

# Course Descriptions

## EXPLANATION OF ABBREVIATIONS AND COURSE NOTES

Courses which meet the requirements for General Education for the Associate Degree, CSU GE, and the Intersegmental General Education Transfer Curriculum (IGETC) are identified after each course description. The CSU and UC indicators are also included and mean that the 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 degree or transfer objectives, please see a counselor.

**AA/AS GE** = Meets general education for the Associate degree.

**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** = 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.

## AMERICAN SIGN LANGUAGE

### 120 AMERICAN SIGN LANGUAGE I 4 UNITS

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

First in a series of four American Sign Language (ASL) courses. Introduction to ASL 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: "C" grade or higher or "Pass" in ASL 120 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
4 hours lecture

Second in a series of four American Sign Language (ASL) courses. Students are provided an opportunity to progress and enhance their ability to communicate in ASL. Cultural analysis and comparisons, receptive skill comprehension, expressive skill production, and ASL linguistics will be covered.

**CSU, CSU GE, IGETC, UC**

### 125 AMERICAN SIGN LANGUAGE WITH INFANTS AND TODDLERS 1 UNIT

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

Explore the methods and benefits of using American Sign Language (ASL) with hearing infants and toddlers. Areas emphasized will be methods, benefits, and philosophies of teaching infants and toddlers to communicate using ASL. Upon completion, students will be able to

introduce these techniques in early childhood classrooms and/or at home.

### 126 AMERICAN SIGN LANGUAGE WITH SCHOOL AGE CHILDREN 1 UNIT

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

Explore the methods and benefits of using American Sign Language (ASL) with hearing school age children. Areas emphasized will be methods, benefits, and philosophies of teaching school age children to communicate using ASL. Upon completion, students will be able to introduce these techniques in elementary school classrooms and/or at home.

### 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 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 taken for a maximum of 9 units.*

### 220 AMERICAN SIGN LANGUAGE III 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in ASL 121 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
4 hours lecture

Third 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: "C" grade or higher or "Pass" in ASL 220 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
4 hours lecture

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

**CSU, CSU GE, IGETC, UC**

### 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

**CSU**

## ANTHROPOLOGY

### 120 CULTURAL ANTHROPOLOGY 3 UNITS

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

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 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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

**CSU**

## ARABIC

### 120 ARABIC I 5 UNITS

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

Introduction 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 is 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: "C" grade or higher or "Pass" in ARBC 120 or two years of high school Arabic or equivalent.  
Corequisite: None

Recommended Preparation: None

5 hours lecture

Continuation of Arabic I. 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

### 145 ARABIC CIVILIZATIONS 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Introduction to the major characteristics of Arabic civilization as reflected in literature, philosophy, architecture, and the arts of Arabic countries. This course may have an emphasis on a selected Arabic country or countries.

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 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 taken for a maximum of 9 units.*

### 220 ARABIC III 5 UNITS

Prerequisite: "C" grade or higher or "Pass" in ARBC 121 or three years of high school Arabic or equivalent.

Corequisite: None

Recommended Preparation: None

5 hours lecture

Continuation of Arabic II. 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: "C" grade or higher or "Pass" in ARBC 220 or four years of high school Arabic or equivalent.  
Corequisite: None

Recommended Preparation: None

5 hours lecture

Continuation of Arabic III. 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: "C" grade or higher or "Pass" in 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: "C" grade or higher or "Pass" in 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

CSU

## ARAMAIC

### 120 ARAMAIC I 5 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

5 hours lecture

Introduction to 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: "C" grade or higher or "Pass" in ARAM 120 or equivalent.

Corequisite: None

Recommended Preparation: None

5 hours lecture

Continuation of Aramaic I. Covers the classical-modern Aramaic alphabet, essentials of grammar and pronunciation, and the language of Chaldean-Assyrian culture and civilization.

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 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 taken for a maximum of 9 units.*

### 220 ARAMAIC III 5 UNITS

Prerequisite: "C" grade or higher or "Pass" in ARAM 121 or equivalent.

Corequisite: None

Recommended Preparation: None

5 hours lecture

Continuation of Aramaic II. Students will further their knowledge of classical-modern Aramaic grammar. The primary emphasis is 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

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## ART

### 100 ART APPRECIATION 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

In this introductory course, students will 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

### 120 TWO-DIMENSIONAL DESIGN 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

2 hours lecture, 4 hours laboratory

Introduction to the two-dimensional arts. Students will study the great works of the human imagination while focusing on those of historical, theoretical and cultural relevance. Students will examine form and content through the application of art elements and principles of design.

AA/AS GE, CSU, CSU GE, UC

### 121 PAINTING I 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in ART 120 or equivalent.

Corequisite: None

Recommended Preparation: None

2 hours lecture, 4 hours laboratory

Introduction to painting with an emphasis on 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**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 2 hours lecture, 4 hours laboratory  
 Introduction to drawing theory and practice. Students will study major works of art in relation to drawing techniques, illusion of space, and composition through a variety of media.

AA/AS GE, CSU, UC

**125 DRAWING II 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ART 124 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 2 hours lecture, 4 hours laboratory  
 Builds on the drawing techniques and composition concepts covered in ART 124 to include new mediums to address creative problem solving and refine drawing skills. 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 mixed media 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.

CSU, UC

**129 THREE-DIMENSIONAL DESIGN 3 UNITS**

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. This is a comprehensive introductory course that could lead to future study in a diverse range of art and design professions.

AA/AS GE, CSU, UC

**135 WATERCOLOR I 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ART 124 or equivalent.  
 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 and space.

CSU, UC

**140 HISTORY OF WESTERN ART I: PREHISTORIC TO 1250 A.D. 3 UNITS**

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: CIRCA 1250 A.D. TO PRESENT TIME 3 UNITS**

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

**143 MODERN ART 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Historical survey of the major art forms (primarily architecture, sculpture, ceramics, painting, printmaking and photography) of the late nineteenth and twentieth centuries with geographical emphasis on Europe and America.

AA/AS GE, CSU

**144 ARCHITECTURE OF THE 20TH CENTURY 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Historical survey of the 20th century masters of the major movements in architecture and environmental spaces. Global political and social economic influences on concepts, styles, philosophy and artistic expressions in architecture will be studied.

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, CSU GE, 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 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 taken for a maximum of 9 units.*

**220 PAINTING II 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ART 121 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 2 hours lecture, 4 hours laboratory  
 Continuation of Painting I with an emphasis on creative problem-solving skills. Students will develop a personal style of expression.

CSU, UC

**221 PAINTING III 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ART 220 or equivalent.  
 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: "C" grade or higher or "Pass" in ART 221 or equivalent.  
 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: "C" grade or higher or "Pass" in ART 125 or equivalent.  
 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: "C" grade or higher or "Pass" in ART 224 or equivalent.  
 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. Portfolio preparation is emphasized.

CSU, UC

**230 FIGURE DRAWING I 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ART 124 or equivalent.  
 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 is 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: "C" grade or higher or "Pass" in ART 230 or equivalent.  
 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 nude 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: "C" grade or higher or "Pass" in ART 231 or equivalent.

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: "C" grade or higher or "Pass" in ART 232 or equivalent.

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: "C" grade or higher or "Pass" in ART 135 or equivalent.

Corequisite: None

Recommended Preparation: None

2 hours lecture, 4 hours laboratory

Continuation of Watercolor I techniques with an emphasis on creative problem solving and aesthetic compositions.

*CSU, UC*

### 236 WATERCOLOR III 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in ART 235 or equivalent.

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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

*CSU*

## ASTRONOMY

### 110 DESCRIPTIVE ASTRONOMY 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

The development of modern astronomy and its techniques with an 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: "C" grade or higher or "Pass" in ASTR 110 or equivalent or concurrent enrollment.

Corequisite: None

Recommended Preparation: None

3 hours laboratory

Planet, stellar and lunar studies; acquaintance with constellations and astronomical coordinates; and 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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a 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

This course presents basic information about automotive systems. Serves as a recommended preparation course for students 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*

### 120 ENGINE PERFORMANCE I - MECHANICAL AND IGNITION SYSTEMS 5 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in AUTO 099, 100 or equivalent

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. Preparation for 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: "C" grade or higher or "Pass" in AUTO 120 or equivalent.

