lecture/laboratory Designed to introduce and develop movement principles and skills necessary to prepare the body as an instrument of expression in the jazz dance style with both historical and current dance trends. Emphasizes enjoyment of dance as a form of exercise. Instruction at the beginning level. CSU, UC</p>
<p>076C* ADVANCED TENNIS 1 UNIT Prerequisite: None Corequisite: None Recommended Preparation: ES 076B 2 hours lecture/laboratory Continuation of ES 076B with emphasis on advanced techniques, strategy and match play for singles, doubles and mixed doubles. CSU, UC credit limit</p>	<p>084B* JAZZ DANCE II 1.5 UNITS Prerequisite: None Corequisite: None Recommended Preparation: ES 084A 3 hours lecture/laboratory Designed to introduce and develop movement principles and skills necessary to prepare the body as an instrument of expression in the jazz dance style with both historical and current dance trends. Emphasizes enjoyment of dance as a form of exercise. Instruction at the intermediate level. CSU, UC</p>
<p>080A* MODERN DANCE I 1.5 UNITS Prerequisite: None Corequisite: None Recommended Preparation: None 3 hours lecture/laboratory Dance as an artistic expression. Beginning modern dance technique using an eclectic approach. Movement fundamentals including torso, legs and other parts of the body. Floor exercises, fall and recovery sequences, locomotion progressing from basic to variations. Short dance sequences using pure movement. Basic knowledge of the history of modern dance and its place in the world of dance. Beginning vocabulary of modern dance. CSU, UC</p>	<p>084C* JAZZ DANCE III 1.5 UNITS Prerequisite: None Corequisite: None Recommended Preparation: ES 084B 3 hours lecture/laboratory Designed to introduce and develop movement principles and skills necessary to prepare the body as an instrument of expression in the jazz dance style with both historical and current dance trends. Emphasizes enjoyment of dance as a form of exercise. Instruction at the intermediate/advanced level. CSU, UC</p>
<p>080B* MODERN DANCE II 1.5 UNITS Prerequisite: None Corequisite: None Recommended Preparation: ES 080A 3 hours lecture/laboratory Continuation of ES 080A. Modern dance technique using an eclectic approach. Center exercises of the torso using various movement qualities: stretches, contractions and releases; movements of the feet, legs and combinations; floor exercises; fall and recoveries; locomotor movement patterns. Dances using various themes. Review of the history of modern dance. The leading exponents of modern dance in the United States. CSU, UC</p>	

<p>084D* JAZZ DANCE IV 1.5 UNITS Prerequisite: None Corequisite: None Recommended Preparation: ES 084C 3 hours lecture/laboratory Designed to introduce and develop movement principles and skills necessary to prepare the body as an instrument of expression in the jazz dance style with both historical and current dance trends. Emphasizes enjoyment of dance as a form of exercise. Instruction at the advanced level. CSU, UC</p>	<p>125A* BEGINNING GOLF 1 UNIT Prerequisite: None Corequisite: None Recommended Preparation: None 2 hours lecture/laboratory Instruction and practice in basic golf skills. Instruction in course conduct, rules and self-evaluation of skills is emphasized. Practice limited to development of swing, stance and grip. CSU, UC credit limit</p>
<p>088A* BALLET I 1.5 UNITS Prerequisite: None Corequisite: None Recommended Preparation: None 3 hours lecture/laboratory Designed to introduce and develop movement principles and skills necessary for the study of classical ballet. Includes ballet terminology, use of "turnout" position of feet and legs, alignment of spine, and placement of weight at the barre, in center floor and traveling patterns. Emphasizes enjoyment of dance as a form of exercise. Instruction at the beginning level. CSU, UC</p>	<p>125B* INTERMEDIATE GOLF 1 UNIT Prerequisite: None Corequisite: None Recommended Preparation: ES 125A 2 hours lecture/laboratory Instruction and practice in golf requiring skills to play small executive course. Students must furnish their own equipment. CSU, UC credit limit</p>
<p>088B* BALLET II 1.5 UNITS Prerequisite: None Corequisite: None Recommended Preparation: ES 088A 3 hours lecture/laboratory Designed to introduce and develop movement principles and skills necessary for the study of classical ballet. Includes ballet terminology, use of "turnout" position of feet and legs, alignment of spine, and placement of weight at the barre, in center floor and traveling patterns. Emphasizes enjoyment of dance as a form of exercise. Instruction at the intermediate level. CSU, UC</p>	<p>125C* ADVANCED GOLF 1 UNIT Prerequisite: None Corequisite: None Recommended Preparation: ES 125B 2 hours lecture/laboratory Continuation of ES 125B with emphasis on advanced techniques, strategies and tournament play in the game of golf. Students must furnish their own equipment. CSU, UC credit limit</p>
<p>088C* BALLET III 1.5 UNITS Prerequisite: None Corequisite: None Recommended Preparation: ES 088B 3 hours lecture/laboratory Designed to introduce and develop movement principles and skills necessary for the study of classical ballet. Includes ballet terminology, use of "turnout" position of feet and legs, alignment of spine, and placement of weight at the barre, in center floor and traveling patterns. Emphasizes enjoyment of dance as a form of exercise. Instruction at the intermediate/advanced level. CSU, UC</p>	<p>150* ADAPTED SPORTS EDUCATION 1 UNIT Prerequisite: None Corequisite: None Recommended Preparation: None 2 hours lecture/laboratory For physically challenged individuals in various sports and physical activities including track and field, basketball, football, weight training and golf. Students will also learn the fundamental principles of physical fitness and its impact on lifelong health and wellness. CSU, UC credit limit</p>
<p>088D* BALLET IV 1.5 UNITS Prerequisite: None Corequisite: None Recommended Preparation: ES 088C 3 hours lecture/laboratory Designed to introduce and develop movement principles and skills necessary for the study of classical ballet. Includes ballet terminology, use of "turnout" position of feet and legs, alignment of spine, and placement of weight at the barre, in center floor and traveling patterns. Emphasizes enjoyment of dance as a form of exercise. Instruction at the advanced level. CSU, UC</p>	<p>155A* BEGINNING BASKETBALL 1 UNIT Prerequisite: None Corequisite: None Recommended Preparation: None 2 hours lecture/laboratory Instruction and practice in the basic skills of basketball with emphasis on individual skill development and team play. Students will also learn the fundamental principles of physical fitness and its impact on lifelong health and wellness. CSU, UC credit limit</p>
	<p>155B* INTERMEDIATE BASKETBALL 1 UNIT Prerequisite: None Corequisite: None Recommended Preparation: ES 155A 2 hours lecture/laboratory Continuation of ES 155A with emphasis on intermediate level individual skill development, team play, defensive/offensive tactics and team strategies. Students will also learn the fundamental principles of physical fitness and its impact on lifelong health and wellness. CSU, UC credit limit</p>

- 155C* ADVANCED BASKETBALL 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: ES 155B
2 hours lecture/laboratory
Continuation of ES 155B with emphasis on advanced level individual skill development, team play, defensive/offensive tactics and team strategies. Students will also learn the fundamental principles of physical fitness and its impact on lifelong health and wellness.
CSU, UC credit limit
- 170A* BEGINNING SOCCER 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
2 hours lecture/laboratory
Basic skills and strategy of soccer with emphasis on team play and individual skills.
CSU, UC credit limit
- 170B* INTERMEDIATE SOCCER 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: ES 170A
2 hours lecture/laboratory
Intermediate soccer skills and team play. Emphasizes techniques, team strategy, language and lore of the game of soccer.
CSU, UC credit limit
- 170C* ADVANCED SOCCER 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: ES 170B
2 hours lecture/laboratory
Emphasis on advanced individual soccer skills and team play.
CSU, UC credit limit
- 171A* BEGINNING SOFTBALL 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
2 hours lecture/laboratory
Designed to acquaint students with the basic fundamentals of the game of softball. For individuals of all ages and fitness levels. Lifelong health and vigor through exercise and activities will be emphasized. Enjoyment of the game of softball, physical activity, safety and injury prevention will be promoted. Individual position skill will also be emphasized, as well as offense and defense strategies.
CSU, UC credit limit
- 171B* INTERMEDIATE SOFTBALL 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: ES 171A
2 hours lecture/laboratory
Designed to acquaint students with the basic fundamentals of the game of softball. For individuals of all ages and fitness levels. Lifelong health and vigor through exercise and activities will be emphasized. Enjoyment of the game of softball, physical activity, safety and injury prevention will be promoted. Individual position skill will also be emphasized, as well as offense and defense strategies.
CSU, UC credit limit
- 171C* ADVANCED SOFTBALL 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: ES 171B
2 hours lecture/laboratory
Designed to acquaint students with the basic fundamentals of the game of softball. For individuals of all ages and fitness levels. Lifelong health and vigor through exercise and activities will be emphasized. Enjoyment of the game of softball, physical activity, safety and injury prevention will be promoted. Individual position skill will also be emphasized, as well as offense and defense strategies.
CSU, UC credit limit
- 175A* BEGINNING VOLLEYBALL 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
2 hours lecture/laboratory
Competency development in the team sport of volleyball. Emphasizes individual techniques and team strategy.
CSU, UC credit limit
- 175B* INTERMEDIATE VOLLEYBALL 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: ES 175A
2 hours lecture/laboratory
Continuation of ES 175A with emphasis on advanced play and strategy and four-person teams.
CSU, UC credit limit
- 175C* ADVANCED VOLLEYBALL 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: ES 175B
2 hours lecture/laboratory
Continuation of ES 175B with emphasis on advanced play and strategy and four-person teams.
CSU, UC credit limit
- 180* SELF DEFENSE FOR WOMEN 1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
1 hour lecture, 1 hour laboratory
Basic principles of practical personal protection for women, with emphasis on awareness and prevention of situations that may leave a person vulnerable to crime, especially rape. Physical, mental and verbal responses will be taught and practiced so students may develop the confidence to stand up and defend themselves, if needed. Students will also learn the fundamental principles of physical fitness and their impact on lifelong health and wellness. *Not open to students with credit in ES 195.*
CSU, UC credit limit

- 199 SPECIAL STUDIES OR PROJECTS IN EXERCISE SCIENCE 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Exercise Science under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 200* CONDITIONING AND INJURY PREVENTION FOR ATHLETICS 1.5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture/laboratory
 Emphasis on physical conditioning and mastery of the basic fundamentals of movement and skills necessary to reduce the risk of injury associated with athletic activity. Conditioning activities, running games and resistance exercises will be emphasized.
CSU, UC credit limit
- 206 INTERCOLLEGIATE BASKETBALL 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 10 hours lecture/laboratory
 Intercollegiate competition in the sport of basketball. Instruction in specific skills, performance techniques and strategies, as well as daily practice, development of physical fitness, team travel and competition against other collegiate institutions. Open to all students who wish to compete at the intercollegiate level.
CSU, UC credit limit
- 207 ADVANCED TECHNIQUES AND STRATEGIES OF BASKETBALL 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture/laboratory
 Instruction and practice in advanced techniques and strategies of basketball. Incorporates game experience to formulate an understanding of the different styles of play.
CSU, UC credit limit
- 209 INTERCOLLEGIATE CROSS-COUNTRY 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 10 hours lecture/laboratory
 Open to students with advanced cross-country skills who wish to compete at the intercollegiate level.
CSU, UC credit limit
- 213 INTERCOLLEGIATE GOLF 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 10 hours lecture/laboratory
 Instruction in team play and strategy. Competition in practice and league play.
CSU, UC credit limit
- 218 INTERCOLLEGIATE SOCCER 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 10 hours lecture/laboratory
 Open to students with advanced soccer skills who wish to compete at the intercollegiate level.
CSU, UC credit limit
- 219 ADVANCED TECHNIQUES AND STRATEGIES OF SOCCER 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture/laboratory
 Designed for students with advanced soccer skills. Instruction and practice in the advanced techniques and strategies of soccer. Incorporates game experience to formulate an understanding of the different styles of play.
CSU, UC credit limit
- 224 INTERCOLLEGIATE TENNIS 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 10 hours lecture/laboratory
 Intercollegiate competition in the sport of tennis. Instruction in specific skills, performance techniques and strategies, as well as daily practice, development of physical fitness, team travel and competition against other collegiate institutions. Open to all students who wish to compete at the intercollegiate level.
CSU, UC credit limit
- 225 ADVANCED TECHNIQUES AND STRATEGIES OF TENNIS 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture/laboratory
 Designed for advanced tennis players who are proficient in the fundamental skills and have knowledge of the basic rules of the game. Instruction is geared toward advanced techniques, strategies and team play.
CSU, UC credit limit
- 227 INTERCOLLEGIATE TRACK 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 10 hours lecture/laboratory
 Emphasis on advanced track skills for those who wish to compete at the intercollegiate level.
CSU, UC credit limit
- 230 INTERCOLLEGIATE VOLLEYBALL 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 10 hours lecture/laboratory
 Intercollegiate competition in the sport of volleyball. Instruction in specific skills, performance techniques and strategies, as well as daily practice, development of physical fitness, team travel and competition against other collegiate institutions. Open to all students who wish to compete at the intercollegiate level.
CSU, UC credit limit

- 231 ADVANCED TECHNIQUES AND STRATEGIES OF VOLLEYBALL 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture/laboratory
 Designed for advanced volleyball players who are proficient in the fundamental skills and have knowledge of the basic rules of the game. Instruction is geared toward advanced techniques, strategies and team play.
CSU, UC credit limit
- 250 INTRODUCTION TO PHYSICAL EDUCATION 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture
 History, philosophy and principles of physical education and exercise science. Study of the aims and objectives of modern physical education with emphasis on the development of basic philosophy and background for professional education.
CSU, UC
- 253 PHYSICAL EDUCATION IN ELEMENTARY SCHOOLS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2.5 hours lecture, 1.5 hours laboratory
 The statewide program in physical education for elementary schools forms the basis for this course. Includes the study of child development, personality development, analysis and practice of fundamental skills, selection of activities, organizational materials and evaluation of teaching ability.
CSU
- 254 PRINCIPLES OF PERSONAL TRAINING 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Identification and study of the techniques, responsibilities and skills necessary to perform the duties of a personal trainer. Emphasizes current knowledge of health principles as it pertains to fitness and wellness. Provides the necessary information to pass the Personal Trainer Certification Exams for national certifying organizations (ACE, NSCA, etc.). Hands-on lab training in the use of fitness equipment.
CSU
- 254L FIELD EXPERIENCE FOR PERSONAL TRAINERS 1 UNIT**
 Prerequisite: ES 254 with a grade of "C" or better or "CR"
 Corequisite: None
 Recommended Preparation: None
 4 hours unpaid work experience per week
 This course will provide volunteer work experience in the field of personal training in selected fitness facilities. The student will work under the direct supervision of a certified Exercise Science instructor or commercially certified personal trainer.
CSU
- 255 CARE AND PREVENTION OF ATHLETIC INJURIES 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 1 hour laboratory
 Designed to (1) provide a background for individuals interested in an athletic training career, (2) develop an understanding of athletic injuries in terms of prevention, recognition, evaluation, treatment, first aid and emergency care for coaches and/or teachers in athletic settings, and (3) provide athletes with an understanding of how to manage their own injuries and methods of prevention.
CSU, UC credit limit
- 270 COOPERATIVE GAMES 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 This course will focus on planning and implementing cooperative games for physical education/activities involving pre-school and elementary school-aged children in a variety of settings. The philosophy behind the need for cooperative games will be explored, as well as the importance of incorporating movement into daily life.
CSU, UC credit limit
- 271 FITNESS WALKING WITH CHILDREN 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 This course will focus on planning and implementing a walking program for children in a variety of settings. Lifelong fitness activities and walking as a form of appropriate and challenging exercise will be emphasized.
CSU
- 272 ISSUES IN CHILDHOOD OBESITY 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 This course will provide an opportunity for review of current knowledge relating to the cause and prevention of childhood obesity. Content will include suggested physical activity planning and nutrition guidelines, as well as historically relevant trends in regards to childhood obesity, diet and physical activity.
CSU
- 273 FIELD EXPERIENCE IN SCHOOL-BASED RECREATIONAL LEADERSHIP 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 5 hours paid or 4 hours unpaid work experience per week
 Under supervision at approved field placement sites, students will participate in all outdoor recreational activities. Students will develop and supervise fitness and recreational experiences, conduct group activities, handle routines, and respond to individual and group needs of school-aged children in a school-based, day care or school day environment.
CSU