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, and 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: "C" grade or higher or "Pass" in AUTO 123 or equivalent.

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: "C" grade or higher or "Pass" in AUTO 122 or equivalent.

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 HYBRID, ELECTRIC AND ALTERNATIVE FUELED VEHICLES 5 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture, 6 hours laboratory

Introductory course in the study of hybrid, electric, alternative fuels and their delivery systems for automotive and light trucks. The main focus is on hybrid vehicles; additionally, electric and alternative fueled vehicles will be covered to include alcohol, diesel, CNG (Compressed Natural Gas) and LPG (Liquefied Petroleum Gas) systems. Fuel cell technologies will be discussed. Topics include environmental and political concerns, pros and cons of various alternative fuels, and hybrid and electric options. Proper safety procedures for CNG, LPG, hybrid, electric and diesel systems will be emphasized. The properties, chemical structure, and safety concerns of various alternative fuels will be stressed. Electrical/electronic diagnosis of the various systems will be covered in detail with specific case studies on live vehicles. Students are recommended to have a working knowledge of automotive electricity, drivability 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, and 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: "C" grade or higher or "Pass" in AUTO 130 or equivalent.

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: "C" grade or higher or "Pass" in AUTO 140 or equivalent.

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: "C" grade or higher or "Pass" in AUTO 152 or equivalent.

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: "C" grade or higher or "Pass" in AUTO 160 or equivalent.

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 is on practical experience through actual shop training. Students are required to provide an auto engine for overhaul and 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: "C" grade or higher or "Pass" in AUTO 170 or equivalent.

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: "C" grade or higher or "Pass" in AUTO 175 or equivalent.

Corequisite: None

Recommended Preparation: None

3 hours lecture, 6 hours laboratory

Third course in the engine repair sequence. Students 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. Preparation for employment in the automotive machine shop field, and for the ASE Engine Machinist exams.  
CSU

### 180 AUTOMOTIVE SERVICE ADVISOR 1 UNIT

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

Prepares students for working as service advisors for large independent garages or dealerships. 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. Students will further develop skills attained in the classroom setting. *May be taken 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

### 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 is 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 a sponsoring dealer at the start of the training program. This course is based on paid work experience at the sponsoring

dealership. Assessment of students will be performed by the ASSET coordinator in discussion with appropriate dealership personnel. Students are expected to work in the area of emphasis that is concurrent with area of training most recently completed at the college in order to further develop skills attained in the 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 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 taken 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: None  
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. Accessory systems such as lighting, power seats, power door locks, cruise controls, electric windows, electronic dashboards, radios, windshield wipers, etc., are also covered. Preparation for ASE and GM certification.

CSU

### 202 ASEP-BRAKES AND ALIGNMENT 7 UNITS

Prerequisite: None  
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.

CSU

### 203 ASEP-ENGINE REPAIR 4.5 UNITS

Prerequisite: None  
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.

**CSU**

#### **204 ASEP–POWER TRAIN 7 UNITS**

Prerequisite: None

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.

**CSU**

#### **205 ASEP–ENGINE PERFORMANCE AND AIR CONDITIONING 7 UNITS**

Prerequisite: None

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 is 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. 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.

**CSU**

#### **206 ASEP–WORK EXPERIENCE 1-4 UNITS**

Prerequisite: "C" grade or higher or "Pass" in AUTO 200 or equivalent.

Corequisite: None

Recommended Preparation: None

75 hours paid work experience per unit

General Motors ASEP work experience. Students will be placed with a sponsoring dealer at the start of the training program. This course is based on paid work experience at the sponsoring dealership. Assessment of students will be performed by the ASEP coordinator in discussion with appropriate dealership personnel. Students are expected to work in the area of emphasis that is concurrent with area of training most recently completed at the college in order to further develop skills attained in the classroom setting. *Must be taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a 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 explored.

**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. Heavy emphasis is placed on how drugs act on neurons in the central nervous system.

**AA/AS GE, CSU, CSU GE**

#### **122 THE SECRET LIFE OF PLANTS 4 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture, 3 hours laboratory

Examines the fundamentals of plant biology; how plants grow, develop and respond to environmental stimuli, photosynthesis, water relations and phloem transport, reproduction, and evolution. Emphasis is on structural and functional aspects of plants while focusing on seed producers. Covers contemporary topics in plant biology including the basics of genetic engineering and biotechnology, and revealing the impacts on agriculture, the environment and society.

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

#### **124 HUMAN GENETICS IN MODERN SOCIETY 4 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture, 3 hours laboratory

Introduction to the essential elements of human genetics and the application of modern genetic technologies in solving problems in human genetics. Examples include genetic screening, counseling and therapy, forensic genetics, genetic engineering, and human genomics.

Social impacts and ethical implications of human genetic understanding and technologies will be discussed.

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

#### **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, 131 or BIO 210, 220, 221.*

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

#### **130 GENERAL BIOLOGY I 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Survey of the 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.

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

#### **131 GENERAL BIOLOGY I LABORATORY 1 UNIT**

Prerequisite: "C" grade or higher or "Pass" in BIO 130 or equivalent 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.

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

#### **140 HUMAN ANATOMY 5 UNITS**

Prerequisite: "C" grade or higher or "Pass" in BIO 130, 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. 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: "C" grade or higher or "Pass" in BIO 130, 131 or equivalent.

Corequisite: None

Recommended Preparation: None

3 hours lecture

Study of the function and interrelationships of the nervous, endocrine, muscular, circulatory, respiratory, digestive, and reproductive systems of the human body. Relates these systems to the maintenance of homeostasis and the effects of exercise, behavior and disease on human physiology.

CSU, CSU GE, IGETC, UC

**141L LABORATORY IN HUMAN PHYSIOLOGY 1 UNIT**

Prerequisite: "C" grade or higher or "Pass" in BIO 130, 131 or equivalent, BIO 141 or equivalent or concurrent enrollment.

Corequisite: None

Recommended Preparation: None

3 hours laboratory

Laboratory course designed to illustrate the physiological principles studied in BIO 141. Emphasis is on lab-based investigations of human physiological processes.

CSU, CSU GE, IGETC, UC

**152 PARAMEDICAL MICROBIOLOGY 5 UNITS**

Prerequisite: "C" grade or higher or "Pass" in BIO 130, 131 or equivalent.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CHEM 115 or equivalent.

3 hours lecture, 6 hours laboratory

Introduction to the major groups of microorganisms and the diseases they cause. Emphasizes the concepts and techniques relevant to the student entering paramedical professions: identifying and handling bacteria, basic principles of immunology, medical microbiology and epidemiology. Principles of microbial physiology, genetics, growth and microbial control are discussed. This course satisfies the introductory microbiology requirement needed by students majoring in nursing and other paramedical fields leading to a B.S. or B.A. degree.

AA/AS GE, CSU, CSU GE

**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 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 taken for a maximum of 9 units.*

**210 BIOLOGY II 4 UNITS**

Prerequisite: "C" grade or higher or "Pass" in MATH 103 or 110 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: "C" grade or higher or "Pass" in BIO 130, MATH 110 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 is 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: "C" grade or higher or "Pass" in 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 is 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.

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

**221 PRINCIPLES OF MOLECULAR, CELLULAR AND EVOLUTIONARY BIOLOGY LABORATORY 1 UNIT**

Prerequisite: "C" grade or higher or "Pass" in 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. Laboratory exercises involve observations, demonstrations, experiments, data analyses, computer laboratory simulations and written reports.

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

**230 PRINCIPLES OF CELLULAR, MOLECULAR AND EVOLUTIONARY BIOLOGY 4 UNITS**

Prerequisite: "C" grade or higher or "Pass" in CHEM 141 or equivalent.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ENGL 110 or equivalent.

3 hours lecture, 3 hours laboratory

Survey of the general principles of cell, molecular and evolutionary biology at an advanced level. Emphasis is on the following topics: cellular structure and processes including energy metabolism, membrane transport and cell cycle/cell division; molecular genetics including recombinant DNA; Mendelian and non-Mendelian genetics; communication between cells; and the current models for cellular evolution. Laboratory exercises emphasize the application of these topics to biotechnology. This course along with BIO 240 is the recommended biology sequence for life science majors. It is suggested that students contact the anticipated transfer institution to ascertain specific transfer requirements for their major. *Not open to students with credit in BIO 220, 221.*

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

**240 PRINCIPLES OF ECOLOGY, EVOLUTION AND ORGANISMAL BIOLOGY 5 UNITS**

Prerequisite: "C" grade or higher or "Pass" in MATH 103 or 110 or an equivalent intermediate algebra course.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ENGL 110 or equivalent.

4 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 fundamental ecological principles, trophic roles 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. The laboratory component emphasizes the systematics and diversity of prokaryotes, protists, fungi, plants and animals, as well as activities investigating ecological and evolutionary processes using the methods of scientific inquiry. This course along with BIO 230 is the recommended biology sequence for life science majors. It is suggested that students contact the anticipated transfer institution to ascertain specific transfer requirements for their major. *Not open to students with credit in BIO 210.*

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

**251 HUMAN DISSECTION 1 UNIT**

Prerequisite: "C" grade or higher or "Pass" in BIO 140 or equivalent and recommendation from the student's Human Anatomy instructor.

Corequisite: None

Recommended Preparation: None

3 hours laboratory

Supervised study of human anatomy through dissection of a human cadaver. Enhances knowledge gained from BIO 140 (Human Anatomy) by observing and relating those organ systems learned to an actual human cadaver. Students will identify surface landmarks and relate them to successively deeper structures, and will develop and refine dissecting skills used on human cadavers. Instruction of human anatomy at this level is intended to assist students pursuing careers in nursing and other allied health professions. *Preregistration counseling with instructor is required; class size is limited. May be taken for a maximum of 3 units.*

CSU, UC

**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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

CSU

## BUSINESS

### 109 ELEMENTARY ACCOUNTING 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
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. *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  
Provides the prospective small business manager with the most up-to-date skills necessary in the planning function of opening one's own business. Emphasis is 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  
Provides 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. Includes 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 students with comprehensive and valuable skills needed to successfully secure employment. Examines 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  
Examines the human aspects of the organization with an 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 will be covered.  
**CSU**

### 119 ENTREPRENEURSHIP: FINANCING AND WRITING A BUSINESS PLAN 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
Provides prospective small business owners or managers with the knowledge required to write a business plan and understand and control the cash management function of their business. Emphasis is 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

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
4 hours lecture  
Introduces the accounting function and how it is used within our economic society. Accounting is viewed as an information-generating system that communicates financial data to support end users in their economic decision-making. Topics include the accounting information system and the recording and reporting of business transactions with a focus on the accounting cycle, the application of generally accepted accounting principles, the classified financial statements, and statement analysis. Issues related to asset, liability and equity valuation, revenue and expense recognition, cash flow, internal controls, and ethics will be covered. Designed for students who have an understanding of computer applications in word processing and spreadsheets, basic math skills, and the ability to write in a business-like manner.  
**CSU, UC**

### 121 MANAGERIAL ACCOUNTING 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in BUS 120 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
4 hours lecture  
Introduces 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. Areas examined are: cost terms and concepts, cost behavior, cost structure, product costing in a manufacturing environment (including activity based costing), cost-volume-profit analysis, budgeting, standard costing, differential analysis, capital budgeting, variable and absorption costing, and responsibility accounting.  
**CSU, UC**

### 122 INTERMEDIATE ACCOUNTING 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in BUS 120 or equivalent.  
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**

### 124 AUDITING 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in BUS 120 or equivalent.  
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

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 businesses to prevent market failures.  
**CSU, UC**

### 128 BUSINESS COMMUNICATION 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in ENGL 110 or equivalent.  
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 an emphasis on writing clear, concise and persuasive letters, memos and reports.  
**CSU**

### 129 PAYROLL ACCOUNTING AND BUSINESS TAXES 2 UNITS

Prerequisite: "C" grade or higher or "Pass" in BUS 120 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
2 hours lecture  
In-depth study of payroll accounting. Covers calculations of gross to net pay, federal and state withholdings and deductions, recording of payroll transactions into the accounting records, and filing of federal and state payroll tax forms. Includes a consideration of factors which determine employee versus independent contractor status, and 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  
 Application of 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  
 Explores the function of marketing in an organization by examining 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  
 Introduction to federal taxation and tax preparation as applied to the individual taxpayer. Overview of the income tax environment. Topics include filing status, personal and dependency exemption, itemized and standard deductions, and solving specific problems related to filing Federal Form 1040.  
 CSU

**152 BUSINESS MATHEMATICS****2 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 2 hours lecture  
 Introduction to arithmetic applications used in business transactions including fractions, percentages, interest, discounts, depreciation, payrolls, merchandising markups, and taxes.  
 CSU

**154 DIVERSITY IN THE WORKPLACE****3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Study of the historical perspective of diversity in the workplace as it relates to defining and developing a manager's responsibilities. 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 of human resource activities to the organization. Covers 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 including 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  
 Study of the multiplicity of roles and responsibilities that the leader must fulfill, focusing on personal, work and social environments. Examines leadership as a function of selecting, motivating and directing others toward an agreed upon goal.  
 CSU

**159ABCD MANAGEMENT INTERNSHIP****3 UNITS**

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 to 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: "C" grade or higher or "Pass" in BUS 120 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 The characteristics and analysis of financial statements. Students will learn how to apply ratios to financial statements and 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 PERSONAL FINANCE****3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Explores the theories and techniques of managing personal income by setting life planning goals that will culminate in the development of a personal plan for students to manage their finances throughout the lifespan. Within the broad backdrop of business and economics in the United States, topics will

include lifelong financial planning, budgeting, managing checking and savings accounts, building and maintaining good credit, retirement and estate planning, insurance, home ownership, and creating an investment portfolio.  
 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 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 taken for a maximum of 9 units.*

**240 SQL FOR BUSINESS APPLICATIONS****3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in CIS 140 or equivalent.  
 2 hours lecture, 3 hours laboratory  
 Structured Query Language (SQL) provides a unified language to 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. Covers topics necessary to query data for use in typical business applications analysis from an Oracle9i/10g or Microsoft SQL Server database.  
 CSU

**242 DATA MINING****3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in CIS 140 or equivalent.  
 2 hours lecture, 3 hours laboratory  
 Introduction to the fundamental concepts of data mining. Explores motivation for and applications of data mining and survey current techniques and models used in data mining. The data mining development cycle and potential pitfalls of machine learning will be included.  
 CSU

**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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.  
 CSU



## BUSINESS OFFICE TECHNOLOGY

### 094 PRACTICAL INTERNET BASICS .5 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in BOT 097 or equivalent, ENGL 098R or ESL 105 or equivalent reading level.

1.5 hours laboratory

This course will enable students to use the Internet which includes understanding basics such as searching and navigating the Internet, and accessing email. Introduces the concepts of downloading files and using and organizing bookmarks and favorites. **Pass/No Pass only.**

### 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. **Pass/No Pass only. Non-degree applicable.**

### 096 COMPUTER BASICS FOR THE OFFICE 1 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in BOT 100 or equivalent, ENGL 098R or ESL 105 or equivalent reading level.

.5 hour lecture, 1.5 hours laboratory

Students with little or no computer experience will be provided with the basic information and skills needed to operate a computer efficiently in an office environment. Includes an 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. **Pass/No Pass only. Non-degree applicable.**

### 097 WINDOWS BASICS FOR THE OFFICE 1 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in BOT 100 or equivalent, BOT 096 or equivalent or concurrent enrollment, ENGL 098R or ESL 105 or equivalent reading level.

.5 hour lecture, 1.5 hours laboratory

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

### 100 BASIC KEYBOARDING 1 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in 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. This course is 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 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: "C" grade or higher or "Pass" in BOT 100 or equivalent, 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.

CSU

### 101B KEYBOARDING/DOCUMENT PROCESSING 1.5 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in BOT 101A or equivalent, 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. Keyboarding software is used to build speed and accuracy.

CSU

### 102A INTERMEDIATE KEYBOARDING/DOCUMENT PROCESSING I 1.5 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in BOT 101AB or equivalent.

1 hour lecture, 1.5 hours laboratory

Equivalent to the first half of BOT 102. Students will review and create business documents to apply formatting skills taught in BOT 101 or 101AB and are then introduced to new formatting and report styles options including agendas, formal reports and multipage tables. This course begins with intermediate Microsoft Word functions; 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.