298 SELECTED TOPICS IN EXERCISE SCIENCE 1-3 UNITS
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Exercise Science not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN EXERCISE SCIENCE 1-3 UNITS
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Exercise Science not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

FRENCH

- 120 FRENCH I 5 UNITS**
(CAN FREN 2; CAN FREN SEQ A = FREN 120+121)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture
 Introductory course to the French language and the cultures of its speakers. Designed for students with very little or no knowledge of French. Facilitates the practical application of the language in everyday oral and written communication at the beginning level. Since the focus will be on basic communication skills, the class will be conducted in French as much as possible. Students will learn structures that will enable them to function in French in everyday contexts while becoming familiar with the French speaking world.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 121 FRENCH II 5 UNITS**
(CAN FREN 4; CAN FREN SEQ A = FREN 120+121)
 Prerequisite: FREN 120 with a grade of "C" or better or "CR" or two years of high school French or equivalent
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture
 Continuation of FREN 120. The course will continue to develop oral and written skills based on practical everyday needs.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 199 SPECIAL STUDIES OR PROJECTS IN FRENCH 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in French under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 220 FRENCH III 5 UNITS**
(CAN FREN 8; CAN FREN SEQ B = FREN 220+221)
 Prerequisite: FREN 121 with a grade of "C" or better or "CR" or three years of high school French or equivalent
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture
 Continuation of FREN 121. The course will continue to develop oral, listening, reading and writing skills in order to improve proficiency in French.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 221 FRENCH IV 5 UNITS**
(CAN FREN 10; CAN FREN SEQ B = FREN 220+221)
 Prerequisite: FREN 220 with a grade of "C" or better or "CR" or four years of high school French or equivalent
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture
 Continuation of FREN 220. The course will continue to develop oral, listening, reading and writing skills in order to improve proficiency in French.
AA/AS GE, CSU, CSU GE, IGETC, UC

250 CONVERSATIONAL FRENCH 3 UNITS

Prerequisite: FREN 121 or four years of high school French or equivalent

Corequisite: None

Recommended Preparation: None

3 hours lecture

Continues to develop oral, reading, writing and listening skills with emphasis on oral proficiency.

AA/AS GE, CSU, CSU GE, IGETC, UC

251 CONVERSATIONAL FRENCH 3 UNITS

Prerequisite: FREN 250 or 121 or four years of high school French or equivalent

Corequisite: None

Recommended Preparation: None

3 hours lecture

Continues to develop oral, reading, writing and listening skills with emphasis on oral proficiency.

AA/AS GE, CSU, CSU GE, IGETC, UC

298 SELECTED TOPICS IN FRENCH 1-5 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-15 hours

Selected topics in French not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN FRENCH 1-5 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-15 hours

Selected topics in French not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

GEOGRAPHY**106 WORLD REGIONAL GEOGRAPHY 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

World regional geography studies the overarching principles of human geography as applied to the major geographic regions of the world including Africa, the Middle East, South and East Asia, Australia, Europe and the Americas. Regional analysis will include: language, religion and ethnicity; population, land use and settlement patterns; economic, social and political systems; urban and environmental relationships; and the effects of technology and globalization in a rapidly changing world.

AA/AS GE, CSU, CSU GE, UC

120 ELEMENTS OF PHYSICAL GEOGRAPHY 3 UNITS

(CAN GEOG 2)

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Physical geography is the study of the patterns and processes that underlie the fundamental nature and dynamics of the physical world. Topics will be investigated from a systems perspective, with particular attention to the spatial relationships among the atmosphere, hydrosphere, lithosphere and biosphere. Global, regional and local environmental concerns will be discussed as relevant to course topics.

AA/AS GE, CSU, CSU GE, IGETC, UC

121 PHYSICAL GEOGRAPHY LABORATORY 1 UNIT

Prerequisite: GEOG 120 or concurrent enrollment

Corequisite: None

Recommended Preparation: None

3 hours laboratory

Augments the physical geography lecture course through practical applications of materials covered in GEOG 120. Laboratory exercises include practical applications of the following: map analysis and interpretation; Earth-Sun relations; weather and climate; basic rock and mineral identification; plate tectonics; erosional and depositional environments; landform identification and genesis; soil and vegetation distributions. Special attention given to the unique local setting of San Diego County. Field experience incorporated into laboratory exercises on a regular basis.

AA/AS GE, CSU, CSU GE, IGETC, UC

- 122 REGIONAL FIELD STUDIES IN PHYSICAL GEOGRAPHY 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: GEOG 120 or concurrent enrollment
 1 hour lecture, 1 hour laboratory
 Designed to provide focused experience in geographical field studies of a selected region in western North America. Emphasizes observation and interpretation of physical geography phenomena through direct experience in a field setting. Requires a multi-day field trip as well as on-campus meetings prior to and immediately following the field trip. Students must supply their own camping gear including food, cooking gear, stove, eating utensils, sleeping bag and tent. *May be repeated with different content for a maximum of 4 units.*
CSU
- 130 HUMAN AND CULTURAL GEOGRAPHY (CAN GEOG 4) 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introduction to the study of the dynamics and complex relationships between the Earth's people and the ever-changing world in which they live. Special attention given to the historical role of the human-environment relationship, as well as the influences of language, religion, and other cultural factors in shaping the world's many cultures. Topics investigated on a global, regional and local scale include: origin and diffusion of the world's major languages and religions; population and settlement patterns; political and economic systems; methods of livelihood; the role of technology in our rapidly changing world. Emphasis on human-environment relations and understanding and appreciation of our diverse multicultural world. Local field trips link course materials to real-world phenomena.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 199 SPECIAL STUDIES OR PROJECTS IN GEOGRAPHY 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Geography under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 298 SELECTED TOPICS IN GEOGRAPHY 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Geography not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

- 299 SELECTED TOPICS IN GEOGRAPHY 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Geography not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

GEOLOGY

- 104 EARTH SCIENCE 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 This physical science course studies the patterns and processes that define Earth's major physical systems, the basic energy and material flows by which these systems operate, and the comparative place of our planet within the larger solar system. Topics will be investigated at global, regional and local scales and will provide a general synthesis of the disciplines of astronomy, geology, physical geography, meteorology and oceanography. Environmental disturbance and climate change will be addressed within the context of the topics described above.
AA/AS GE, CSU, CSU GE
- 110 GENERAL GEOLOGY 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introduction to the fundamental nature of the physical Earth and its interior. Special attention given to the role of plate tectonics in shaping the Earth's surface. Topics investigated on a global, regional and local scale include: Earth's internal and external structure; rock and mineral composition and identification; geologic time; plate tectonics; volcanism and earthquakes; weathering, erosion and mass wasting; mineral and energy resources. Local field trips link course materials to real-world phenomena.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 199 SPECIAL STUDIES OR PROJECTS IN GEOLOGY 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Geology under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

298 SELECTED TOPICS IN GEOLOGY 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Geology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN GEOLOGY 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Geology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

GRAPHIC DESIGN

105 FUNDAMENTALS OF DIGITAL MEDIA 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: Basic computer skills (can be learned in introductory CIS or BOT classes)
 2 hours lecture, 4 hours laboratory

This course explores the digital hardware and software used in graphic design with an emphasis on print graphics production skills. Students will learn how to operate the computer and use software applications common in graphic design (Adobe Illustrator, Photoshop, InDesign and Quark Xpress). Design principles will be introduced as students explore the creative potential and practical aspects of graphic design with realistic project assignments.

CSU

110 BEGINNING GRAPHIC DESIGN 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: ART 120, 124, GD 105
 2 hours lecture, 4 hours laboratory

This course explores the fundamental concepts of graphic design and visual communication. The basic concepts, principles and elements of design are reinforced through creative problem solving. Text and visual elements such as photos and illustrations are integrated to create appropriate and aesthetic solutions to print graphics problems. Students will investigate career options and begin portfolio development.

CSU

125 TYPOGRAPHY 3 UNITS

Prerequisite: GD 105, ART 120 with a grade of "C" or better
 Corequisite: None
 Recommended Preparation: GD 110
 2 hours lecture, 4 hours laboratory

Explores the fundamental nature of typography as a reflection of society. Letters and numbers are examined as art forms and as carriers of language and ideas. Technical aspects of typography will be considered including function and production. Design letter forms using both traditional and digital processes with an emphasis on developing a professional portfolio.

CSU

126 PHOTOSHOP DIGITAL IMAGING 3 UNITS

ABCD Prerequisite: None
 Corequisite: None
 Recommended Preparation: Basic computer skills (creating, editing, copying, deleting and organizing files)
 2 hours lecture, 4 hours laboratory

This course explores capturing, digitizing and editing images. Students will learn to use scanners and digital cameras to capture or digitize images and Adobe Photoshop to edit, manipulate, retouch, enhance and composite digital images. The class will explore digital workflows, color management, monitor calibration, and output methods used to achieve the best possible output from digital files. Emphasis will be on meeting aesthetic and technical requirements of the commercial arts industry.

CSU

129 PAGE LAYOUT 3 UNITS

Prerequisite: GD 105, 110 with a grade of "C" or better
 Corequisite: None
 Recommended Preparation: GD 125
 2 hours lecture, 4 hours laboratory

Emphasizes the aesthetic and functional organization of text, charts, graphs, line art, illustrations and photos in multiple page documents. Use traditional and digital processes to develop creative thumbnails, roughs and comprehensive layouts. Emphasis on preparing text and images for electronic pre-press and for selecting printing options. Students will develop work for a professional portfolio.

CSU

130 PROFESSIONAL BUSINESS PRACTICES 3 UNITS

Prerequisite: GD 129 with a grade of "C" or better
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory

Emphasizes professional business practices used in the graphic design industry including design studios, agencies and self-employment. Learn how to create a resume, market a portfolio, acquire clients and set fees. Students will refine their design capabilities using text and images, while learning how to perform as business professionals. **Students must pass the Department Portfolio Review to receive credit for this class.**

CSU

198 SUPERVISED TUTORING 0 UNIT

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 TBA hours

Uses a variety of educational tools to assist students with various learning needs. Can be used to strengthen prerequisite skills prior to enrolling in a specific course or to receive supplemental assistance while concurrently enrolled in another course. *May be repeated with different content.* **No fee/no credit course.**

- 199 SPECIAL STUDIES OR PROJECTS IN GRAPHIC DESIGN 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Graphic Design under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 210 PRACTICAL DIGITAL PHOTOGRAPHY 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: Basic computer skills (creating, editing, copying, deleting and organizing files)
 1.5 hours lecture, 1.5 hours laboratory
 This practical course is intended for anyone interested in traditional photographic methods as they apply to digital photography. Students will learn to properly light, compose, expose, adjust, manipulate and print digital photographs. Lectures and demonstrations will explore advanced camera settings and file editing with Adobe Photoshop. Assignments will emphasize skills needed to produce high quality images for print and web display.
CSU
- 211 COMMERCIAL DIGITAL PHOTOGRAPHY 3 UNITS**
 Prerequisite: GD 126ABCD, 210
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 4 hours laboratory
 This course emphasizes advanced photographic and digital imaging techniques, expanding on knowledge and skills acquired in GD 210 (Practical Digital Photography) and GD 126 (Photoshop Digital Imaging). Lectures, demonstrations and assignments will focus on various applications of commercial photography including portraiture, tabletop, still life and photo-illustration. Unlike most fine art oriented photography classes, this course will present aesthetic and technical aspects of photography as they pertain to graphic communication and commercial art.
CSU
- 217 WEB GRAPHICS 3 UNITS**
(formerly CIS 217)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CIS 212 or basic computer and Internet skills and ability to create and upload a simple website; GD 126ABCD or ability to use Adobe Photoshop to create digital images
 2 hours lecture, 3 hours laboratory
 This course focuses on the creation of attractive, usable web interfaces and graphic elements. Students will use Photoshop to design and develop common web design elements as they explore information design, screen design and navigation design.
CSU
- 222 FLASH WEB ANIMATION 3 UNITS**
(formerly CIS 222)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: CIS 212 or basic computer and Internet skills and ability to create and upload a simple website
 2 hours lecture, 3 hours laboratory
 Covers design, development and implementation of web-based animation using Macromedia Flash. Students will create common web animation projects such as advertisements and web interfaces.
CSU
- 225 DIGITAL ILLUSTRATION 3 UNITS**
ABCD Prerequisite: GD 105 with a grade of "C" or better
 Corequisite: None
 Recommended Preparation: ART 124, 230
 2 hours lecture, 4 hours laboratory
 Uses vector and paint software to create drawings and paintings using line, texture, value and color. Applies aesthetics and computer technology to making exciting and aesthetic graphic images. Applicable for both fine art and graphic design.
CSU
- 230 GRAPHIC DESIGN INTERNSHIP 1-4 UNITS**
 Prerequisite: GD 129 with a grade of "C" or better
 Corequisite: None
 Recommended Preparation: None
 75 hours paid or 60 hours unpaid work experience per unit
 Provides field experience in design, business procedures, client relationships, and supervision of work executed for practicing professionals and design-related firms. Student is responsible for finding an employer. Assessment of student to be performed by instructor based on recommendations of supervisor at place of employment. Work experience must be started and completed during the semester that units are earned. **Credit/No Credit only.**
- 298 SELECTED TOPICS IN GRAPHIC DESIGN 1-4 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours
 Selected topics in Graphic Design not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN GRAPHIC DESIGN 1-4 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours
 Selected topics in Graphic Design not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

HEALTH EDUCATION

- 120 PERSONAL HEALTH AND LIFESTYLES** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Identification and study of the major health problems in today's society. Emphasizes individual responsibility for personal health and the promotion of informed, positive health behaviors. Content areas include nutrition and weight control, substance abuse, environmental hazards, diseases and safety. *Not open to students with credit in HED 110.*
AA/AS GE, CSU, CSU GE, UC, UC credit limit
- 122 ENVIRONMENTAL AND COMMUNITY HEALTH** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introduction to the environmental, biological and socio-cultural determinants of health quality. Areas of emphasis include: environmental health, health and community behavior, infectious disease, chronic disease, methods of public health investigation, health promotion, implementation and regulation. Within these topic areas examination of the matrix of physiological, socio-cultural and psychological determinants of health will be addressed including: health impacts of chemical and physical agents in domestic and work surroundings; water treatment and quality, environmental pollution and occupational health and safety; substance abuse, stress management and mental illness; infectious diseases; growing health trends in the American population such as obesity, diabetes mellitus and Alzheimer's; investigation of health agencies involved, governmental health policies, and their roles in shaping community health.
AA/AS GE, CSU, CSU GE, UC, UC credit limit
- 155 REALITIES OF NUTRITION** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introduction to the basic principles of nutrition and its relationship to good health. Evaluation of current nutritional information (and misinformation) with emphasis on critical thinking to determine optimal dietary choices. Study of the major dietary goals and guidelines. Examination of weight maintenance techniques, eating disorders, food labeling, food safety, and special needs at various stages in the life cycle.
CSU, CSU GE, UC
- 158 NUTRITION FOR ATHLETES** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Investigates the effects of nutrition and various dietary regimens on athletic performance, physical fitness and general health. Students will compare the physiological effects of optimal nutrition vs. inadequate nutrition for the general population as well as athletes. Cultural, sociological and psychological influences will be examined. Discussion of "fads" and dietary supplements will be included.
CSU, CSU GE
- 199 SPECIAL STUDIES OR PROJECTS IN HEALTH EDUCATION** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Health Education under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 251* HEALTHY LIFESTYLES: THEORY AND APPLICATION** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Combination of physical activity and lecture provides regular exercise to develop physical fitness and information about basic, sound nutrition as it pertains to weight control. Guidelines that promote lifetime exercise and a healthy lifestyle will be emphasized.
CSU, CSU GE
- 298 SELECTED TOPICS IN HEALTH EDUCATION** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Health Education not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN HEALTH EDUCATION** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Health Education not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

* Meets the activity requirement for graduation.