CSU

### 102B INTERMEDIATE KEYBOARDING/DOCUMENT PROCESSING II 1.5 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in BOT 102A or equivalent.

.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; 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.

CSU

### 103A BUILDING KEYBOARDING SKILL I .5 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in 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. Those keying at a lower rate should enroll in BOT 095.

CSU

### 103B BUILDING KEYBOARDING SKILL II .5 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in BOT 103A or equivalent.

1.5 hours laboratory

Continuation 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. Those keying at a lower rate should enroll in BOT 103A.

CSU

### 103C BUILDING KEYBOARDING SKILL III .5 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in BOT 103B or equivalent.

1.5 hours laboratory

Continuation 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. Those keying at a lower rate should enroll in BOT 103B.

CSU

### 104 FILING AND RECORDS MANAGEMENT 1 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in 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. Covers alphabetic, numeric, geographic and subject filing rules; and records management including rules for retention, transfer and disposition of records. Students will use a software package to learn basic filing rules.

CSU

### 105 DATA ENTRY SKILLS 1 UNIT

Prerequisite: Grade of "Pass" in BOT 100 or equivalent.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in BOT 096 or equivalent.

.5 hour lecture, 1.5 hours laboratory

Designed for students who wish to prepare for employment in the data entry field. Emphasizes the 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: "C" grade or higher or "Pass" in BOT 096, 097, 101AB or equivalent or concurrent enrollment, ENGL 098R or ESL 105 or equivalent reading level.

2 hours lecture

Study of 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: "C" grade or higher or "Pass" in 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, including using decimals, fractions, constants, discounts, percentages and memory keys.

CSU

**114 ESSENTIAL WORD****1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in BOT 096, 097, 101AB or equivalent, 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 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. Those desiring more in-depth coverage of these and additional topics should consider enrolling in BOT 120, 121, 122. *Not open to students with credit in BOT 121, 122.*

CSU

**115 ESSENTIAL EXCEL****1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in BOT 096, 097, 100 or equivalent, 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, charts, basic formulas, and templates. The use of simple macros will be introduced. Those desiring 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, 125.*

CSU

**116 ESSENTIAL ACCESS****1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in BOT 096, 097, 100 or equivalent, 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, sort and filter records, use queries, and create forms, reports and labels. Those desiring 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, 128.*

CSU

**117 ESSENTIAL POWERPOINT****1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in BOT 096, 097, 114 or equivalent, 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. Those desiring 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, 131.*

CSU

**118 INTEGRATED OFFICE PROJECTS****1 UNIT**

Prerequisite: "C" grade or higher or "Pass" in BOT 102AB, 107, 114, 115, 116, 117 or equivalent.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ENGL 098R or ESL 105 or equivalent reading level.

3 hours laboratory

Capstone course 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 40 net words per minute, minimum. Students will apply their skills and use the Internet to complete projects that integrate these applications.

CSU

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

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in BOT 096, 097, 101AB or equivalent, ENGL 098R or ESL 105 or equivalent reading level.

.5 hour lecture, 1.5 hours laboratory

First in a three-level course sequence providing 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. Those desiring 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: "C" grade or higher or "Pass" in BOT 120 or equivalent.

.5 hour lecture, 1.5 hours laboratory

Second in a three-level course sequence providing 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: "C" grade or higher or "Pass" in BOT 121 or equivalent.

Corequisite: None

Recommended Preparation: None

.5 hour lecture, 1.5 hours laboratory

Third in a three-level course sequence providing 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: "C" grade or higher or "Pass" in BOT 096, 097, 100 or equivalent.

.5 hour lecture, 1.5 hours laboratory

First in a three-level course sequence providing 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. Those desiring 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: "C" grade or higher or "Pass" in BOT 123 or equivalent.

.5 hour lecture, 1.5 hours laboratory

Second in a three-level course sequence providing 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: "C" grade or higher or "Pass" in BOT 124 or equivalent.

Corequisite: None

Recommended Preparation: None

.5 hour lecture, 1.5 hours laboratory

Third in a three-level course sequence providing 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: "C" grade or higher or "Pass" in BOT 096, 097, 100, 116 or equivalent, ENGL 098R or ESL 105 or equivalent reading level.

.5 hour lecture, 1.5 hours laboratory

First in a three-level course sequence providing 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. Those desiring 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: "C" grade or higher or "Pass" in BOT 126 or equivalent.  
 .5 hour lecture, 1.5 hours laboratory  
 Second in a three-level course sequence providing 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.

CSU

**128 COMPREHENSIVE ACCESS, LEVEL III 1 UNIT**

Prerequisite: "C" grade or higher or "Pass" in BOT 127 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 .5 hour lecture, 1.5 hours laboratory  
 Third in a three-level course sequence providing 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 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: "C" grade or higher or "Pass" in BOT 101AB, 114, 120 or equivalent, ENGL 098R or ESL 105 or equivalent reading level.  
 .5 hour lecture, 1.5 hours laboratory  
 First in a three-level course sequence providing 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. Those desiring 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: "C" grade or higher or "Pass" in BOT 129 or equivalent.  
 .5 hour lecture, 1.5 hours laboratory  
 Second in a three-level course sequence providing 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: "C" grade or higher or "Pass" in BOT 130 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 .5 hour lecture, 1.5 hours laboratory  
 Third in a three-level course sequence providing 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: "C" grade or higher or "Pass" in BOT 101AB or 121 or equivalent.  
 .5 hour lecture, 1.5 hours laboratory  
 Introductory course in Microsoft Publisher for students who wish to acquire a basic understanding of concepts and terminology for the production and design of professional quality publications. Emphasizes graphics, word processing and page layout.

CSU

**151 USING MICROSOFT OUTLOOK 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in 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

**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 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 taken for a maximum of 9 units.*

**201 ADVANCED KEYBOARDING/ DOCUMENT PROCESSING 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in BOT 102AB 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. Utilizes 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: "C" grade or higher or "Pass" in BOT 122, 125, 128, 131, 151 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours laboratory  
 Capstone course providing 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

**280ABC PREPARING FOR PERFORMANCE EXAMINATIONS IN MICROSOFT WORD .5 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in BOT 122 or equivalent.  
 1.5 hours laboratory  
 Designed for students who have completed BOT 122 or the equivalent. Testing software will be used to prepare for the Microsoft Office User Specialist (MOUS) certification examination, for employment examinations, or to receive a BOT certificate of proficiency in MS Word with detailed competencies. *May be taken up to 3 times. Pass/No Pass only.*

**281ABC PREPARING FOR PERFORMANCE EXAMINATIONS IN MICROSOFT EXCEL .5 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in BOT 125 or equivalent.  
 1.5 hours laboratory  
 Designed for students who have completed BOT 125 or the equivalent. Testing software will be used to prepare for the Microsoft Office User Specialist (MOUS) certification examination, for employment examinations, or to receive a BOT certificate of proficiency in MS Excel with detailed competencies. *May be taken up to 3 times. Pass/No Pass only.*

**282ABC PREPARING FOR PERFORMANCE EXAMINATIONS IN MICROSOFT ACCESS .5 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in BOT 128 or equivalent.  
 1.5 hours laboratory  
 Designed for students who have completed BOT 128 or the equivalent. Testing software will be used to prepare for the Microsoft Office User Specialist (MOUS) certification examination, for employment examinations, or to receive a BOT certificate of proficiency in MS Access with detailed competencies. *May be taken up to 3 times. Pass/No Pass only.*

**283ABC PREPARING FOR PERFORMANCE EXAMINATIONS IN MICROSOFT POWERPOINT .5 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in BOT 131 or equivalent.  
 1.5 hours laboratory  
 Designed for students who have completed BOT 131 or the equivalent. Testing software will be

used to prepare for the Microsoft Office User Specialist (MOUS) certification examination, for employment examinations, or to receive a BOT certificate of proficiency in MS PowerPoint with detailed competencies. *May be taken up to 3 times. Pass/No Pass 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

CSU

\*For additional information, see Work Experience Requirements under Academic Policies and Procedures.