HISTORY

- 100 EARLY WORLD HISTORY 3 UNITS**
(*CAN HIST 14*)
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
Early world history examines ancient to early modern civilizations and the interconnections between diverse world societies. Included are Mesopotamia, Egypt, China, India, the classical West, the early Islamic world, the civilizations of Africa, and civilizations of the Americas and Oceania.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 101 MODERN WORLD HISTORY 3 UNITS**
(*CAN HIST 16*)
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
Modern world history explores the background and development of the global society from early modern times to the present. Emphasizes cultural, imperial and industrial interconnections between world societies.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 105 EARLY WESTERN CIVILIZATION 3 UNITS**
(*CAN HIST 2; CAN HIST SEQ A = HIST 105+106*)
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
Broad survey of the evolution of the West from the Prehistoric Era to the Early Modern Period. Stresses trends and relationships affecting the various aspects of Western Civilization such as politics, economics, society and culture. Particular emphasis on cause and effect in history.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 106 MODERN WESTERN CIVILIZATION 3 UNITS**
(*CAN HIST 4; CAN HIST SEQ A = HIST 105+106*)
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
History of Western Civilization from early modern times to the present. Continuation of HIST 105, from 1600 to the present.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 108* EARLY AMERICAN HISTORY 3 UNITS**
(*CAN HIST 8; CAN HIST SEQ B = HIST 108+109*)
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
A survey of the early political, social and cultural development of the entire geographic area that is now the United States, with emphasis upon the origins of basic American institutions and ideals.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 109* MODERN AMERICAN HISTORY 3 UNITS**
(*CAN HIST 10; CAN HIST SEQ B = HIST 108+109*)
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
A survey of the political, social and cultural development of modern United States with emphasis upon the economic, social and technological changes and the rise of the United States as a world power.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 114* COMPARATIVE HISTORY OF THE EARLY AMERICAS 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
The Americas from ancient times to independence. Emphasis on ancient American civilizations, conquest and interactions among Native, European and African cultures. Colonial institutions and the development of new nations and their political systems.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 115* COMPARATIVE HISTORY OF THE MODERN AMERICAS 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
A survey of the political, social, economic and cultural development of the modern Americas. Emphasis on interaction among Native, European and African cultures and the social, political and economic transformations of the modern United States, Latin America and Canada.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 118* U.S. HISTORY: CHICANO/CHICANA PERSPECTIVES I 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
Historical survey of the Chicano people in the United States in which attention is given to social, political and economic background. Particular emphasis on the development of the Spanish-speaking peoples' economic, social and political experience in the United States, especially in the Southwest from the Indo-Hispanic period to the Mexican-American War.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 119* U.S. HISTORY: CHICANO/CHICANA PERSPECTIVES II 3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
Historical survey of the Chicano people in the United States in which attention is given to social, political and economic background. Particular emphasis on the development of the Spanish-speaking peoples' economic, social and political experience in the United States, especially in the Southwest from the Mexican-American War to the present.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

- 122* WOMEN IN EARLY AMERICAN HISTORY** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Covers the social, political, cultural, economic and intellectual development of women in America from pre-contact to 1877 in the entire geographic area that is now the United States. Women's experiences are placed in the context of the origins of American institutions and ideals.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 123* WOMEN IN MODERN AMERICAN HISTORY** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Covers the social, political, cultural, economic and intellectual development of women in America from 1877 to the present in the entire area that is now the United States. Women's experiences are examined in the context of evolving American institutions.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 124 HISTORY OF CALIFORNIA** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Survey of political, social and economic development of the State of California from the earliest Spanish explorations and settlements to the present. Unit of study in California state and local government included.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 130* U.S. HISTORY AND CULTURES: NATIVE AMERICAN PERSPECTIVES I** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Historical survey of the indigenous people throughout the North American Continent from the earliest recorded knowledge to 1850. Attention given to Indian perspectives of native and non-native cultures. The influence of American Indians on the Federal Constitution and the political philosophies of Early Americans will be studied. Indian political organization and its parallels and differences in Early American political organizations and philosophies are studied. Particular attention given to legislation and its impact on Indian culture and society.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 131 U.S. HISTORY AND CULTURES: NATIVE AMERICAN PERSPECTIVES II** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Historical survey of the indigenous people of the North American continent from 1850 to the present. Attention given to contemporary, historical, political and socio-economic issues affecting the American Indian nationwide, statewide and locally. Indian perspectives of native and non-native cultures will be included. The Federal and State Constitutions are studied with special emphasis on the effects on and influence of Indian culture and society. Particular attention given to political philosophies and the impact of legislation on Indian culture and society.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 180* U.S. HISTORY: BLACK PERSPECTIVES I** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 United States history with emphasis on social, economic, political and cultural experiences of Black people. The course traces the development of African-American history from African origins through the period of Reconstruction.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 181* U.S. HISTORY: BLACK PERSPECTIVES II** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Examination of significant aspects of United States history from the aftermath of the Civil War to the present. Emphasis on the socio-economic, political and cultural experience of African-Americans in the United States from Reconstruction to the present.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 199 SPECIAL STUDIES OR PROJECTS IN HISTORY** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in History under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 210 WOMEN IN WESTERN CIVILIZATION** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Social, cultural, economic, political and ideological aspects of women in western society from ancient times to the present.
AA/AS GE, CSU, CSU GE, IGETC, UC

- 275 HISTORICAL PERIOD 3 UNITS**
276 GEOGRAPHICAL AREA 3 UNITS
277 HISTORICAL THEME 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

In-depth study of an historical period (275), geographical area (276), or historical theme (277). Reading, discussion, lecture and instructional media focused on the forces contributing to the creation of the material studied and on the place of that material in relation to other disciplines in the humanities.

AA/AS GE, CSU, CSU GE, IGETC, UC

- 298 SELECTED TOPICS IN HISTORY 1-3 UNITS**

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in History not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

- 299 SELECTED TOPICS IN HISTORY 1-3 UNITS**

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in History not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

*Meets part of the American Institutions requirement for 2005-2006. See "CSU General Education Breadth" under Transfer Information and Degree Requirements for complete requirements and different options.

HUMANITIES

- 110 PRINCIPLES OF THE HUMANITIES 3 UNITS**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

In this basic interdisciplinary humanities course, students learn how to examine, compare, analyze, evaluate, interpret and discuss creative works within their cultural contexts. Examples for study will be selected from the world's great works of literature, drama, painting, sculpture, architecture, music, etc.

AA/AS GE, CSU, CSU GE, IGETC, UC

- 120 EUROPEAN HUMANITIES 3 UNITS**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Integrated approach to European cultural values as expressed in representative masterpieces of literature, philosophy, drama, music, visual art and architecture.

AA/AS GE, CSU, CSU GE, IGETC, UC

- 140 AMERICAN HUMANITIES 3 UNITS**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Integrated study of American forms of art and thought including popular forms such as film, jazz and popular music. Various periods in American history will be examined from a cultural viewpoint, and selections will be chosen which are most representative of the forms of consciousness during those periods.

AA/AS GE, CSU, CSU GE, IGETC, UC

- 155 MYTHOLOGY 3 UNITS**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Exploration of myths, legends, folklore and fairy tales as a means of understanding the way different people throughout the world have viewed themselves, their heroes, gods and supernatural beings and the world they live in. Emphasis on the symbolic meaning of the stories covered and the light they shed on our common human nature.

AA/AS GE, CSU, CSU GE, IGETC, UC

- 199 SPECIAL STUDIES OR PROJECTS IN HUMANITIES 1-3 UNITS**

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours

Individual study, research or projects in Humanities under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

- 298 SELECTED TOPICS IN HUMANITIES 1-3 UNITS**

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Humanities not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

- 299 SELECTED TOPICS IN HUMANITIES 1-3 UNITS**

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Humanities not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

INTERDISCIPLINARY STUDIES

198 SUPERVISED TUTORING 0 UNIT

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 TBA hours

Uses a variety of educational tools to assist students with various learning needs. Can be used to strengthen prerequisite skills prior to enrolling in a specific course or to receive supplemental assistance while concurrently enrolled in another course. *May be repeated with different content. No fee/no credit course.*

199 SPECIAL STUDIES OR PROJECTS IN INTERDISCIPLINARY STUDIES 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours

Individual study, research or projects in Interdisciplinary Studies under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

298 SELECTED TOPICS IN INTERDISCIPLINARY STUDIES 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Interdisciplinary Studies not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN INTERDISCIPLINARY STUDIES 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Interdisciplinary Studies not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

LIBRARY INFORMATION RESOURCES

110 RESEARCH METHODS IN AN ONLINE WORLD 1 UNIT

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture

Designed for the student who would like to become an effective online researcher. Students will learn how to select and effectively use appropriate research tools—such as search engines, online directories, meta-search engines, subscription databases and online catalogs—for specific information needs. Students will develop search strategies and focus on expressing their research questions in relevant search terms. In addition, they will learn how to evaluate information for quality, authority, accuracy, and other criteria. Ethical issues about information will also be introduced. *Familiarity with basic microcomputer operation is strongly recommended.*

CSU

199 SPECIAL STUDIES OR PROJECTS IN LIBRARY INFORMATION RESOURCES 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours

Individual study, research or projects in Library Information Resources under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

298 SELECTED TOPICS IN LIBRARY INFORMATION RESOURCES 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Library Information Resources not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN LIBRARY INFORMATION RESOURCES 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Library Information Resources not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

MATHEMATICS

- 088 BASIC MATHEMATICS AND PRE-ALGEBRA** **4 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture, 1 hour laboratory
 Review of the fundamentals of arithmetic including addition, subtraction, multiplication and division with emphasis on mental arithmetic. Operations with fractions, decimals and percents are also emphasized. The derivation and use of selected measurement concepts and the development of pre-algebra ideas such as variable, signed numbers and equations are included. Area and volume formulas for fundamental shapes are stressed. These topics are explored in the context of problem solving and appropriate calculator use. **Credit/No Credit only. Non-associate degree applicable.**
- 090 ELEMENTARY ALGEBRA** **5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: Credit in MATH 088 or equivalent
 5 hours lecture, 1 hour laboratory
 Emphasizes mathematical reasoning, problem solving, and real-world applications using numerical, algebraic and graphical models. Topics include problem-solving techniques, algebraic expressions, polynomials, linear and quadratic equations, linear inequalities, linear and nonlinear graphs, systems of linear equations in two variables, integer exponents, proportions, and radicals. Selection and application of appropriate graphing utility and/or computer program to interpret, model and analyze a collection of data or application problems. Computational techniques developed in pre-algebra are prerequisite skills for this course. Recommended for students with little or no recent knowledge of algebra. **Credit/No Credit only. Non-associate degree applicable.**
- 097 PLANE GEOMETRY** **3 UNITS**
 Prerequisite: Credit in MATH 090 or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introduces essential vocabulary, properties and characteristics of geometric objects and geometric constructions. The concepts of plane geometry are developed inductively and then deductively. Computer-facilitated instruction offers a dynamic presentation of geometric concepts. **Credit/No Credit only. Non-associate degree applicable.**
- 098 INTRODUCTION TO GRAPHING CALCULATORS** **1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: Credit in MATH 090 or equivalent
 1 hour lecture
 For students who wish to acquire skills in using graphing calculators. Calculator uses will include, but are not limited to: arithmetic operations, equations, inequalities, graphing and basic statistics. Hands-on approach will be employed. **Credit/No Credit only. Non-associate degree applicable.**
- 103 INTERMEDIATE ALGEBRA** **3 UNITS**
 Prerequisite: Credit in MATH 090 or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 1 hour laboratory
 Graphic, numeric, analytic and applied problems on topics including linear, quadratic, exponential and logarithmic functions, exponents and radicals. Selection and application of appropriate graphing utility and/or computer program to interpret, model and analyze data, graphs and/or application problems. Additional topics include systems of equations, algebraic fractions, radicals, equations involving inequalities and absolute value, and complex numbers. *Maximum of 5 units can be earned for taking MATH 103 and 110.*
AA/AS GE
- 110 INTERMEDIATE ALGEBRA FOR BUSINESS, MATHEMATICS, SCIENCE AND ENGINEERING** **5 UNITS**
 Prerequisite: Credit in MATH 090 or equivalent
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture, 1 hour laboratory
 Application of graphic, numeric and analytic methods to model, interpret and solve real-world problems involving: linear, quadratic, rational, radical, exponential and logarithmic functions; systems of linear and quadratic equations or inequalities; and absolute value equations or inequalities. Selection and application of appropriate graphing utility and/or computer program to interpret, model and analyze a collection of data and/or application problems. Additional topics include conic sections and an introduction to matrices and determinants. Computational techniques developed in beginning algebra are prerequisite skills for this course. Appropriate for students with knowledge of beginning algebra or who have had at least two years of high school algebra but have not used it for several years. *Maximum of five 5 units can be earned for taking MATH 103 and 110.*
AA/AS GE
- 120 MATHEMATICS FOR GENERAL EDUCATION** **3 UNITS**
(CAN MATH 2)
 Prerequisite: MATH 103 or 110 with a grade of "C" or better or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Topics from logic, modern algebra, set theory, probability, statistics and computer math designed to give students a very brief introduction to the structure of mathematical theories and their application. General education course in mathematics.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 125 STRUCTURE AND CONCEPTS OF ELEMENTARY MATHEMATICS I** **3 UNITS**
 Prerequisite: MATH 103 or 110 and 097 with a grade of "C" or better or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 1 hour laboratory
 In blending the mathematical topics of sets, whole numbers, numeration, number theory, integers, rational and irrational numbers, measurement, relations, functions and logic, the course will investigate the interrelationships of these topics using a problem-solving approach and appropriate use of technology.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