## CADD TECHNOLOGY

### 115 ENGINEERING GRAPHICS 3 UNITS

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

Introduction to engineering drafting. Covers the fundamentals of drafting using both mechanical instruments and the computer as drafting tools. Students will learn the 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. *Not open to students with credit in ENGR 115, 124.*  
CSU, UC, UC credit limit

### 120 INTRODUCTION TO COMPUTER-AIDED DRAFTING AND DESIGN 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CADD 115 or ENGR 100 or equivalent.  
Corequisite: None

Recommended Preparation: Working knowledge of basic computer operations and file administration.  
2 hours lecture, 4 hours laboratory  
Concepts, techniques and procedures of Computer-Aided Drafting and Design (CADD). Introduces AutoCAD software as a drafting tool. Students will develop a basic functional understanding of computer-aided drafting. *Not open to students with credit in CADD 120ABCD, ENGR 119.*

CSU, UC, UC credit limit

### 125 3D SOLID MODELING 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CADD 115 or ENGR 100 or equivalent.  
Corequisite: None

Recommended Preparation: Working knowledge of basic computer operations and file administration.  
2 hours lecture, 4 hours laboratory  
Advanced graphic communication course using 3D parametric modeling techniques. Includes 3D modeling using appropriate software

(SolidWorks), feature-based part construction using extrudes, cuts and revolves, advanced surface shaping using lofts and sweeps, assembly construction and constraining in an engineering design environment. Students will continue to develop 2D drafting skills including proper organization and layout of component drawing views, dimensioning and tolerancing, sectioning and detailing, detail descriptive geometry, and manufacturing processes. *Also listed as ENGR 125. Not open to students with credit in ENGR 125.*

CSU, UC, UC credit limit

### 126 ELECTRONIC DRAFTING 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CADD 120 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. Covers Schematic Capture and Printed Circuit Board (PCB) layout and design using AutoCAD. Other software may be incorporated. ASME, ANSI, Military and NASA standards for engineering are discussed.

CSU

### 127 SURVEY DRAFTING TECHNOLOGY 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CADD 120 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 115. Land surveying, land development procedures, legal descriptions, topographical analysis, earthworks, geographic control and subdivision processes will be covered.

CSU

### 128 DIMENSIONING AND TOLERANCING 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CADD 120 or equivalent.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CADD/ENGR 125 or equivalent.

3 hours lecture

Basic study in dimensioning and tolerancing of engineering drawings using ASME/ANSI Y14.5M-1994 specification.

CSU

### 131 ARCHITECTURAL COMPUTER-AIDED DRAFTING AND DESIGN 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CADD 120 or ENGR 119 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. Uses the parametric CADD program Revit and associated commands, techniques, and processes required for the creation of contract documents for residential projects using professional standards.

CSU

### 132 ADVANCED COMPUTER-AIDED DRAFTING AND DESIGN 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CADD 120 or equivalent.

Corequisite: None

Recommended Preparation: Working knowledge of basic computer operations and file administration.

2 hours lecture, 4 hours laboratory

Advanced Computer-Aided Drafting and Design (CADD) topics such as concepts and application of three-dimensional constructions, editing and viewing capabilities of AutoCAD, 3D modeling, and AutoCAD customization. Includes techniques for creating lights, scenes, surface texture (bit-mapped/raster) materials, rendering and animation.

CSU

### 133 ADVANCED ARCHITECTURAL COMPUTER-AIDED DRAFTING AND DESIGN 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CADD 131 or equivalent.

Corequisite: None

Recommended Preparation: None

2 hours lecture, 4 hours laboratory

Advanced application of architectural graphics, symbols, patterns, layouts, text, dimensions and scales to develop design drawings for small architecture, interior design and space planning projects. Uses the parametric CADD program Revit and associated commands, techniques and processes required for the creation of contract documents for residential projects using professional standards.

CSU

### 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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

CSU



## CHEMISTRY

### 102 INTRODUCTION TO GENERAL, ORGANIC AND BIOLOGICAL CHEMISTRY 5 UNITS

Prerequisite: Grade of "Pass" in MATH 090 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
4 hours lecture, 3 hours laboratory  
A one-semester course covering the basic principles of general, organic and biochemistry as needed to understand the biochemistry, physiology and pharmacology of the human body. Intended for students planning to transfer to a California State University nursing program. *Students with a grade of "C" or better in CHEM 115, 116 are not eligible for this class.*  
CSU, CSU GE, IGETC, UC, UC credit limit

### 105 CHEMISTRY AND CRIME 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
Elementary principles of chemistry and their application to the field of forensic chemistry. Students will learn basic chemical principles and apply them to the chemical analysis of evidence.  
AA/AS GE, CSU, CSU GE

### 113 FORENSIC CHEMISTRY 4 UNITS

Prerequisite: Grade of "Pass" in MATH 090 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture, 3 hours laboratory  
Elementary principles of chemistry with application to the field of forensic science. Students will learn basic chemical terminology and problem-solving techniques with a forensic science application. Chemical techniques for analyzing evidence will be studied in lecture and practiced in lab. *Students will not receive credit toward graduation for more than one of the following courses: CHEM 113, 115, 120.*  
AA/AS GE, CSU, CSU GE, IGETC, UC, UC credit limit

### 115 FUNDAMENTALS OF CHEMISTRY 4 UNITS

Prerequisite: Grade of "Pass" in MATH 090 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 113, 115, 120.*  
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

### 116 INTRODUCTORY ORGANIC AND BIOCHEMISTRY 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in CHEM 115 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture, 3 hours laboratory  
Study of carbon compounds with an 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: "C" grade or higher or "Pass" in MATH 110 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. The 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 113, 115, 120.*  
AA/AS GE, CSU, CSU GE, IGETC, UC, UC credit limit

### 141 GENERAL CHEMISTRY I 5 UNITS

Prerequisite: "C" grade or higher or "Pass" in CHEM 120 or equivalent or the Chemistry 141 assessment and "C" grade or higher or "Pass" in MATH 110 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture, 6 hours laboratory  
Basic principles and concepts of chemistry with an 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

Prerequisite: "C" grade or higher or "Pass" in CHEM 141 or equivalent.  
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 nuclear chemistry. The laboratory will continue on the same basis as CHEM 141 but will also include 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 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 taken for a maximum of 9 units.*

### 231 ORGANIC CHEMISTRY I 5 UNITS

Prerequisite: "C" grade or higher or "Pass" in CHEM 142 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture, 6 hours laboratory  
First of a two semester organic chemistry sequence. Includes nomenclature of organic compounds, stereochemistry, reaction mechanisms, and the study of representative reactions for certain classes of organic compounds. The relationship of structure to properties, reactivity, and mechanism or reaction will be emphasized. This course 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.  
CSU

## CHILD DEVELOPMENT

### 101 PARENT EDUCATION 1 UNIT

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
1 hour lecture  
This course is primarily designed for parents of children enrolled in the Cuyamaca College Child Development Center. Includes an overview of child development principles and an exploration of the role of parents in supporting the development of their children. Provides guidance in effective parenting strategies reflecting family and cultural beliefs.  
CSU

### 106 PRACTICUM: BEGINNING OBSERVATION AND EXPERIENCE 1 UNIT

Prerequisite: None  
Corequisite: CD 123 or 125 or previous completion of either course with a "C" grade or higher or "Pass."  
Recommended Preparation: None  
3 hours laboratory  
Laboratory experience at an approved placement site that includes observing and recording the behavior of infant through preschool children and working directly with preschool children. Designed to reinforce and augment an understanding of principles and techniques for observing, assessing, planning and working with young children through direct experience.  
CSU

### 110 PARENT PARTICIPATION 1 UNIT

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours laboratory  
Laboratory of planned experiences and activities for parents of children enrolled in the Cuyamaca College Child Development Center. Designed to reinforce and augment an understanding of principles of parent-child interaction covered in CD 101. **Pass/No Pass only.**  
CSU

### 115 CHANGING AMERICAN FAMILY 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
Survey of the contemporary American family with an emphasis on changes in form, functions and expectations. The history of the family, both public and private, will be considered and



examined in relation to the effects of class, ethnicity and social policy. The effects on the family of common life events experienced by individuals and family members will be covered including sexuality, mate selection, marriage, childbearing, the working family, divorce, domestic violence, and aging. The future of the family including implications for the individual and society will be discussed.

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

### **116 PARENT EDUCATION II 1 UNIT**

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

Primarily designed for parents of children enrolled in the Child Development Center. Builds on the basic foundation of child development principles and explores the role of parents in supporting the development of their children. Guidance techniques and effective parenting skills will be emphasized.

*CSU*

### **123 PRINCIPLES AND PRACTICES OF PROGRAMS AND CURRICULUM FOR YOUNG CHILDREN 3 UNITS**

Prerequisite: None  
Corequisite: CD 106 or concurrent enrollment in a licensed child care program.  
Recommended Preparation: None  
3 hours lecture

Examination of theoretical principles of developmentally appropriate practices applied to programs and environments. Emphasizes the key role of relationships, constructive adult-child interactions, and teaching strategies in supporting physical, social, creative, and intellectual development for all children. Reviews the historical roots of early childhood programs and the evolution of the professional practices promoting advocacy, ethics and professional identity. Includes the legal requirements for programs in California including Title 22 and Title 5.

*CSU*

### **124 INFANT AND TODDLER DEVELOPMENT 3 UNITS**

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

Study of infants and toddlers, ages 0-3, focusing on the development of social-emotional, cognitive, language, and motor domains including variations due to linguistic, cultural, socioeconomic, and special needs. Emphasis is on development as it relates to care in a group setting. Theories and current issues related to group care and appropriate methods of guidance and socialization are examined. Focuses on the importance of the cultural context as it relates to meeting individual needs and building positive relationships with both child and family.

*CSU*

### **125 CHILD GROWTH AND DEVELOPMENT 3 UNITS**

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

Study of child growth and development from conception through adolescence as determined by the interaction of the biosocial, cognitive and social/emotional domains of development within the family and the cultural context with implications for raising successful adults. Observations of children of various ages are 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. Includes experiences with a variety of art media, and 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: "C" grade or higher or "Pass" in CD 125 or equivalent.  
3 hours lecture

Exploration of the importance and value of science and mathematics in programs for young children. Students will examine and apply theories, methods and materials to facilitate children's understanding and appreciation for the concepts of math and science with an emphasis on problem-solving skills and strategies. Includes California Preschool Foundations for Mathematics and Science and the construction and presentation of appropriate materials for young children including children with special needs.

*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. Listening skills, singing, movement education, and creating instruments will be emphasized.

*CSU*

### **129 LANGUAGE AND LITERATURE FOR CHILD DEVELOPMENT 3 UNITS**

Prerequisite: None  
Corequisite: None  
Recommended Preparation: "C" grade or higher or "Pass" in CD 125 or equivalent.  
3 hours lecture

Designed to help teachers build language opportunities into every curriculum area. Explores 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, and techniques of storytelling and puppetry.

*CSU*

### **130 CURRICULUM: DESIGN AND IMPLEMENTATION 3 UNITS**

Prerequisite: None  
Corequisite: None  
Recommended Preparation: "C" grade or higher or "Pass" in CD 123, 125, 126, 127, 128, 129, 131 or equivalent.  
3 hours lecture

Examination of a variety of approaches to curriculum development. The class will emphasize a co-constructive process of observation, implementation, and documentation for designing environments that generate meaningful relevant learning that is responsive to the child in the context of family and culture.

*CSU*

### **131 CHILD, FAMILY AND COMMUNITY 3 UNITS**

Prerequisite: None  
Corequisite: None  
Recommended Preparation: "C" grade or higher or "Pass" in CD 123, 125 or equivalent.  
3 hours lecture

Examination of the socialization process including the role families, school, media, peers, and community play in children's development. Strategies to support children and families in a diverse society, developing and maintaining effective teacher and family relationships, and community resources and agencies that strengthen families will be examined. This course is required by the California Department of Social Services for teachers and directors.

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

### **132 OBSERVATION AND ASSESSMENT: FIELD EXPERIENCE SEMINAR 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in CD 106, 123, 125, 126, 127, 128, 129, 131 and 130 or 143 or equivalent.  
Corequisite: CD 133 or 150 or 170.  
Recommended Preparation: None  
3 hours lecture

Seminar for students participating in field experience as student teachers in early childhood education programs. Students will develop skills in observation, authentic assessment and portfolio development for children, and positive communication and guidance skills for working with children and families. These skills will be implemented in CD 133, 150 or 170. Reexamines professional ethics, responsibilities, and expectations of the work force, and explores strategies for job search.

*CSU*

### **133 PRACTICUM—FIELD EXPERIENCE: STUDENT TEACHING 2 UNITS**

Prerequisite: "C" grade or higher or "Pass" in CD 106, 123, 125, 126, 127, 128, 129, 130, 131 or equivalent.  
Corequisite: CD 132.

Recommended Preparation: None  
10 hours paid or 8 hours unpaid work experience per week

Under supervision at approved field placement sites, student teachers will design, implement, and evaluate curriculum experiences, apply previous coursework to make connections between theory and practice, demonstrate professional behavior, and build a comprehensive understanding of children in the group environment. Respectful workplace relationships among children and adults that serve as a foundation for co-construction of curriculum and positive guidance will be emphasized.

*CSU*

### **134 HEALTH, SAFETY AND NUTRITION OF YOUNG CHILDREN 3 UNITS**

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

Strategies for applying holistic health, safety and nutrition in early childhood settings. Designed 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 physical and mental health, safety, fitness and nutrition. An emphasis on program planning will include collaboration with families and healthcare providers leading to the development of good habits, attitudes and responses promoting healthy and safe lifestyles.

*CSU*

**136 ADULT SUPERVISION 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: 12 units of Child Development 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)

3 hours lecture

This course provides an opportunity for students to develop skills in establishing and maintaining supportive working relationships with adults in early childhood settings. Explores positive communication strategies including team building, collaboration, and effective problem solving.

CSU

**137 ADMINISTRATION OF CHILD DEVELOPMENT PROGRAMS I 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in 12 CD units as required by Title 22 licensing regulations: CD 125, CD 131, and 6 units in program curriculum (CD 123 and 126 or 127 or 128 or 129 or 130).

3 hours lecture

Designed for the beginning director of child care and preschool programs. Includes administrative tools, knowledge and techniques needed to organize, open and operate a child development facility; 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: "C" grade or higher or "Pass" in CD 137 or equivalent.

3 hours lecture

Designed for the experienced director of child care and preschool programs. The focus is on human relationships in the professional setting with an emphasis on political, fiscal, and working conditions and how they affect turnover and staff morale, support for families in the program, and managing personal growth and development.

CSU

**141 WORKING WITH CHILDREN WITH SPECIAL NEEDS 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

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 regular classroom and child care settings, topics will include compliance with legislation, referral processes, working with families, and modification of environment and curriculum.

CSU

**143 RESPONSIVE PLANNING FOR INFANT/TODDLER CARE 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CD 124 or 125 or equivalent.

3 hours lecture

Examination of programs, philosophies and components of high quality group care for infants and toddlers. Students will develop

planning skills for environments, experiences, and caregiving routines that are based on respectful relationships and needs of diverse children and families. Emphasis is on building relationships between the family, child and caregiver in the context of linguistic, cultural, socioeconomic, and individual family differences and special needs.

CSU

**145 CHILD ABUSE AND FAMILY VIOLENCE IN OUR SOCIETY 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Examination of child abuse and neglect, domestic violence, elder abuse, and community violence. Safety and self protection will be studied 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: "C" grade or higher or "Pass" in CD 125 or equivalent.

3 hours lecture

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: "C" grade or higher or "Pass" in CD 148 or equivalent.

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: "C" grade or higher or "Pass" in CD 125, 131, 134, 148, 149 or equivalent.

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, students will participate in all activities and will develop and supervise learning experiences, conduct activities, handle daily routines, and respond to individual and group needs.

CSU

**153 TEACHING IN A DIVERSE SOCIETY 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 one's work with children and families. Using an anti-bias approach, the class will examine and discuss topics related to ethnicity, religion, race, sex, disability and lifestyles as they are represented

in our schools and society at large. Includes self reflection as a tool for personal growth. Students will better understand their own attitudes regarding diversity and will apply this knowledge to their work with children and families.