- 126 STRUCTURE AND CONCEPTS OF ELEMENTARY MATHEMATICS II** **3 UNITS**
 Prerequisite: MATH 125 with a grade of "C" or better or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 1 hour laboratory
 In blending the mathematical topics of statistics, probability, measurement, coordinate geometry, plane geometry, solid geometry, logic, relations and functions, the course will investigate the interrelationships of these topics using a problem-solving approach and appropriate use of technology.
CSU, CSU GE, IGETC, UC credit limit
- 128 CHILDREN'S MATHEMATICAL THINKING** **1.5 UNITS**
 Prerequisite: None
 Corequisite: MATH 125
 Recommended Preparation: None
 1.5 hours lecture
 Children's mathematical thinking and in-depth analyses of children's understanding of operations (addition, subtraction, multiplication, division) and place value. Students will observe individual children solving mathematics problems.
CSU
- 150 INTRODUCTION TO COMPUTER PROGRAMMING WITH FORTRAN** **3 UNITS**
 Prerequisite: MATH 103 or 110
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Analysis of mathematical application problems and solutions from statistics, engineering, and the physical sciences using the digital computer. Fundamentals of structured technical programming in FORTRAN 77 including language commands.
CSU, UC
- 160 ELEMENTARY STATISTICS** **3 UNITS**
(CAN STAT 2)
 Prerequisite: MATH 103 or 110 with a grade of "C" or better or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture, 1 hour laboratory
 Study and application of the concepts and procedures of descriptive statistics, probability theory and inferential statistics. In descriptive statistics: organize, summarize and display data including frequency tables and histograms; exploratory data analysis; measures of central tendency, variation and position. In probability theory: fundamental rules and definitions of probability; counting; central limit theorem; probability distributions including the binomial, normal, Student T, chi-square, and F. In inferential statistics: estimation and hypothesis testing for means, proportions and variances; contingency tables; ANOVA models; linear regression and correlation; nonparametric methods. Applications may be included from various fields such as biology, business, economics, education, engineering, demography and psychology.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 170 ANALYTIC TRIGONOMETRY** **3 UNITS**
(CAN MATH 8)
 Prerequisite: MATH 110 and 097 with a grade of "C" or better or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Theoretical approach to the study of the trigonometric functions with emphasis on circular functions, trigonometric identities, trigonometric equations, graphical methods, vectors and applications, complex numbers and solving triangles with applications.
AA/AS GE, CSU, CSU GE
- 175 COLLEGE ALGEBRA** **4 UNITS**
(CAN MATH 10)
 Prerequisite: MATH 110 with a grade of "C" or better or equivalent (MATH 103 does not meet the prerequisite)
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture
 Graphic, numeric and analytic approaches to the study of precalculus concepts from college algebra. Application of appropriate technology including but not limited to graphing utilities to model, analyze and interpret a collection of data or to solve real-world application problems from a variety of disciplines. Topics include: the real number system; algebraic, exponential and logarithmic functions and their inverses; graphing techniques for polynomial and rational functions; complex numbers; theory of equations; partial fractions; mathematical induction; sequences and series; matrices; and the binomial theorem. *Maximum of 7 units can be earned for successfully completing any combination of MATH 170, 175 and 176. Students preparing to take calculus must take MATH 170 and 175 or 176.*
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 176 PRECALCULUS: FUNCTIONS AND GRAPHS** **6 UNITS**
 Prerequisite: MATH 110 and 097 with a grade of "C" or better or equivalent (MATH 103 does not meet the prerequisite)
 Corequisite: None
 Recommended Preparation: None
 6 hours lecture
 Graphic, numeric and analytic approaches to the study of precalculus concepts from college algebra and analytic trigonometry. Application of appropriate technology including but not limited to graphing utilities to model, analyze and interpret a collection of data or to solve real-world application problems from a variety of disciplines. Topics include the real number system; algebraic, exponential and logarithmic functions and their inverses; graphing techniques for polynomial, rational and trigonometric functions; complex numbers; theory of equations; trigonometric functions and their inverses with emphasis on the circular functions; trigonometric equations and identities; vectors; right and oblique triangles; partial fractions; polar coordinates; mathematical induction; sequences and series; matrices; the binomial theorem. *Maximum of 7 units can be earned for successfully completing any combination of MATH 170, 175 and 176. Students preparing to take Calculus must take MATH 170 and 175 or 176.*
AA/AS GE, CSU, CSU GE, UC credit limit

- 178 CALCULUS FOR BUSINESS, SOCIAL AND BEHAVIORAL SCIENCES** **4 UNITS**
(*CAN MATH 30*)
Prerequisite: MATH 110 with a grade of "C" or better or equivalent (MATH 103 does not meet the prerequisite)
Corequisite: None
Recommended Preparation: None
4 hours lecture
Concepts and applications of algebra and polynomial calculus. Designed for students in business, social sciences and behavioral sciences. *Not open to students with credit in MATH 180.*
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 180 ANALYTIC GEOMETRY AND CALCULUS I** **5 UNITS**
(*CAN MATH 18; CAN MATH SEQ B = MATH 180+280, CAN MATH SEQ C = MATH 180+280+281*)
Prerequisite: MATH 170 and 175 or 176 with a grade of "C" or better or equivalent
Corequisite: None
Recommended Preparation: None
5 hours lecture
Graphic, numeric and analytic approaches to the study of analytic geometry, limits and continuity of functions, and introductory differential and integral calculus. Applications involving analysis of algebraic, exponential, logarithmic, trigonometric and hyperbolic functions from a variety of disciplines including science, business and engineering. First of three courses designed to provide serious science students with a solid introduction to the theory and techniques of analysis.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit
- 198 SUPERVISED TUTORING** **0 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
TBA hours
Uses a variety of educational tools to assist students with various learning needs. Can be used to strengthen prerequisite skills prior to enrolling in a specific course or to receive supplemental assistance while concurrently enrolled in another course. *May be repeated with different content. No fee/no credit course.*
- 199 SPECIAL STUDIES OR PROJECTS IN MATHEMATICS** **1-3 UNITS**
Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
3-9 hours
Individual study, research or projects in Mathematics under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 245 DISCRETE MATHEMATICS** **3 UNITS**
Prerequisite: MATH 280 with a grade of "C" or better or equivalent
Corequisite: None
Recommended Preparation: None
3 hours lecture
Introduction to discrete mathematics. Includes basic logic, methods of proof, sequences, elementary number theory, basic set theory, elementary counting techniques, relations, and recurrence relations.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 280 ANALYTIC GEOMETRY AND CALCULUS II** **4 UNITS**
(*CAN MATH 20; CAN MATH SEQ B = MATH 180+280, CAN MATH SEQ C = MATH 180+280+281*)
Prerequisite: MATH 180 with a grade of "C" or better or equivalent
Corequisite: None
Recommended Preparation: None
4 hours lecture
Continuation of MATH 180. Includes parametric equations, polar coordinates, hyperbolic functions, techniques of integration, indeterminate forms, infinite series and conics.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 281 INTERMEDIATE CALCULUS** **4 UNITS**
(*CAN MATH 22; CAN MATH SEQ C = MATH 180+280+281*)
Prerequisite: MATH 280 with a grade of "C" or better or equivalent
Corequisite: None
Recommended Preparation: None
4 hours lecture
Sequel to MATH 280. Includes vectors in two and three dimensions, partial differentiation, iterated integration, line and surface integrals, application of Green's and Stokes' theorems, work with cylindrical and spherical coordinates, and an introduction to linear algebra.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 284 LINEAR ALGEBRA** **3 UNITS**
(*CAN MATH 26*)
Prerequisite: MATH 280 with a grade of "C" or better or equivalent
Corequisite: None
Recommended Preparation: None
3 hours lecture
Matrix operations, Gauss elimination, determinants, vector spaces, linear transformations, orthogonality, eigenvalues and eigenvectors.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 285 DIFFERENTIAL EQUATIONS** **3 UNITS**
(*CAN MATH 24*)
Prerequisite: MATH 280 with a grade of "C" or better or equivalent
Corequisite: None
Recommended Preparation: None
3 hours lecture
Includes first order differential equations, initial boundary value problems, the Cauchy-Euler equation, series solutions, Laplace transformations, Fourier Series, and separation of variables for elementary partial differential equations. Applications of these topics will be explored.
CSU, CSU GE, IGETC, UC
- 288 SELECTED TOPICS IN MATHEMATICS** **1-6 UNITS**
Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
1-18 hours
Selected topics in Mathematics not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN MATHEMATICS **1-6 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-18 hours
 Selected topics in Mathematics not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

MUSIC

001 RUDIMENTS OF MUSIC AND MUSICIANSHIP **4 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture
 Basic elements of music. Notation and major and minor keys, triads and inversions, musical terms and analysis involving intervals and simple chord structures. Sight-singing and dictation of basic music materials. Some keyboard activity.
CSU

105 MUSIC THEORY AND PRACTICE I **4 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture, 2 hours laboratory
 An introduction to music theory and ear-training. Study of harmonic concepts of the 18th and 19th centuries. Rhythmic and melodic ear-training. Keyboard application and sight singing.
CSU, UC

106 MUSIC THEORY AND PRACTICE II **4 UNITS**
 Prerequisite: MUS 105 with a grade of "C" or better or "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture, 2 hours laboratory
 Continuation of MUS 105. Four-part writing, 7th chords, cadences and non-chord tones. Rhythmic and melodic dictation and harmonic ear-training. Sight singing. Analysis of Bach chorales and binary and ternary forms.
CSU, UC

108-109 INSTRUMENTAL MUSIC ENSEMBLE **1 UNIT**
 Prerequisite: Audition
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture/laboratory
 Study and performance of music literature for an ensemble of mixed instruments.
CSU

110 GREAT MUSIC LISTENING **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Listening and reading survey course to acquaint students with fundamental elements of musical style. Covers repertoire from a variety of cultures and periods with primary emphasis on the Western concert tradition.
AA/AS GE, CSU, CSU GE, IGETC, UC

111 HISTORY OF JAZZ **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Listening and reading survey course covering the history of jazz from its origins to the present. Includes style periods, significant artists, the broad cultural context of jazz, and the development of critical listening skills.
AA/AS GE, CSU, CSU GE, IGETC, UC

112 PIANO I **2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture
 Piano for non-music majors. Emphasis on reading staff notation, harmonization, improvisation and music fundamentals.
CSU, UC

113 PIANO II **2 UNITS**
 Prerequisite: MUS 112 or by performance evaluation
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture
 Piano for non-music majors. Continuation of MUS 112 with emphasis on reading staff notation and playing rhythms at an intermediate level.
CSU, UC

115 HISTORY OF ROCK MUSIC **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Presents an overview of rock and rock-related musical styles from the early 1950s to the present. Includes the interplay of social and cultural trends with the innovations and achievements of individual artists, the ongoing influence of technology on music, the cross-fertilization of African and European-American popular music styles, and recurring cycles of rebellion against and assimilation by the popular music industry. In addition, basic musical concepts such as pitch, rhythm and form will be introduced and applied to the music under consideration.
AA/AS GE, CSU, CSU GE, IGETC, UC

- 116 INTRODUCTION TO WORLD MUSIC 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to expand the student's perspective about the nature of music around the world and demonstrate the relationship between music in different cultures. Highlights elements common to all music. May include music of the cultures of India, China, Japan, Indonesia, Africa, Pacific Islands, the Middle East, Europe and the Americas.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 118 INTRODUCTION TO MUSIC 4 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture
 Study of basic music theory including notation, rhythms, scales, intervals, triads and sight-singing. Introduction to basic rhythm instruments and development of keyboard facility and vocal skill. Designed for preschool/elementary education majors and non-music majors.
CSU, UC
- 126 CLASS GUITAR I 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture
 Beginning course in guitar for non-music majors. Fundamentals of music as related to the guitar including scales, chords, and reading staff notation.
CSU, UC
- 127 CLASS GUITAR II 2 UNITS**
 Prerequisite: MUS 126 with a grade of "C" or better or "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture
 Guitar for non-music majors. Continuation of MUS 126 with emphasis on reading staff notation in closed positions, playing scales and chords in major and minor keys, and developing both left and right hand technique.
CSU, UC
- 132 CLASS PIANO I 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Note reading in treble and bass clefs. Major and minor key signatures. Scales, arpeggios and primary triads in major and minor keys. Transposition, improvisation and harmonization. Development of sight reading ability, two-handed coordination, correct fingering techniques and proper use of weight and relaxation in production of tone.
CSU, UC
- 133 CLASS PIANO II 3 UNITS**
 Prerequisite: MUS 132 with a grade of "C" or better or "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Continuation of MUS 132. Scales in minor keys. Scales with hands together. Music literature performed in major and minor keys. Harmonization and sight reading in major and minor keys. Piano pieces in binary form with mixed texture including parallel, contrary and oblique motion.
CSU, UC
- 136-137 CHAMBER SINGERS 1 UNIT**
 Prerequisite: Audition
 Corequisite: None
 Recommended Preparation: None
 2.5 hours lecture, 2.5 hours laboratory
 The study of standard and contemporary choral literature (classics to jazz) for small choral ensemble. Performances on campus and in local schools and communities. Enrollment open to all singers in the community and to students of the college.
CSU, UC
- 156-157 JAZZ ENSEMBLE 1 UNIT**
 Prerequisite: Audition
 Corequisite: None
 Recommended Preparation: None
 2.5 hours lecture, 2.5 hours laboratory
 Study of representative jazz ensemble compositions in a wide variety of styles at regular rehearsals and public performances.
CSU, UC
- 158-159 CHORUS 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture/laboratory
 Study and performance of standard and contemporary choral literature for choral ensemble. Open to all singers in the community and students of the college.
CSU, UC
- 170-171 CLASS VOICE 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: Ability to read music
 2 hours lecture
 Designed to help the student learn to use the voice correctly. Principles of vocal placement, posture, balance, breath control and vocal tone are emphasized through individual performances.
CSU, UC
- 190-191 PERFORMANCE STUDIES 1 UNIT**
 Prerequisite: Membership by audition
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 Primarily for music majors. Designed to enhance the musical progress of students who are currently receiving the equivalent of fifteen one-half hour lessons per semester of individual vocal or instrumental instruction. In-depth study of performances and techniques. Participation in class performances and student recitals is required.
CSU

- 199 SPECIAL STUDIES OR PROJECTS IN MUSIC** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Music under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 205 MUSIC THEORY AND PRACTICE III** **4 UNITS**
 Prerequisite: MUS 106 with a grade of "C" or better or "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture, 2 hours laboratory
 Continuation of MUS 106. Chromatic harmony of the 18th and 19th centuries including secondary dominants, borrowed chords and altered chords. Rhythmic, melodic and harmonic dictation. Sight singing. Analysis of Bach chorales. Form analysis of Sonata-form, Minuet/Scherzo, Rondo, and Theme and Variations.
CSU, UC
- 206 MUSIC THEORY AND PRACTICE IV** **4 UNITS**
 Prerequisite: MUS 205 with a grade of "C" or better or "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None
 4 hours lecture, 2 hours laboratory
 Continuation of MUS 205. Harmony of the Post-Romantic and 20th century styles. Expanded tonality. Use of church modes, pentatonic, synthetic and dodecaphonic scales. Parallelism, pandiatonicism, twelve-tone technique, aleatory music and electronic music. Study of the 18th century two-part counterpoint. Ear-training and sight singing.
CSU, UC
- 208-209 INSTRUMENTAL MUSIC ENSEMBLE** **1 UNIT**
 Prerequisite: Audition
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture/laboratory
 Study and performance of music literature for an ensemble of mixed instruments.
CSU
- 212 PIANO III** **2 UNITS**
 Prerequisite: MUS 113 or by performance evaluation
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture
 Piano for non-music majors. Continuation of MUS 113 with emphasis on intermediate level staff notation, piano technique and musicianship.
CSU, UC
- 213 PIANO IV** **2 UNITS**
 Prerequisite: MUS 212 or by performance evaluation
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture
 Piano for non-music majors. Continuation of MUS 212 with emphasis on advanced staff notation, piano technique and musicianship.
CSU, UC
- 226 CLASS GUITAR III** **2 UNITS**
 Prerequisite: MUS 127 with a grade of "C" or better or "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture
 Guitar for non-music majors. Continuation of MUS 127 with emphasis on high position reading, introductory chord and scale alterations, and technical development.
CSU, UC
- 227 CLASS GUITAR IV** **2 UNITS**
 Prerequisite: MUS 226 with a grade of "C" or better or "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture
 Guitar for non-music majors. Continuation of MUS 226 with emphasis on playing solos and accompaniments in various styles and idioms.
CSU, UC
- 232 CLASS PIANO III** **3 UNITS**
 Prerequisite: MUS 133 with a grade of "C" or better or "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Continuation of MUS 133. Multiple octave performance of major and minor scales. Authentic and plagal cadences. Reading of four-part chorales. Ensemble playing and accompaniment. Intermediate piano pieces in ternary form.
CSU, UC
- 233 CLASS PIANO IV** **3 UNITS**
 Prerequisite: MUS 232 with a grade of "C" or better or "CR" or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Continuation of MUS 232. Keyboard harmony and deceptive cadence. Reading an open score. Ensemble playing and accompaniment. Piano literature from the 18th through the 20th centuries.
CSU, UC
- 236-237 CHAMBER SINGERS** **1 UNIT**
 Prerequisite: Audition
 Corequisite: None
 Recommended Preparation: None
 2.5 hours lecture, 2.5 hours laboratory
 The study of standard and contemporary choral literature (classics to jazz) for small choral ensemble. Performances on campus and in local schools and communities. Enrollment open to all singers in the community and to students of the college.
CSU, UC
- 256-257 JAZZ ENSEMBLE** **1 UNIT**
 Prerequisite: Audition
 Corequisite: None
 Recommended Preparation: None
 2.5 hours lecture, 2.5 hours laboratory
 Study of representative jazz ensemble compositions in a wide variety of styles at regular rehearsals and public performances.
CSU, UC