CSU

**157 FOOD AND NUTRITION FOR CHILDREN 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Provides information and resources related to the nutritional needs of children from birth until approximately 12 years of age. Topics include menu planning, 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: "C" grade or higher or "Pass" in CD 123, 124, 125, 126, 127, 128, 129, 143 or equivalent.

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, students will participate in all classroom activities and 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 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 taken for a maximum of 9 units.*

**200 INTRODUCTION TO OUTDOOR EDUCATION PROGRAMS 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CD 125 or equivalent.

1 hour lecture

Introduction and exploration of outdoor education programs for students considering employment in camp settings. Introduces 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: "C" grade or higher or "Pass" in CD 125 or equivalent.

1 hour lecture

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 is 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: "C" grade or higher or "Pass" in CD 125, 200, 201 or equivalent.

Corequisite: None

Recommended Preparation: None

75 hours paid or 60 hours unpaid work experience

Under supervision at 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. *Fingerprinting will be required for field experience site and some sites may require CPR certification.*

CSU

## **203 COOKING EXPERIENCES WITH YOUNG CHILDREN 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

1 hour lecture

Designed for child development students and teachers currently working in the field. Introduces the educational, cross-curricular, and multicultural benefits of cooking experiences with young children. Areas of emphasis include benefits of cooking activities, nutrition, health and safety issues, and the connections to language, science and math learning. **Pass/No Pass only.**

CSU

## **210 WORKING WITH YOUNG CHILDREN WITH CHALLENGING BEHAVIORS 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Provides 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.

CSU

## **211 FIELD EXPERIENCE IN EARLY CHILDHOOD INTERVENTION 2 UNITS**

Prerequisite: "C" grade or higher or "Pass" in CD 125, 141, 145, 210 and two of the following: CD 126, 127, 128, 129 or equivalent.

Corequisite: CD 132 or previous enrollment.

Recommended Preparation: "C" grade or higher or "Pass" in CD 131, 134 or equivalent.

10 hours paid or 8 hours unpaid work experience per week

Supervised field experience as an assistant in an inclusive early childhood group or special education program, or an individual early

intervention setting. Students will participate in routines and procedures and will develop and implement appropriate activities as required.

CSU

## **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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

CSU

# **COMMUNICATION**

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

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

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

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

## **120 INTERPERSONAL COMMUNICATION 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Provides an opportunity to learn and apply in daily life practical principles of interpersonal communication. The emphasis is on personal, situational and cultural influences and interaction. 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 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Provides an opportunity for general improvement in the basic process of public speaking with an emphasis on individual to audience contexts. Introduction to rhetorical theory. 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: "C" grade or higher or "Pass" in COMM 122 or equivalent.

Corequisite: None

Recommended Preparation: None

3 hours lecture

Advanced training in the preparation and delivery of common types of public speaking. Emphasis is on new theoretical approaches to the process of oral communication.

CSU, UC

## **124 INTERCULTURAL COMMUNICATION 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

The purpose of this course is to experience and learn about intercultural communication: the study of face-to-face communication between persons with significantly different beliefs, values, expectations and assumptions. A 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, IGETC, UC

## **135 ORAL INTERPRETATION OF LITERATURE 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Provides an opportunity to develop skills in oral interpretation of various types of literature. Draws on the traditions of oral interpretation and literary analysis. Students will explore works of poetry, prose and dramatic literature with an emphasis on the insight to be gained from analyzing fine literature and sharing it with others.

CSU, UC

## **136 READERS THEATRE 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Study of the theory, concepts and history of Readers Theatre to include the principles of literary analysis and oral interpretation, and methodologies and techniques in the development of written material from text into a medium of group communication.

CSU, UC

## **137 CRITICAL THINKING IN GROUP COMMUNICATION 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Designed to facilitate the development of critical thinking and decision making skills in the small group communication context. Emphasizes the basic elements of critical thinking such as evidence, reasoning and language. Students will become familiar with leadership strategies, discussion techniques, and conflict management used in groups.

AA/AS GE, CSU, CSU GE, UC



**145 ARGUMENTATION****3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Study of the construction and analysis of public argument. 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 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 taken for a maximum of 9 units.*

**240ABCD INTERCOLLEGIATE FORENSICS****3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Provides an opportunity for students 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

CSU

## COMPUTER AND INFORMATION SCIENCE

*See Business Office Technology for specific Microsoft applications such as Word, PowerPoint, Excel, and Access.*

**105 INTRODUCTION TO COMPUTING****3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Introductory 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. Provides hands-on experience with a computer and popular application software. Emphasis is on those skills and knowledge needed to use and maintain a home or small business computer.

CSU

**110 PRINCIPLES OF INFORMATION SYSTEMS****4 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture, 3 hours laboratory

Applications of computerized systems in business organizations. Basic concepts of computer organization, data processing systems, decision support systems and systems analysis. The laboratory component consists of hands-on problem solving using software applications including spreadsheets and databases.

CSU, UC

**120 COMPUTER MAINTENANCE AND A+ CERTIFICATION****3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: Basic computer skills (basic knowledge of hardware, operating systems, applications software)

2 hours lecture, 3 hours laboratory

Preparation 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). 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 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

Introduction to the basic concepts of network cabling systems. Focuses on network cabling design, installation, testing, certification and troubleshooting. Descriptions of industry trends and standards, types of copper and optical fiber

cabling and connectors, and comparisons between physical and logical network topologies are covered. Students will develop knowledge and skills in installing and testing voice and data cable connectors and jacks, horizontal links and channels, pulling and terminating cables, cable system certification, telecommunications room design, and patch panel installation. The laboratory component allows students to verify concepts introduced in class and to develop the knowledge and skills required to build, test, operate and maintain the physical aspects of voice, video and data networks.

CSU

**125 NETWORK+ CERTIFICATION****3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: Basic computer skills (basic knowledge of hardware, operating systems, applications software).

2 hours lecture, 3 hours laboratory

Practical course intended for those interested in learning computer networking with an emphasis on earning the Computing Technology Industry Association's certification Network+, a foundation-level, vendor-neutral international industry credential that validates the knowledge of networking professionals. Earning this 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. It also 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.

CSU

**140 DATABASES****3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CIS 110 or equivalent.

2 hours lecture, 3 hours laboratory

Beginning course in database software that provides a solid background in database applications and operation. Students will create, update and retrieve information using a computer and database software. Beneficial for those 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: "C" grade or higher or "Pass" in CIS 120, 121 or equivalent.

2 hours lecture, 3 hours laboratory

Introduction 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. Technological advances in broadband and convergence technologies and the merging of voice, data and video applications on a single network are introduced. The laboratory component allows students to verify concepts introduced in class and develop the knowledge and skills required to build, test, operate and maintain telecommunications networks.

CSU

### 162 TECHNICAL DIAGRAMMING USING MICROSOFT VISIO 2 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: Basic computer skills.  
1 hour lecture, 3 hours laboratory  
Networking and telecommunications professionals must know how to create technical diagrams and drawings, and use computer tools to manage Information Technology (IT) projects. Using Microsoft Visio, 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 create presentations of complex technical and business information systems. Challenging case studies will provide real-world technical and business experiences.

CSU

### 190 WINDOWS OPERATING SYSTEM 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: "C" grade or higher or "Pass" in CIS 110, 120 or equivalent.  
2 hours lecture, 3 hours laboratory  
Comprehensive hands-on application, use and training on a Windows client computer operating system for both beginning and intermediate-level students. Instruction will include: operating system installation and configuration, graphical user interface and command-line commands, hardware installation and configuration, file system management, user and group management, security configuration, network configuration and management, troubleshooting and disaster recovery.

CSU

### 191 LINUX OPERATING SYSTEMS 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: "C" grade or higher or "Pass" in CIS 110, 120 or equivalent.  
2 hours lecture, 3 hours laboratory  
Comprehensive hands-on application, use and training on a Linux client computer operating system for both beginning and intermediate-level students. Instruction will include: operating system installation and configuration, graphical user interface and command-line commands, hardware installation and configuration, file system management, user and group management, security configuration, network configuration and management, troubleshooting and disaster recovery.