- 258-259 CHORUS** **1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 5 hours lecture/laboratory
 Study and performance of standard and contemporary choral literature for choral ensemble. Open to all singers in the community and students of the college.
CSU, UC
- 270-271 CLASS VOICE** **2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: Ability to read music
 2 hours lecture
 Designed to help the student learn to use the voice correctly. Principles of vocal placement, posture, balance, breath control and vocal tone are emphasized through individual performances.
CSU, UC
- 290-291 PERFORMANCE STUDIES** **1 UNIT**
 Prerequisite: Membership by audition
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 Primarily for music majors. Designed to enhance the musical progress of students who are currently receiving the equivalent of fifteen one-half hour lessons per semester of individual vocal or instrumental instruction. In-depth study of performances and techniques. Participation in class performances and student recitals is required.
CSU
- 298 SELECTED TOPICS IN MUSIC** **1-4 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours
 Selected topics in Music not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN MUSIC** **1-4 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours
 Selected topics in Music not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

NATIVE AMERICAN STUDIES

- 199 SPECIAL STUDIES OR PROJECTS IN NATIVE AMERICAN STUDIES** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Native American Studies under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 298 SELECTED TOPICS IN NATIVE AMERICAN STUDIES** **1-5 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-15 hours
 Selected topics in Native American Studies not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN NATIVE AMERICAN STUDIES** **1-5 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-15 hours
 Selected topics in Native American Studies not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

OCEANOGRAPHY

112 INTRODUCTION TO OCEANOGRAPHY 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

A physical science course which examines major aspects of the marine environment. Topics include the origin of the oceans, plate tectonics, seafloor features, seawater properties, ocean climate, currents, waves, tides, coastal landforms, marine ecology, pollution and resources. The history and development of oceanography and the present and future importance of the oceans are also discussed. *Not open to students with credit in SCI 112.*

AA/AS GE, CSU, CSU GE, IGETC, UC

199 SPECIAL STUDIES OR PROJECTS IN OCEANOGRAPHY 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours

Individual study, research or projects in Oceanography under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

298 SELECTED TOPICS IN OCEANOGRAPHY 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Oceanography not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN OCEANOGRAPHY 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Oceanography not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

ORNAMENTAL HORTICULTURE

102 XERISCAPE: WATER CONSERVATION IN THE LANDSCAPE 2 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture

Water management principles and practices as they apply to the landscape. Topics include plant selection, landscape design principles for water conservation, irrigation system selection and management, soil preparation and management, and current topics and issues of California and United States water conservation efforts.

CSU

114 FLORAL DESIGN I 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory

Theory and practice of basic geometric floral design, identification of flowers and foliages, and practical skills necessary for employment in the floral industry. Fresh and dried flowers will be used.

CSU

116 FLORAL DESIGN II 3 UNITS

Prerequisite: OH 114
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory

Theory and practice of parallel, vegetative, new wave and contemporary line designs for parties, holidays and special occasions primarily using fresh flowers. Silks, dried flowers, foliages and unique props for creating floral designs will also be covered.

CSU

117 WEDDING DESIGN I 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory

Numerous styles of wedding bouquets and corsages including church and reception floral designs, with emphasis on skills, mechanics and speed necessary for use in the floral industry.

CSU

118 SPECIAL OCCASION FLORISTRY 3 UNITS

Prerequisite: OH 114 or one year high school floral design or trade experience
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory

Students will learn to create unique floral arrangements used for parties, weddings, funerals and gala events. Arrangements will focus on the use of unusual and exotic flowers, containers and special mechanical props.

CSU

- 119 WEDDING DESIGN II 3 UNITS**
 Prerequisite: OH 117
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Theory and practice of designs used for weddings including bouquets for brides and attendants, corsages, church decorations, and reception decorations primarily using fresh flowers.
CSU
- 120 FUNDAMENTALS OF ORNAMENTAL HORTICULTURE 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Study of plant structure and function. Topics include basic principles of soil science and fertilizer requirements, and the growth of plants in regard to the environmental factors of water, light and temperature. The lab provides an overview of various skills needed in all fields of ornamental horticulture including pruning, basic equipment operation, fertilizer application and general nursery skills.
CSU
- 121 PLANT PROPAGATION 3 UNITS**
(CAN AG 10)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Principles of plant propagation from seed, cutting, budding, grafting, layering, division and tissue culture. Greenhouses, cold frames, mist chambers and other propagating structures will be discussed along with stock selection, use of rooting hormones, proper sanitation procedures and protection of young seedlings from disease. Lab exercises include propagation of plant material by various methods as well as working with various structures, tools and equipment common to plant propagation.
CSU
- 130 PLANT PEST CONTROL 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Identification and control of insects, mites, spiders, snails, weeds and diseases that affect ornamental plants. Emphasizes their morphological and phylogenetic relationships, habits, habitats and important characteristics affecting the health of ornamental plants. Control methods will stress integrated pest management.
CSU
- 140 SOILS 3 UNITS**
(CAN AG 14)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Study of soil formation, characteristics and classification. Emphasis on the management of various soil types with regard to pH, salinity, texture, organic matter control and other variables. The lab will include investigation of soil conditions, problems and management solutions common to soils in Southern California.
CSU, UC
- 170 PLANT MATERIALS: TREES AND SHRUBS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Identification, cultural requirements and landscape uses of ornamental trees and shrubs common to the California landscape.
CSU, UC
- 172 INTRODUCTION TO LANDSCAPE DESIGN 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Principles of landscape design for residential projects. The emphasis is upon residential landscape design and the creation of usable, pleasant outdoor spaces. This will be accomplished with an emphasis on size and placement of plants, walks, patios and other structures in the residential landscape. The lab emphasizes practice in the design and drafting of actual landscape projects.
CSU
- 173 INTERMEDIATE LANDSCAPE DESIGN 3 UNITS**
 Prerequisite: OH 172
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Landscape design course covering advanced site analysis, use relationships, outside furniture and structures, color presentations and client/designer relationships as they relate to estate, greenbelt and advanced planting designs.
CSU
- 174 TURF AND GROUND COVER MANAGEMENT 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Building, care and maintenance of turf grasses and ground covers in parks and landscaping. Soil preparation, planting, fertilizing and maintenance of common and special turf grasses and ground covers. Particular pest and disease problems and their control.
CSU
- 175 ADVANCED LANDSCAPE DESIGN 3 UNITS**
 Prerequisite: OH 173
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Advanced development, design and presentation of residential landscape projects incorporating slope analysis, codes and ordinances, client or institutional requirements, detail sheets, sections and cost estimates. Client presentation of concept, lighting and planting plans will utilize sketches, demonstration boards and digital presentation techniques.

- 180 PLANT MATERIALS: ANNUALS AND PERENNIALS** **3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
Identification, cultural requirements and landscape value of common annuals and perennials used as bedding plants, annual color and in the commercial floral industry.
CSU
- 199 SPECIAL STUDIES OR PROJECTS IN ORNAMENTAL HORTICULTURE** **1-3 UNITS**
Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
3-9 hours
Individual study, research or projects in Ornamental Horticulture under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 200 INTRODUCTION TO COMPUTER AIDED LANDSCAPE DESIGN** **3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
2 hours lecture, 3 hours laboratory
Introduction to computer aided landscape design using AutoCAD software. Creation of site plans, landscape plans, sprinkler plans, contour maps and landscape estimates. Elevation and perspective drawings are also created.
CSU
- 201 ADVANCED COMPUTER AIDED LANDSCAPE DESIGN** **3 UNITS**
Prerequisite: OH 200
Corequisite: None
Recommended Preparation: None
2 hours lecture, 3 hours laboratory
Use of computer aided design software for the application of graphics, symbols, patterns, layouts, text and scales for development of design drawings, concept plans, construction documents and cost estimates for residential landscape projects.
- 220 LANDSCAPE CONSTRUCTION: CONCRETE AND MASONRY** **3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
2 hour lecture, 3 hours laboratory
Study of landscape construction methods and materials. Topics include landscape contract law, concrete flat work including stamped concrete, brick, block, stone masonry, and proper design and construction of retaining and free standing walls. Grading and installation of plant material will also be covered.
CSU
- 221 LANDSCAPE CONSTRUCTION: IRRIGATION AND CARPENTRY** **3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
2 hours lecture, 3 hours laboratory
Study of landscape construction methods and materials. Topics include irrigation and drainage plan reading, materials and components, installation and construction. Installation and troubleshooting of control valves and control clocks will also be covered. Includes basic materials and methods for construction of decks, overhead structures, wooden fences and gates. Also covers code and design requirements for irrigation, drainage and landscape structures.
CSU
- 222 JAPANESE GARDEN CONSTRUCTION AND MAINTENANCE** **1 UNIT**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
.5 hour lecture, 1.5 hours laboratory
Introduction to Japanese garden concepts and techniques. Includes the professional practices required for construction and sustainable maintenance. Concepts and techniques of Japanese gardens will cover Sakuteiki, the oldest garden design book written in the 11th Century. Koi pond and waterfall construction, Zen stone garden (dry landscape garden), bamboo fences, water-basin, traditional pruning, and other basic construction and maintenance techniques will also be covered.
- 225 LANDSCAPE CONTRACTING** **3 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
3 hours lecture
Covers the practices in applying standard techniques in landscape construction and estimating for landscape trades. Reviews the rules, regulations and licensing laws governing landscape contractors set forth by the State of California. Includes an exploration of the field of landscape contracting and business practices associated with the landscape industry.
CSU
- 235 PRINCIPLES OF LANDSCAPE IRRIGATION** **4 UNITS**
Prerequisite: None
Corequisite: None
Recommended Preparation: None
4 hours lecture
Principles of hydraulics as applied to landscape irrigation systems including static and dynamic pressures, pipe flows and velocities, pipe sizing, water hammer, pump selection and use. Includes an introduction to system components including valves, backflow prevention devices, controllers and pumps and pipe.
CSU

- 238 IRRIGATION SYSTEM DESIGN 3 UNITS**
 Prerequisite: OH 235 or concurrent enrollment
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Introduces students to the basic design and technical skills required to produce professional irrigation system designs. Building on the knowledge acquired in OH 235, students will design complete spray and low-volume systems, calculate hydraulic parameters and schedules, prepare details and specifications, practice presentation skills, analyze working designs, learn head spacing and pipeline layout, and specify equipment using manufacturers' catalogs. A design studio environment is used (including team building and mentoring exercises) to prepare students for entry-level employment in the irrigation design field.
CSU
- 240 GREENHOUSE PLANT PRODUCTION 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Study of greenhouse plant production. Emphasis on the scheduling of greenhouse crops common to Southern California. Sections will cover equipment, structures, environmental control, estimation of crop production requirements, production and sales of common greenhouse crops.
CSU
- 260 ARBORICULTURE 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Intensive course in the preservation and care of woody plants from seedling to removal. Theory of tree growth, form, fertilization, irrigation, pruning and integrated pest management. Practical application of safety equipment, rope and saddle, climbing spurs, cabling, bracing, pruning and removal of trees.
CSU
- 261 TREE SURGERY AND SPECIALIZED PRUNING TECHNIQUES 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture, .5 hour laboratory
 Explores the concepts and procedures of specific pruning techniques for various ornamental and fruit trees to influence flowers, fruit and growth. Response to pruning is predictable and can be a management tool. Cabling, bracing, cavity repair, injury from failure treatments, crown cleaning versus crown thinning, and topping alternatives like crown reduction and restoration. Students will learn practical application of pruning theories and principles.
CSU
- 262 ARBORICULTURE: PALMS AND RELATED PLANTS 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture, .5 hour laboratory
 Provides opportunities to learn the physiology of palms and other monocots, identification traits, and appropriate uses of common species. Understanding requirements for proper growing conditions and pruning of these plants will improve cultural management and assist with the diagnosis and treatment of common biotic and abiotic disorders.
CSU
- 263 URBAN FORESTRY 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture, .5 hour laboratory
 Introduces students to the theory and practice of conducting detailed tree inventories, management of public trees, tree evaluation for hazard assessment and risk reduction programs, legal aspects of trees and appraisal of value methods for trees. Students will also learn site evaluation, benefits of tree volunteer organizations, priority action plans and emergency response plans.
CSU
- 265 GOLF COURSE AND SPORTS TURF MANAGEMENT 3 UNITS**
 Prerequisite: OH 174 or concurrent enrollment
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory
 Designed to give students advanced study in the specialization of both golf course and athletic field management. Includes specialized turf management techniques, specialized equipment, budget development, scheduling requirements and administrative considerations.
CSU
- 275 DIAGNOSING HORTICULTURAL PROBLEMS 1.5 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: OH 120, 130
 1 hour lecture, 1.5 hours laboratory
 Provides methods for positive identification and understanding of symptoms for accurate diagnosis of plant problems in the landscape and nursery. Biotic and abiotic causal agents including cultural influences, nutrient deficiencies and toxicities, pest and disease problems, soil salinity, aeration, drainage and irrigation problems will be discussed. Control and correction of disorders will be determined through an understanding of the organism or function involved.
CSU

276 HORTICULTURAL EQUIPMENT REPAIR AND MAINTENANCE 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory

General maintenance and specific repair procedures for common horticultural equipment including troubleshooting, tune-up and proper preventive maintenance programs for small and medium two- and four-cycle engines. The lab includes work on mowers, trenchers, trimmers, tractors, spray rigs and other equipment.

CSU

278 BUSINESS MANAGEMENT FOR ORNAMENTAL HORTICULTURE 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Principles and practices for the small business owner in the landscape, nursery, floral design, arboriculture or irrigation industries. The course will focus on the aspects of business management that are unique to the green industry. Topics will include marketing, bidding, taxes and regulations, personnel and customer relations.

CSU

283 CROSS CONNECTION CONTROL SHUTDOWN TEST PROCEDURES 1 UNIT

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture

Designed to train students in the legal and practical aspects of performing a cross connection shutdown test for sites using recycled water. Helps prepare students for certification for work with recycled water on landscape sites.

290 COOPERATIVE WORK EXPERIENCE EDUCATION 1-4 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 5 hours paid or 4 hours unpaid work experience per week per unit

Practical application of principles and procedures learned in the classroom to the various phases of horticulture. Work experience will be paid or unpaid at local nurseries and landscape-related companies. Placement assistance will be given. Two on-campus sessions with students will be scheduled. *May be repeated for a maximum of 12 units.*

CSU

298 SELECTED TOPICS IN ORNAMENTAL HORTICULTURE 1-4 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours

Selected topics in Ornamental Horticulture not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN ORNAMENTAL HORTICULTURE 1-4 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours

Selected topics in Ornamental Horticulture not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

PARALEGAL STUDIES

100 INTRODUCTION TO PARALEGAL STUDIES 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

The role of the paralegal including business development, client contact, ethical responsibilities, investigative fact finding, law office management and legal restrictions are the main focus of this course. Students will be introduced to the function of statutes, case law, administrative regulations and constitutions within the legal system.

CSU

110 CIVIL LITIGATION PRACTICE AND PROCEDURES 3 UNITS

Prerequisite: PARA 100 or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

The initial phase of an action, the complaint and the discovery process will be examined. Court procedures, "Fast Track" and alternatives to litigation such as arbitration and mediation will be discussed. The basic elements of a tort claim will be reviewed, as well as the Federal and State Rules of Evidence. Emphasis on the paralegal's role and ethical and professional responsibilities in discovery procedures and trial practice.

CSU

120 ADMINISTRATIVE LAW 3 UNITS

Prerequisite: PARA 100
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Statutory law, case law and administrative rules will be utilized to develop an understanding of the role and authority of administrative agencies. Particular attention will be paid to social security and worker's compensation claims.

CSU

125 BUSINESS ORGANIZATION 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Fundamentals of the formation of business entities such as sole proprietorships, partnerships and corporations are included. Students will prepare documents regarding the formation of such organizations.

CSU

- 130 LEGAL RESEARCH AND WRITING 3 UNITS**
 Prerequisite: PARA 100 or equivalent
 Corequisite: None
 Recommended Preparation: ENGL 110 with a grade of "C" or better
 3 hours lecture
 Includes in-depth legal research, writing research reports and subject matter reports on legal issues, case briefings and citations utilizing the uniform system of citation ("Blue Book") and other citators.
CSU
- 132 COMPUTER ASSISTED LEGAL RESEARCH (CALR) 3 UNITS**
 Prerequisite: PARA 100, 130 or concurrent enrollment in PARA 130 or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Study of personal computer software and programs designed specifically for use in law offices and legal environments, including but not limited to specific applications such as estate planning, probate accounting, bankruptcy filings, calendaring, legal project management, deposition summaries, computer assisted research (including CD ROM applications), and time and billing programs.
CSU
- 135 BANKRUPTCY LAW 1 UNIT**
 Prerequisite: PARA 100
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 The United States Federal Bankruptcy Act (as amended) will be the foundation of this examination of bankruptcy law and practice. Students will be exposed to the jurisdictional and filing requirements for bankruptcy cases under Chapters 7, 11 and 13 of the Bankruptcy Act and will learn the rules of federal procedure associated with bankruptcy case filings.
CSU
- 140 CRIMINAL LAW AND PROCEDURES 3 UNITS**
 Prerequisite: PARA 100
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 The California Criminal Code and Rules of Criminal Procedure will be the foundation of this examination of the pre-trial and post-trial procedures in a criminal case. Students will be exposed to the criminal justice system from the elements of offenses through post-conviction remedies. The drafting of motions and other documents associated with criminal matters will be included.
CSU
- 145 ESTATE PLANNING 3 UNITS**
 Prerequisite: PARA 100
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Overview of the subject of planning an owner's estate including a review of the customary means of accomplishing estate planning objectives including wills, trusts, taxation, asset protection and gift-giving programs.
CSU
- 150 FAMILY LAW 3 UNITS**
 Prerequisite: PARA 100
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Domestic relations matters such as marriage, divorce, dissolution, child custody and support, visitation and adoptions are included. The law regulating such matters and the drafting of appropriate documents will be emphasized.
CSU
- 155 INSURANCE LAW 3 UNITS**
 Prerequisite: PARA 100
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Includes principles of indemnity, interests protected, the transfer of risk, claims made versus occurrence policies, subrogation, review of insurance forms and alternative dispute resolution.
CSU
- 160 PERSONAL INJURY 1 UNIT**
 Prerequisite: PARA 100
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 Study of the essentials of tort actions with emphasis on personal injury and other forms of negligence. Statutes of Limitations applicable to tort actions will be emphasized. Theories of recovery, filing requirements, case handling, witness interviewing and evidence requirements under current California law will be reviewed.
CSU
- 165 PROBATE LAW 3 UNITS**
 Prerequisite: PARA 100
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 The law of wills, estates and estate administration including testate and intestate estates, and law of descent and distribution will be discussed.
CSU
- 170 WORKER'S COMPENSATION 1 UNIT**
 Prerequisite: PARA 100 or equivalent
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 Overview of California's Worker's Compensation statutes, including the concept of no-fault insurance and the administration of contested compensation claims for death, disability and vocational rehabilitation. Students will compute awards based upon current benefit formulae.
CSU

- 180 GOVERNMENT AND PUBLIC CONTRACTS** **3 UNITS**
 Prerequisite: PARA 100 or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Study of government and public contracting rules and regulations including but not limited to Federal Acquisition Regulations (FAR) and Circulars, types of government contracts, Requests for Proposals (RFP), the Competition in Contracting Act (1984), and miscellaneous concepts in contracting with governmental agencies.
CSU
- 199 SPECIAL STUDIES OR PROJECTS IN PARALEGAL STUDIES** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Paralegal Studies under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 250 INTERNSHIP** **1-4 UNITS**
 Prerequisite: PARA 100
 Corequisite: None
 Recommended Preparation: None
 5 hours paid or 4 hours unpaid work experience per week per unit
 Practical work experience in a cooperating law office or corporate legal department. *May be repeated for a maximum of 9 units.*
CSU
- 298 SELECTED TOPICS IN PARALEGAL STUDIES** **1-4 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours
 Selected topics in Paralegal Studies not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN PARALEGAL STUDIES** **1-4 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours
 Selected topics in Paralegal Studies not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

PERSONAL DEVELOPMENT–COUNSELING

- 101 INTRODUCTION TO COLLEGE** **.5-1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 .5 - 1 hour lecture
 Designed to acquaint students with the college, its facilities, services, academic regulations and degree and transfer programs. Students will receive guidance in educational planning. **Credit/No-Credit only. Non-associate degree applicable.**
- 124 LIFELONG SUCCESS** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Apply physiological, social and psychological principles to success in college, the world of work and life. Explore personality, interests and values to increase self-understanding and select an appropriate major and career. Learn about careers of the future. Discover strategies for lifelong learning by identifying your learning style and applying psychological principles of learning and memory to academic study strategies. Apply life management techniques such as time and money management to accomplish personal goals. Examine adult stages of development and develop a plan for wellness and living a long and healthy life. Learn strategies for motivation and stress management. Practice creative and critical thinking techniques. *Maximum of 3 units can be earned for taking PDC 124 and 120.*
CSU, CSU GE, UC
- 126 ORIENTATION TO COLLEGE: RE-ENTRY STUDENTS** **2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture
 Discussion group to help returning older students adjust to college, meet other mature students with similar interests and concerns, and to help them look ahead to changes in their lives. Films, guest speakers, visits to the Career Center and Learning Resource Center, and important information about the catalog and class schedule, as well as graduation and transfer information are included.
CSU
- 130 STUDY SKILLS AND TIME MANAGEMENT** **1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 This course is designed to prepare students to adjust to the academic community by learning to plan and study effectively within given time limitations. Strategies include: time management, goal setting, textbook mastery, library research skills, note-taking, exam preparation, stress reduction and educational planning.
Credit/No Credit only.
CSU

**199 SPECIAL STUDIES OR PROJECTS
IN PERSONAL DEVELOPMENT–
COUNSELING 1-3 UNITS**

Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
3-9 hours

Individual study, research or projects in Personal Development–Counseling under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

**298 SELECTED TOPICS IN PERSONAL
DEVELOPMENT–COUNSELING 1-3 UNITS**

Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
1-9 hours

Selected topics in Personal Development–Counseling not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

**299 SELECTED TOPICS IN PERSONAL
DEVELOPMENT–COUNSELING 1-3 UNITS**

Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
1-9 hours

Selected topics in Personal Development–Counseling not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

PERSONAL DEVELOPMENT– SPECIAL SERVICES

**080 EDUCATIONAL ASSESSMENT AND
PRESCRIPTIVE PLANNING .5 UNIT**

Prerequisite: None
Corequisite: None
Recommended Preparation: None
.5 hour lecture

A course to assess, identify and interpret learning strengths and weaknesses for the purpose of determining eligibility for learning disability services according to the guidelines established by the California Community Colleges Chancellor's Office. An orientation to the Learning Disabilities Program will be provided as well as prescriptive planning. A pre and post conference will be held with a Disabled Students Programs and Services (DSPS) Specialist. **Credit/No Credit only. Non-associate degree applicable.**

085 ADAPTED COMPUTER BASICS 1 UNIT

Prerequisite: None
Corequisite: None
Recommended Preparation: Credit in ENGL 098R or equivalent
.5 hour lecture, 1.5 hours laboratory

Individualized course of study for students with verifiable disabilities. Designed to acquaint students with basic assistive technology and techniques that may improve their ability to succeed in mainstream college-level courses and vocational programs. **Credit/No Credit only. Non-associate degree applicable.**

087 ADAPTED COMPUTER STUDIES 1 UNIT

Prerequisite: None
Corequisite: None
Recommended Preparation: None
1 hour lecture, 1 hour laboratory

An individualized course of study for students with verifiable disabilities. This course provides the student with in depth, individualized instruction in assistive technology and techniques that are intended to maximize independent use of assistive and mainstream computer hardware and software to improve the student's ability to succeed in mainstream college-level courses and vocational programs. *May be repeated for a maximum of 4 units.* **Credit/No Credit only. Non-associate degree applicable.**

090 LEARNING STRATEGIES PRACTICUM 1 UNIT

ABCD Prerequisite: None
Corequisite: None
Recommended Preparation: None
1 hour lecture

Designed for students with specialized learning needs. Involves development and implementation of specific learning strategies in a developmental learning environment to assist students' academic performance. **Credit/No Credit only. Non-associate degree applicable.**

**096 COGNITIVE COMMUNICATION SKILLS
AND STRATEGIES 1 UNIT**

Prerequisite: None
Corequisite: None
Recommended Preparation: None
1 hour lecture

Students with cognitive communication deficits will receive specialized instruction in attention/concentration, thought organization, memory strategies, social pragmatics skills, organization and time management skills, and maximizing related communication skills. The course emphasizes the development of skills and functional compensatory strategies to enhance disabled students' opportunities for academic success. *May be repeated for a maximum of 4 units.* **Credit/No Credit only. Non-associate degree applicable.**

**098 DEVELOPMENTAL SPELLING,
LEVEL I 1 UNIT**

Prerequisite: None
Corequisite: None
Recommended Preparation: None
1 hour lecture

Structured, sequential approach to spelling in a developmental learning environment designed to strengthen skill in spelling for students with specialized learning needs. **Credit/No Credit only. Non-associate degree applicable.**

- 198 SUPERVISED TUTORING** **0 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 TBA hours
 Uses a variety of educational tools to assist students with various learning needs. Can be used to strengthen prerequisite skills prior to enrolling in a specific course or to receive supplemental assistance while concurrently enrolled in another course. *May be repeated with different content. No fee/no credit course.*
- 199 SPECIAL STUDIES OR PROJECTS IN PERSONAL DEVELOPMENT–SPECIAL SERVICES** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Personal Development–Special Services under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 298 SELECTED TOPICS IN PERSONAL DEVELOPMENT–SPECIAL SERVICES** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Personal Development–Special Services not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN PERSONAL DEVELOPMENT–SPECIAL SERVICES** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Personal Development–Special Services not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

PHILOSOPHY

- 110 A GENERAL INTRODUCTION TO PHILOSOPHY** **3 UNITS**
(CAN PHIL 2)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 In this basic orientation the student explores, compares, analyzes, evaluates and discusses a variety of the principle questions addressed in philosophy. Typical questions examined are: What is the purpose of my existence? Can I know anything with certainty? Do I really have a free will? Can we prove that God exists? Why should I be moral? Whose self-interest counts?, etc. Issues covered will encompass relevant philosophical perspectives from Western and other major world cultures, and include contributions of women and minority cultures to the realm of philosophy.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 115 HISTORY OF PHILOSOPHY I** **3 UNIT**
(CAN PHIL 8)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Survey of ancient philosophy with emphasis on the development of philosophy from the Pre-Socratics through Aristotle, Hellenistic, Roman and medieval thinkers.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 117 HISTORY OF PHILOSOPHY II** **3 UNITS**
(CAN PHIL 10)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Survey of philosophy from the Renaissance to the 20th Century including the development of modern scientific processes as well as empiricism, rationalism, idealism, etc.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 125 CRITICAL THINKING** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introduction to critical thinking with emphasis on analyzing and constructing both inductive and deductive arguments. Critical reasoning will be applied to a variety of situations such as making sound decisions, evaluating claims and assertions, avoiding fallacious reasoning, etc.
AA/AS GE, CSU, CSU GE, UC
- 130 LOGIC** **3 UNITS**
(CAN PHIL 6)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Study of correct thinking comprising both deductive and inductive inference and principles of scientific method. Application of fundamental principles of logic to practical problems.
AA/AS GE, CSU, CSU GE, UC

140 PROBLEMS IN ETHICS 3 UNITS**(CAN PHIL 4)**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Study of values as they affect the individual and society. Conduct as expressed by ethical standards and natural law, problems and theories of beauty and value.

AA/AS GE, CSU, CSU GE, IGETC, UC**160 AMERICAN PHILOSOPHY 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Study of the main traditions of American philosophical thought with emphasis on the philosophers, their works and systems of philosophy peculiar to the United States. Includes American philosophy from the earliest time to the present.

AA/AS GE, CSU, CSU GE, IGETC, UC**199 SPECIAL STUDIES OR PROJECTS IN PHILOSOPHY 1-3 UNITS**

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

3-9 hours

Individual study, research or projects in Philosophy under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

298 SELECTED TOPICS IN PHILOSOPHY 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-9 hours

Selected topics in Philosophy not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN PHILOSOPHY 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-9 hours

Selected topics in Philosophy not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU**PHYSICAL SCIENCE****110 INTRODUCTION TO THE PHYSICAL SCIENCES 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Broad approach to the physical sciences designed primarily for students not majoring in science. Main concepts of astronomy, physics, chemistry and earth sciences will be developed and discussed. Emphasis on the understanding of certain fundamental principles and their relationships and not on mathematical problem solving. The applicability of some of these concepts to contemporary problems (e.g., nuclear energy, environmental problems) will be covered. Within this context, the methods and limitations of science will be demonstrated and the implications of science for society in the past, present and future will be discussed.

CSU, CSU GE, IGETC, UC credit limit**111 PHYSICAL SCIENCE LABORATORY 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours laboratory

Laboratory exercises concerning physics, chemistry, geology and astronomy. Emphasis on discovery, measurement and observation.

CSU, CSU GE, IGETC, UC**199 SPECIAL STUDIES OR PROJECTS IN PHYSICAL SCIENCE 1-3 UNITS**

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

3-9 hours

Individual study, research or projects in Physical Science under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

298 SELECTED TOPICS IN PHYSICAL SCIENCE 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-9 hours

Selected topics in Physical Science not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN PHYSICAL SCIENCE 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-9 hours

Selected topics in Physical Science not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

PHYSICS

110 INTRODUCTORY PHYSICS 4 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture, 3 hours laboratory

Simple treatment of basic physics principles and phenomena with emphasis on relating them to events and processes of everyday living. Study of the description and cause of various kinds of motion, conservation laws, hot and cold bodies with heat exchange, sound in music and hearing, light and color perception, electricity and some of its practical uses, observation of atomic particles from radiation sources, and other subjects. There is no math prerequisite; the main emphasis is on understanding the concepts rather than doing many mathematical manipulations.

AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

120 GENERAL PHYSICS 4 UNITS

(CAN PHYS 2; CAN PHYS SEQ A = PHYC 120+121)

Prerequisite: MATH 170 or equivalent

Corequisite: None

Recommended Preparation: None

3 hours lecture, 3 hours laboratory

Problem solving as well as philosophical approach to physical phenomena such as force, linear and rotational motion and energy, simple harmonic motion and wave behavior, heat and thermodynamics. Laboratory experience is an integral part of this course. *Not appropriate for students whose majors require PHYC 190.*

AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

121 GENERAL PHYSICS 4 UNITS

(CAN PHYS 4; CAN PHYS SEQ A = PHYC 120+121)

Prerequisite: PHYC 120

Corequisite: None

Recommended Preparation: None

3 hours lecture, 3 hours laboratory

Continuation of general physics involving the study of electricity, magnetism, light and optical instruments, quantum behavior, atomic and nuclear physics, and radioactivity.

AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

130 FUNDAMENTALS OF PHYSICS 4 UNITS

Prerequisite: MATH 178 or 180 with a grade of "C" or better or "CR" or concurrent enrollment

Corequisite: None

Recommended Preparation: None

3 hours lecture, 3 hours laboratory

This course is a calculus-based problem solving as well as a philosophical approach to physical phenomena such as force, linear and rotational motion and energy, simple harmonic motion and wave behavior, heat and thermodynamics. Laboratory experience is an integral part of the course.

AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

131 FUNDAMENTALS OF PHYSICS 4 UNITS

Prerequisite: PHYC 130 with a grade of "C" or better or "CR"

Corequisite: None

Recommended Preparation: None

3 hours lecture, 3 hours laboratory

This course is a calculus-based problem solving as well as a philosophical approach to physical phenomena such as electricity, magnetism, optics and modern physics. Laboratory experience is an integral part of the course.

AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

190 MECHANICS AND HEAT 5 UNITS

(CAN PHYS 8; CAN PHYS SEQ B = PHYC 190+200+210)

Prerequisite: MATH 180 or concurrent enrollment

Corequisite: None

Recommended Preparation: None

4 hours lecture, 3 hours laboratory

Deals with linear and rotational kinematics and dynamics, equilibrium, work, energy, momentum, gravitation, simple harmonic motion, thermal properties of matter and thermodynamics.

AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

199 SPECIAL STUDIES OR PROJECTS IN PHYSICS 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

3-9 hours

Individual study, research or projects in Physics under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

200 ELECTRICITY AND MAGNETISM 5 UNITS

(CAN PHYS 12; CAN PHYS SEQ B = PHYC 190+200+210)

Prerequisite: PHYC 190 or equivalent and credit for or concurrent enrollment in MATH 280

Corequisite: None

Recommended Preparation: None

4 hours lecture, 3 hours laboratory

Deals with the electric and magnetic behavior of matter. Primary emphasis on Maxwell's Equations and their applications.

AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

210 WAVE MOTION AND MODERN PHYSICS 5 UNITS

(CAN PHYS 14; CAN PHYS SEQ B = PHYC 190+200+210)

Prerequisite: PHYC 190 or equivalent and credit for or concurrent enrollment in MATH 281

Corequisite: None

Recommended Preparation: None

4 hours lecture, 3 hours laboratory

Deals with hydrostatics, hydrodynamics, wave behavior, geometric and physical optics, relativity, light as a particle, matter as a wave, the hydrogen atom and the Schrodinger Equation, electrical conductivity of solids, lasers and nuclear physics.

AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

298 SELECTED TOPICS IN PHYSICS 1-5 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-15 hours

Selected topics in Physics not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN PHYSICS 1-5 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-15 hours

Selected topics in Physics not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

POLITICAL SCIENCE

120 INTRODUCTION TO POLITICS AND POLITICAL ANALYSIS 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

The primary aim of this course is to assist the student/citizen in the development of a set of skills which can be helpful in analyzing political situations in the world today. In order to accomplish this objective, students will be introduced to the basic approaches, perspectives, techniques and models of the political scientist. Accordingly, this course covers some universal aspects of political stability and change, ideologies, conflicts, institutions, political economy and issues.

AA/AS GE, CSU, CSU GE, IGETC, UC

121* INTRODUCTION TO U.S. GOVERNMENT AND POLITICS (CAN GOVT 2) 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

This course analyzes the evolution of the structures and functions of the U.S. and California political systems from the time of the nation's founding to the current day in what is now the United States. Emphasizes the continuity and uniqueness of the American political experience and how that experience has derived from other political cultures. This will be examined in the context of the larger cultural, economic, and sociological forces shaping the U.S. political system. Attention will also be given to significant events affecting the evolution of the U.S. political system since its founding. The development and evolution of the U.S. Constitution and policy making role of traditional political institutions such as the presidency, the Congress, and the judiciary will be explored. The impact of other political forces such as mass movements, the media, the bureaucracy, interest

groups and ethnic and social groups will also be examined. Topics will be illustrated through reference to actual political events occurring as the course progresses.

AA/AS GE, CSU, CSU GE, IGETC, UC

124 INTRODUCTION TO COMPARATIVE GOVERNMENT AND POLITICS 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Analyze the political systems of selected developed, transitional and developing countries of the world in order to understand the importance of political development, political institutions, political culture, political actors, political processes, and political change for the dynamics of today's global society.

AA/AS GE, CSU, CSU GE, IGETC, UC

130 INTRODUCTION TO INTERNATIONAL RELATIONS 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Survey of the field of international relations. Students will be introduced to the major theories of international relations and will learn to apply them to contemporary problems in world politics. Issues examined include global peace and security, international political economy, international law and organization, sustainable development, and human rights.

CSU, CSU GE, IGETC, UC

140* INTRODUCTION TO CALIFORNIA GOVERNMENTS AND POLITICS 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

This course examines the structure and functions of California state and local governments and politics. Attention will be given to the evolution of the principal features, organization, and operation of state and local governments within the framework of U.S. federalism from the time of the nation's founding. Emphasis is placed on the role of significant events, major ethnic groups, and major social groups in the development of the political structures and processes of California state and local governments and contemporary political issues.

AA/AS GE, CSU, CSU GE

199 SPECIAL STUDIES OR PROJECTS IN POLITICAL SCIENCE 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours

Individual study, research or projects in Political Science under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

298 SELECTED TOPICS IN POLITICAL SCIENCE **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Political Science not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN POLITICAL SCIENCE **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Political Science not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

*Meets part of the American Institutions requirement for 2005-2006. See "CSU General Education Breadth" under Transfer Information and Degree Requirements for complete requirements and different options.

PSYCHOLOGY

120 INTRODUCTORY PSYCHOLOGY **3 UNITS**
(CAN PSY 2)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introduction to the facts and theories which seek to explain and understand human thought and behavior including such topics as personality, psychotherapy, learning, memory, interpersonal relationships, adjustment and biological influences.
AA/AS GE, CSU, CSU GE, IGETC, UC

125 CROSS-CULTURAL PSYCHOLOGY **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introduction to theories and research findings regarding cultural influences on human behavior and cognitive processes (lifespan development, abnormal behavior and mental health, drug use, self-concept, emotion, gender schemas and gender roles, social behavior, perception, learning, intelligence and memory). By providing students with a non-judgmental understanding of how culture influences human behavior, this course will make them more equipped to interact in a world where there is increasing contact among different cultures.
AA/AS GE, CSU, CSU GE, IGETC, UC

134 HUMAN SEXUALITY **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Review of the biological, psychological and social aspects of human sexuality including sexuality throughout the lifespan, individual and cultural variations, homosexuality, communication and relationships, sex therapy, sex roles, morality, contraception and STDs.
AA/AS GE, CSU, CSU GE, IGETC, UC

138 SOCIAL PSYCHOLOGY **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Examination of the individual's perception of and reaction to other people and social influences. Topics such as attitude formation, prejudice and discrimination, helping behavior, aggression, conformity, obedience, cooperation and conflict reduction, and group behavior are explored.
AA/AS GE, CSU, CSU GE, IGETC, UC

140 PHYSIOLOGICAL PSYCHOLOGY **3 UNITS**
(CAN PSY 10)
 Prerequisite: PSY 120 or equivalent
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Examination of the relationships between bodily processes and aspects of behavior. Review of fundamental research methods and major research findings in physiological psychology. Application of experimental methods in psychology, physiology and related disciplines to the understanding of perceptual processes, the control of movement, sleep and waking, reproductive behaviors, ingestive behaviors, emotion, learning, language and mental disorders are explored.
AA/AS GE, CSU, CSU GE, IGETC, UC

165 DEVELOPMENTAL PSYCHOLOGY **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Overview of psychological research and theory involving the lifespan approach to human behavior and cognition. Explores the biological, emotional, social and cognitive development from infancy through childhood, adolescence and adulthood. Topics include influences of drugs and disease on prenatal development, child-rearing methods, temperaments and personality, childhood disorders, development of language and thinking, gender roles, friendship, family and relationships, parenting and aging.
AA/AS GE, CSU, CSU GE, IGETC, UC

170 ABNORMAL PSYCHOLOGY 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

An overview of psychological research and theory involving the causes and treatment of abnormal behavior. The major disorders include anxiety disorders (such as phobias, panic attacks, obsessive-compulsive), mood disorders (such as depression and bipolar), schizophrenic disorders, and personality disorders. Also included are the child/adolescence disorders (such as ADHD and eating disorders), substance abuse, mental retardation, sexual disorders, and the effects of stress on the body.

AA/AS GE, CSU, CSU GE, IGETC, UC

199 SPECIAL STUDIES OR PROJECTS IN PSYCHOLOGY 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours

Individual study, research or projects in Psychology under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

215 STATISTICS FOR THE BEHAVIORAL SCIENCES (CAN PSY 6) 3 UNITS

Prerequisite: MATH 103 or 110 with a grade of "C" or better or equivalent
 Corequisite: None
 Recommended Preparation: None
 2 hours lecture, 3 hours laboratory

Methods and experience in defining and solving quantitative problems in the behavioral sciences. Emphasis on the design of experiments and the application of a variety of parametric and nonparametric techniques to the analysis of data.

AA/AS GE, CSU, CSU GE, UC credit limit

220 LEARNING 3 UNITS

Prerequisite: PSY 120
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Examination of the basic principles and research in animal and human learning.

AA/AS GE, CSU, CSU GE, IGETC, UC

298 SELECTED TOPICS IN PSYCHOLOGY 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Psychology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN PSYCHOLOGY 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours

Selected topics in Psychology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

REAL ESTATE**125 ESCROW PROCEDURES I 3 UNITS**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Methods and techniques of escrow procedures for real estate transactions and legal and ethical responsibilities. Topics include types of escrows, document preparation, terminology, phraseology, title and escrow procedures, adjustment of taxes, rents and charges.

CSU

126 ESCROW PROCEDURES II 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Study of exchanges, loans, escrow sales of trust, deeds and notes, consummation of land contracts and leasehold escrows.

CSU

127 ESCROW PROCEDURES III 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Escrows relating to condominiums, shopping centers, subdivided land, bulk sales, liquor licenses and other miscellaneous escrow transactions. Actual case problems are presented for evaluation and discussion including compliance with conditions, agency relationships, wrongful delivery, conditional deposits, liability and assignments.

CSU

190 REAL ESTATE PRINCIPLES 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Fundamental real estate course covering the basic laws and principles of California real estate. Provides understanding, background and terminology necessary for advanced study in specialized courses. Of assistance to those preparing for the real estate license examinations.

CSU

- 191 REAL ESTATE PRACTICE 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Day-to-day operation in real estate roles and brokerage including listing, prospecting, advertising, financing, sales techniques, escrow and ethics.
CSU
- 192 REAL ESTATE FINANCE 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Analysis of real estate financing including lending policies and problems in financing transactions in residential, apartment, commercial and special purpose properties. Methods of financing properties are emphasized.
CSU
- 193 REAL ESTATE LEGAL ASPECTS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Study of the law governing real property, its sale, lease or other conveyance. Instruments utilized in conveyance or lease of such property will be examined and drafted.
CSU
- 194 REAL ESTATE APPRAISAL 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introductory course covering the purposes of appraisals, the appraisal process, and the different approaches, methods and techniques used to determine the value of various types of property. Emphasis on residential and single-unit property.
CSU
- 197 REAL ESTATE ECONOMICS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Study of economic factors which determine the market and location of real property investments.
CSU
- 199 SPECIAL STUDIES OR PROJECTS IN REAL ESTATE 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Real Estate under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 201 REAL ESTATE PROPERTY MANAGEMENT 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Study of property management and problem areas associated with operating income-producing property.
CSU
- 202 BUSINESS OPPORTUNITIES SALES 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Overview of the sale and transfer of a business from the perspective of a real estate licensee handling its listing and sale.
CSU
- 204 REAL ESTATE OFFICE ADMINISTRATION 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Study of administration, supervision and management of a real estate brokerage office. *Not open to students with credit in RE 198.*
CSU
- 230 COMMERCIAL REAL ESTATE 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introduction to the principles and procedures applicable to the leasing, management and operations of commercial and investment real estate properties. Discussion of computerized property management techniques, procedures and tax and accounting methods applicable to commercial real estate properties.
CSU
- 250 REAL ESTATE INTERNSHIP 1-4 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 75 hours paid or 60 hours unpaid work experience per unit
 Practical work experience in the real estate industry. *May be repeated for a maximum of 12 units.*
CSU
- 290 REAL ESTATE LICENSE TRAINING 1 UNIT**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1 hour lecture
 Preparation for the California Department of Real Estate Salesperson's or Broker's examination.
CSU

292 MORTGAGE LOAN BROKERING AND LENDING 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Study of the practices and procedures involved in advanced real estate finance including secondary money market sources, federal loan qualification requirements, and special problems in current residential and commercial real estate financing.

CSU

294 ADVANCED REAL ESTATE APPRAISAL 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Study of the practices and procedures involved in advanced real estate appraising including the analysis of income and commercial properties.

CSU

298 SELECTED TOPICS IN REAL ESTATE 1-4 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours

Selected topics in Real Estate not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN REAL ESTATE 1-4 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours

Selected topics in Real Estate not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

120 WORLD RELIGIONS 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Introduction to the teachings, major figures, attitudes and practices of world religions.

AA/AS GE, CSU, CSU GE, IGETC, UC

130 SCRIPTURES OF WORLD RELIGIONS 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Problems in the study of religions based on the study of scripture selected from Eastern and Western religions.

AA/AS GE, CSU, CSU GE, IGETC, UC

140 RELIGION AND CULTURE 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Study of the various ways in which religious thought and belief are incorporated into the cultural expression of societies. Specific emphasis given to understanding religion through its expression in art, music, literature and philosophy.

AA/AS GE, CSU, CSU GE, IGETC, UC

150 SCRIPTURES OF INDIA AND CHINA 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Study of the religious and philosophical modes of thought and ways of life in the Orient.

AA/AS GE, CSU, CSU GE, IGETC, UC

199 SPECIAL STUDIES OR PROJECTS IN RELIGIOUS STUDIES 1-3 UNITS

Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours

Individual study, research or projects in Religious Studies under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

200 SCIENCE AND RELIGION 3 UNITS

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Study of science and religion as two unique aspects of humanity's singular search for personal meaning and the harnessing of natural forces, both of which significantly affect humanity's self-definition and positioning in the cosmic order.

AA/AS GE, CSU, CSU GE, IGETC, UC

RELIGIOUS STUDIES**100 INTRODUCTION TO RELIGION 3 UNITS**

Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture

Introductory course in the origins and features of religion as a unifying point in the social ordering of the world and its individual cultures.

AA/AS GE, CSU, CSU GE, IGETC, UC

- 210 INTRODUCTION TO THE HEBREW SCRIPTURES** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introductory survey of the contents, themes, literary genres, canons, historical background, and modern critical methods for analysis and interpretation of the Hebrew scriptures.
AA/AS GE, CSU, UC
- 215 INTRODUCTION TO THE NEW TESTAMENT** **3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Introduction to the history and culture of the New Testament period, the methods of critical analysis of Biblical materials, and the content of the New Testament.
AA/AS GE, CSU, UC
- 298 SELECTED TOPICS IN RELIGIOUS STUDIES** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Religious Studies not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN RELIGIOUS STUDIES** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Religious Studies not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU
- 125 MARRIAGE, FAMILY AND ALTERNATIVE LIFESTYLES** **3 UNITS**
(CAN FCS 12)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Survey of American courtship, marriage and family behavior with primary emphasis on understanding factors conducive to successful marital and family relationships. Some consideration is given to historical background, minority family types and cross-cultural comparisons.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 130 CONTEMPORARY SOCIAL PROBLEMS** **3 UNITS**
(CAN SOC 4)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Identification and analysis of contemporary American social problems. Criteria are established whereby students can better judge the effectiveness of various plans for social betterment.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 199 SPECIAL STUDIES OR PROJECTS IN SOCIOLOGY** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Sociology under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 298 SELECTED TOPICS IN SOCIOLOGY** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Sociology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN SOCIOLOGY** **1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Sociology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

SOCIOLOGY

- 120 INTRODUCTORY SOCIOLOGY** **3 UNITS**
(CAN SOC 2)
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Study of the nature of social life, the dynamics of human interaction, symbolic foundation of behavior, social organization and control, social change, and the tools of sociological investigation.
AA/AS GE, CSU, CSU GE, IGETC, UC

SPANISH

120 SPANISH I 5 UNITS

(CAN SPAN 2; CAN SPAN SEQ A = SPAN 120+121)

Prerequisite: None

Corequisite: None

Recommended Preparation: None

5 hours lecture

Introductory course to the Spanish language and the cultures of its speakers. Designed for students with very little or no knowledge of Spanish. Facilitates the practical application of the language in everyday oral and written communication at the beginning level. Since the focus will be on basic communication skills, the class will be conducted in Spanish as much as possible. Students will learn structures that will enable them to function in Spanish in everyday contexts while becoming familiar with the Spanish speaking world.

AA/AS GE, CSU, CSU GE, IGETC, UC

120A SPANISH I 2.5 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

2.5 hours lecture

Equivalent to the first half of SPAN 120. Allows more time for the student who has not studied the Spanish language. Introduces students to the Spanish language and the cultures of its speakers. Facilitates the practical application of the language in everyday oral and written communication at the introductory beginning novice level. Since the focus will be on basic communication skills, the class will be conducted in Spanish as much as possible. While becoming familiar with the Spanish speaking world, students will be introduced to structures that will enable them to begin to function in Spanish in everyday contexts. *Must be taken with SPAN 120B in order to meet the General Education requirement. If taken in conjunction with SPAN 120, the cumulative number of units which may be earned is 5 units.*

AA/AS GE, CSU, CSU GE, UC credit limit

120B SPANISH I 2.5 UNITS

Prerequisite: SPAN 120A

Corequisite: None

Recommended Preparation: None

2.5 hours lecture

Equivalent to the second half of SPAN 120 and the continuation of SPAN 120A. Continues to introduce students to the Spanish language and the cultures of its speakers. Continues to facilitate the practical application of the language in everyday oral and written communication at the beginning novice level. Since the focus will be on basic communication skills, the class will be conducted in Spanish as much as possible. While becoming familiar with the Spanish speaking world, students will continue to acquire structures that will enable them to function in Spanish in everyday situations. *Must be taken with SPAN 120A in order to meet the General Education requirement. If taken in conjunction with SPAN 120, the cumulative number of units which may be earned is 5 units.*

AA/AS GE, CSU, CSU GE, UC credit limit

121 SPANISH II 5 UNITS

(CAN SPAN 4; CAN SPAN SEQ A = SPAN 120+121)

Prerequisite: SPAN 120 with a grade of "C" or better or "CR" or two years of high school Spanish or equivalent

Corequisite: None

Recommended Preparation: None

5 hours lecture

Continuation of SPAN 120. The course will continue to develop oral and written skills based on practical everyday needs.

AA/AS GE, CSU, CSU GE, IGETC, UC

135 SPANISH FOR PROFESSIONAL PERSONNEL I 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Practical essentials of conversing in Spanish for persons engaged in some professional fields such as health or business. **Credit/No Credit only.**

CSU

141 SPANISH AND LATIN AMERICAN CULTURES 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Survey of major characteristics of Spanish, Latin American and Chicano cultures as reflected in literature, the arts, philosophy and folklore.

AA/AS GE, CSU, CSU GE, IGETC, UC

145 HISPANIC CIVILIZATIONS 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

General overview of the cultures of Spain and Latin America while directly providing an opportunity to explore the cultural richness of the Hispanic world through a particular country. May be offered as an on-site tour of a specific Hispanic country.

AA/AS GE, CSU, CSU GE, IGETC, UC

199 SPECIAL STUDIES OR PROJECTS IN SPANISH 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

3-9 hours

Individual study, research or projects in Spanish under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

220 SPANISH III 5 UNITS

(CAN SPAN 8; CAN SPAN SEQ B = SPAN 220+221)

Prerequisite: SPAN 121 with a grade of "C" or better or "CR" or three years of high school Spanish or equivalent

Corequisite: None

Recommended Preparation: None

5 hours lecture

Continuation of SPAN 121. The course will continue to develop oral, listening, reading and writing skills in order to acquire proficiency in Spanish.

AA/AS GE, CSU, CSU GE, IGETC, UC

- 221 SPANISH IV 5 UNITS**
(*CAN SPAN 10; CAN SPAN SEQ B = SPAN 220+221*)
Prerequisite: SPAN 220 with a grade of "C" or better or "CR" or four years of high school Spanish or equivalent
Corequisite: None
Recommended Preparation: None
5 hours lecture
Continuation of SPAN 220. The course will continue to develop oral, listening, reading and writing skills in order to improve proficiency in Spanish.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 250 CONVERSATIONAL SPANISH 3 UNITS**
Prerequisite: SPAN 121 or four years of high school Spanish or equivalent
Corequisite: None
Recommended Preparation: None
3 hours lecture
Continues to develop oral, reading, writing and listening skills but with an emphasis on oral proficiency.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 251 CONVERSATIONAL SPANISH 3 UNITS**
Prerequisite: SPAN 250 or 121 or four years of high school Spanish or equivalent
Corequisite: None
Recommended Preparation: None
3 hours lecture
Continues to develop oral, reading, writing and listening skills but with an emphasis on oral proficiency.
AA/AS GE, CSU, CSU GE, IGETC, UC
- 298 SELECTED TOPICS IN SPANISH 1-5 UNITS**
Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
1-15 hours
Selected topics in Spanish not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN SPANISH 1-5 UNITS**
Prerequisite: Varies with topic
Corequisite: Varies with topic
Recommended Preparation: Varies with topic
1-15 hours
Selected topics in Spanish not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

SURVEYING

SURVEYING (ENGINEERING) COURSES

- 218 PLANE SURVEYING 4 UNITS**
(*CAN ENGR 10*)
Prerequisite: MATH 170 or concurrent enrollment
Corequisite: None
Recommended Preparation: None
2 hours lecture, 6 hours laboratory
Use, care and adjustment of surveying instruments. Fundamental surveying methods, traverse measurements and area computations. Introduction to horizontal and vertical curves, stadia, construction layout. Introduction to topographic mapping. Earth work computations. *Listed as ENGR 218.*
CSU, UC
- 240 ADVANCED SURVEYING 4 UNITS**
Prerequisite: ENGR 218
Corequisite: None
Recommended Preparation: None
3 hours lecture, 3 hours laboratory
Topographic, hydrographic and geodetic surveying. Precise equipment and control surveying, city and land surveys. Astronomical observations. State plane coordinates system. Route location and layout, transition, horizontal and vertical curves. Introduction to electronic and photogrammetric methods. U.S. Public Land Surveys and legal descriptions, and an introduction to Global Positioning Systems (G.P.S.). *Listed as ENGR 240.*
CSU, UC

THEATRE ARTS

110 INTRODUCTION TO THEATRE 3 UNITS

(CAN DRAMA 18)

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Designed to give students the analytic tools of theatre to provide a working knowledge of all areas included in the process of producing a play. Through lectures, attendance at selected performances and in-class projects, students will be introduced to theatre arts as it reflects the synthesis of the arts and a definition of the humanities in Western Civilization. Recommended for students interested in theatre who want to have a better understanding of how this art form continues to help shape society.

AA/AS GE, CSU, GE, IGETC, UC

199 SPECIAL STUDIES OR PROJECTS IN THEATRE ARTS 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

3-9 hours

Individual study, research or projects in Theatre Arts under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*

298 SELECTED TOPICS IN THEATRE ARTS 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-9 hours

Selected topics in Theatre Arts not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

299 SELECTED TOPICS IN THEATRE ARTS 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

1-9 hours

Selected topics in Theatre Arts not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.

CSU

WATER/WASTEWATER TECHNOLOGY

101 FUNDAMENTALS OF WATER/WASTEWATER TECHNOLOGY 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Designed to give students a broad overview of the water and wastewater fields and issues confronting the industry. Students will learn how source waters are obtained, treated and distributed and how wastewater is collected, transported and disposed of in the area. Contemporary issues facing the water and wastewater industry will also be explored.

102 CALCULATIONS IN WATER/WASTEWATER TECHNOLOGY 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Study of the mathematical principles in solving problems related to treatment systems including hydraulic volumes, dimensional analysis, primary and secondary sewage treatment, calculations and chemical dose rates as it relates to water/wastewater technology.

104 APPLIED HYDRAULICS 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Study of the hydraulics necessary in the operation of water and maintenance plants and systems. Consideration of the types of pumps used in water/wastewater service, their operational characteristics and maintenance, and the problems common to their use.

106 INTRODUCTION TO ELECTRICAL AND INSTRUMENTATION PROCESSES 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Introductory course in basic electron theory and electrical principles. Electrical safety precautions, component identification, schematic interpretation, motors, transformers, relays and test equipment will be studied. Automated process control devices and an overview of current technologies will be discussed.

110 LABORATORY ANALYSIS FOR WATER/WASTEWATER 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Examines basic fundamentals of laboratory analysis with emphasis on applied chemical and microbiological procedures for water and wastewater plant operators. Includes procedures and techniques used in physical, chemical, bacteriological and biological examination of water/wastewater.

- 112 BASIC PLANT OPERATIONS: WATER TREATMENT 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to study sources of water, public health aspects of water supply, chemical, physical and bacteriological standards of water quality, types of water treatment plants, water treatment procedures, operation, maintenance, storage and distribution.
- 114 BASIC PLANT OPERATIONS: WASTEWATER TREATMENT 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to familiarize students with wastewater collection systems and essential safety procedures necessary to their operation, including preliminary and primary treatment processes and maintenance of a wastewater treatment plant.
- 117 ADVANCED PLANT OPERATIONS: WATER TREATMENT 3 UNITS**
 Prerequisite: WWTR 112
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to study water quality control and treatment. Aspects of public health as it relates to the water supply will be highlighted. Sources of contamination and methods of control will be emphasized as well as maintenance of water treatment facilities with safety cost and environmental factors stressed.
- 120 ADVANCED PLANT OPERATIONS: WASTEWATER TREATMENT 3 UNITS**
 Prerequisite: WWTR 114
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to familiarize students with wastewater collection systems, treatment process units, equipment and facilities operation and maintenance, application of laboratory results to process control, and essential safety procedures necessary for operation and maintenance of wastewater facilities.
- 130 WATER DISTRIBUTION SYSTEMS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to enable students to understand the operation and maintenance of a waterworks distribution system. Part of a series required for eligibility to take State certification examinations; supports certification examinations for grade levels D1 and D2.
- 132 WASTEWATER COLLECTION SYSTEMS 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to familiarize students with the components of wastewater collection systems. Overview of design installation, operation, monitoring, maintenance and repair of sewer pipelines, pump stations and related facilities.
- 134 MECHANICAL MAINTENANCE 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed to familiarize students with the basic principles of mechanical equipment design, installation, operation, maintenance, repair, overhaul and replacement. Emphasis on understanding the value of preventative maintenance techniques such as equipment monitoring, lubrication analysis, machine alignment and scheduled overhaul.
- 199 SPECIAL STUDIES OR PROJECTS IN WATER/WASTEWATER TECHNOLOGY 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Water/Wastewater Technology under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 265 WATER DISTRIBUTION SYSTEMS II 3 UNITS**
 Prerequisite: WWTR 130
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Designed as the second of an integrated sequence of courses covering water distribution systems. Enables students to gain a more comprehensive understanding of the operation and maintenance of a waterworks distribution system including advanced calculations, management, safety and emergency response issues. Contemporary issues facing the water and wastewater industry will also be explored in depth. Part of a series required for eligibility to take State certification examinations; supports certification examinations for grade levels D3, D4 and D5.
- 267 WASTEWATER COLLECTION SYSTEMS II 3 UNITS**
 Prerequisite: WWTR 132
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 This course is designed to provide an in-depth understanding of the components of wastewater collection systems. Includes the design, operation, monitoring, maintenance and repair of pump stations as well as equipment maintenance, safety/survival systems, administration and organization principles.
- 270 PUBLIC WORKS SUPERVISION 3 UNITS**
 Prerequisite: WWTR 101
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 An introductory course into the principles and practices of modern supervision and management, with emphasis on contemporary issues facing supervisors and managers in the water utilities industry.

- 280 BACKFLOW TESTER TRAINING 2 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 1.5 hours lecture, 1.5 hours laboratory
 Prepares students for the American Water Works Association (AWWA) and the American Backflow Prevention Association (ABPA) certification for Backflow Prevention Assembly Tester Certification. Includes backflow device installation and testing procedures required for the certification testing.
CSU
- 282 CROSS CONNECTION CONTROL SPECIALIST 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Study of the administrative and technical procedures required for a cross connection program including system inspections, hazard evaluation, identification of cross connection problems and backflow prevention devices, shut-down tests and reclaimed water systems.
CSU
- 284 CROSS CONNECTION CONTROL SPECIALIST-RECYCLED WATER 3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 3 hours lecture
 Study of the administrative and technical procedures concerning the production, use and distribution of recycled water including backflow protection, legal, administrative and permitting issues, the treatment process, health and safety aspects, and the cross connection control (shut down) test as conducted in San Diego County. The course will consist of both classroom and demonstration sessions. Demonstration sessions consist of various aspects of cross connection control recycled water shut down testing.
- 290 COOPERATIVE WORK EXPERIENCE 1-4 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 5 hours paid or 4 hours unpaid work experience per week per unit
 Practical application of principles and procedures learned in the classroom to the various phases of water and wastewater treatment, distribution or collection. Work experience will be paid or unpaid at appropriate curriculum-related work sites. Two on-campus sessions will be scheduled. *May be repeated for a maximum of 12 units.*
- 298 SELECTED TOPICS IN WATER/WASTEWATER TECHNOLOGY 1-4 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours
 Selected topics in Water/Wastewater Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**

- 299 SELECTED TOPICS IN WATER/WASTEWATER TECHNOLOGY 1-4 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-12 hours
 Selected topics in Water/Wastewater Technology not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.
CSU

WORK EXPERIENCE

- 110 GENERAL COOPERATIVE WORK EXPERIENCE EDUCATION 1-3 UNITS**
 Prerequisite: None
 Corequisite: None
 Recommended Preparation: None
 75 hours paid or 60 hours unpaid work experience per unit
 Supervised work experience to assist students in acquiring desirable work habits, attitudes and career awareness. Jobs may or may not be directly related to students' educational goals. *May be repeated for a maximum of 6 units.*
- 199 SPECIAL STUDIES OR PROJECTS IN WORK EXPERIENCE 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 3-9 hours
 Individual study, research or projects in Work Experience under instructor guidance. Written reports and periodic conferences required. Content and unit credit to be determined by student/instructor conferences and the Office of Instruction. *May be repeated for a maximum of 9 units.*
- 298 SELECTED TOPICS IN WORK EXPERIENCE 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Work Experience not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format. **Credit/No Credit only. Non-associate degree applicable.**
- 299 SELECTED TOPICS IN WORK EXPERIENCE 1-3 UNITS**
 Prerequisite: Varies with topic
 Corequisite: Varies with topic
 Recommended Preparation: Varies with topic
 1-9 hours
 Selected topics in Work Experience not covered by regular catalog offerings. Course content and unit credit to be determined by the Office of Instruction and faculty. May be offered in a seminar, lecture and/or laboratory format.