CSU

### 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 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 taken for a maximum of 9 units.*

### 201 CISCO NETWORKING ACADEMY I EXPLORATION 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: "C" grade or higher or "Pass" in CIS 120 or equivalent.  
2 hours lecture, 3 hours laboratory  
First of four courses providing classroom and laboratory experience in current and emerging networking technologies, and to prepare for certification as a Cisco Certified Network Associate (CCNA). Introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. Uses the OSI and TCP layered models to examine the nature and roles of protocols and services at the application, network, data link, and physical layers. The principles and structure of IP addressing and fundamentals of Ethernet concepts, media, and operations are introduced. Labs use a "virtual Internet environment" consisting of servers, routers, and switches to allow students to analyze real data within a controlled network environment. Packet Tracer (PT) simulation software activities help students analyze protocol and network operation along with practicing network design and configuration. At the end of the course, students build simple LAN topologies by applying basic principles of cabling; perform basic configurations of network devices including routers and switches; and implement IP addressing schemes.

CSU

### 202 CISCO NETWORKING ACADEMY II 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 201 or equivalent or completion of CCNA1 at another Cisco Networking Academy.  
Corequisite: None  
Recommended Preparation: "C" grade or higher or "Pass" in CIS 120 or equivalent.  
2 hours lecture, 3 hours laboratory  
Second of four courses providing classroom and laboratory experience in current and emerging networking technology, and to prepare for certification as a Cisco Certified Network Associate (CCNA). Covers the architecture, components and operation of routers, and explains the principles of routing and routed protocols. Students will analyze, configure, verify and troubleshoot the primary routing protocols RIPv1, RIPv2, OSPF and EIGRP. By the end of the course, students will be able to recognize and correct common routing issues and problems.

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### 203 CISCO NETWORKING ACADEMY III 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 202 or equivalent or successful completion of CCNA2 at another Cisco Networking Academy.  
Corequisite: None  
Recommended Preparation: "C" grade or higher or "Pass" in CIS 120 or equivalent.  
2 hours lecture, 3 hours laboratory  
Third of four courses providing classroom and laboratory experience in current and emerging networking technology, and to prepare for certification as a Cisco Certified Network Associate (CCNA). Covers the architecture, components, and operation of switches and wireless routers. Explains the principles of LAN switching topologies, switching protocols, wireless topologies, and wireless security. Students will analyze, configure, verify, and troubleshoot switches; switching protocols such as VLANs, VTP, STP and VLAN tagging; and wireless routers. By the end of the course, students will be able to recognize and correct common switching issues and problems.

CSU

### 204 CISCO NETWORKING ACADEMY IV 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 203 or equivalent or successful completion of CCNA3 at another Cisco Networking Academy.  
Corequisite: None  
Recommended Preparation: "C" grade or higher or "Pass" in CIS 120 or equivalent.  
2 hours lecture, 3 hours laboratory  
Fourth of four courses providing classroom and laboratory experience in current and emerging networking technology, and to prepare for certification as a Cisco Certified Network Associate (CCNA). The primary focus is on accessing wide area networks (WAN). The goal is to develop an understanding of various WAN technologies to connect small to medium-sized business networks. Topics include: WAN converged applications; Quality of Service (QoS); WAN connectivity using Point-to-Point Protocol (PPP), Frame Relay protocol, and Broadband Links (Cable, DSL, VPN); WAN security concepts including types of threats, how to analyze network vulnerabilities, general methods for mitigating common security threats, and types of security appliances and applications; principles of traffic control and access control lists (ACLs); configuring Network Address Translation (NAT) and Dynamic Host Control Protocol (DHCP); IPv6 addressing concepts; and using Cisco Router and Security Device Manager (SDM) Graphical User Interface to configure router security and implement IP addressing services. Students will learn how to detect, troubleshoot and correct common Enterprise network implementation issues.

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### 205 CISCO NETWORKING ACADEMY V 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 204 or equivalent or successful completion of CCNA4 at another Cisco Networking Academy, or possess current CCNA certification.  
Corequisite: None  
Recommended Preparation: None  
2 hours lecture, 3 hours laboratory  
This course, combined with CIS 206 Cisco Networking Academy VI, covers topics necessary to successfully complete the Cisco Certified Networking Professional ROUTE certification. Skills necessary for implementing, monitoring, and maintaining routing services in an enterprise network will be enhanced. Students will learn how to plan, configure, and verify the implementation of complex enterprise LAN and WAN routing solutions using a range of IPv4 routing protocols. Topics include: EIGRP (Enhanced Interior Gateway Routing Protocol), Multi-area OSPF (Open Shortest Path First) routing protocols, and Interior Gateway Protocol (IGP) redistribution and Path Control. This lab-intensive course provides hands-on experience by performing case studies using Cisco networking devices.

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### 206 CISCO NETWORKING ACADEMY VI 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 205 or equivalent  
Corequisite: None  
Recommended Preparation: None  
2 hours lecture, 3 hours laboratory  
This course, combined with CIS 205 Cisco Networking Academy V, covers topics necessary to successfully complete the Cisco Certified Networking Professional ROUTE certification. Skills necessary for implementing, monitoring, and maintaining routing services in an enterprise network will be enhanced. Students will learn how to plan, configure, and verify the implementation of complex enterprise LAN and WAN routing solutions using a range of routing

protocols in IPv4 and IPv6 environments. Continues using the CCNP ROUTE certification content learned in CIS 205 and introduces new topics: BGP (Border Gateway Protocol); secure routing solutions to support branch offices and mobile workers; introduction to IPv6; IPv6 addressing and routing; OSPFv3; IPv6 tunneling; and IPv4 to IPv6 translation. This lab-intensive course provides hands-on experience by performing case studies using Cisco networking devices.

## 207 CISCO NETWORKING

### ACADEMY VII

3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 204 or equivalent or successful completion of CCNA4 at another Cisco Networking Academy, or possess current CCNA certification

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Cisco Networking Academy VII-Switch is the sixth level of Cisco Networking Academy courses and one of four courses for the Cisco Certified Networking Professional designation. Students will learn how to implement, monitor, secure, and maintain network switching solutions in converged enterprise campus networks. Covers the secure integration of VLANs (Virtual Local Area Networks), WLANs (Wireless Local Area Networks), voice, and video into campus networks. Topics include: Multilayer Switching, VLANs, VTP (VLAN Trunking Protocol), STP (Spanning Tree Protocol), Switch security techniques, SPAN (Switched Port Analyzer), LCAP (EtherChannel, Link Aggregation Control Protocol), Inter-VLAN Routing, HSRP (Hot Standby Router Protocol), VRRP (Virtual Redundant Router Protocol), GLBP (Gateway Load Balancing Protocol), WLANs, QoS (Quality of Service), and IP Multicasting. This lab-intensive course provides hands-on learning and practice to reinforce configuration skills using Cisco networking devices.

## 208 CISCO NETWORKING

### ACADEMY VIII

3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 205, 206, 207 or equivalent or successful completion of equivalent Cisco Networking Academy CCNP ROUTE and SWITCH courses or possess current CCNP ROUTE and SWITCH certifications

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Cisco Networking Academy VIII-TSHOOT is the seventh level of Cisco Networking Academy courses and one of four courses for the Cisco Certified Networking Professional designation. Students will learn how to monitor and maintain complex enterprise routed and switched IP networks. Skills learned are based on systematic and industry recognized approaches to plan and execute regular network maintenance including support and troubleshooting network problems using technology-based processes and best practices. Troubleshooting topics include: processes for complex enterprise networks; tools and applications; campus switched solutions; routing solutions; addressing services; network performance issues; converged networks; network security implementations; and complex enterprise networks. This lab-intensive course provides hands-on learning and practice to reinforce troubleshooting skills using Cisco networking devices.

## 209 CISCO NETWORKING

### ACADEMY IX

3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 204 or equivalent or successful completion of CCNA4 at another Cisco Networking Academy or possess current CCNA certification

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Designed for students seeking career-oriented, entry-level security specialist skills. Provides the technical knowledge and skill experience needed to prepare for entry-level security specialist careers. The CCNA Security curriculum blends classroom hands-on experience using Cisco routers and switches and an online e-learning solution to develop an in-depth understanding of network security principles and security tools such as: protocol sniffers/analyzers, TCP/IP and common desktop utilities, Cisco IOS Software, Cisco VPN client, and web-based resources. Preparation for the Implementing Cisco IOS Network Security (IINS) certification exam (640-553), leading to the CCNA Security certification.

## 211 WEB MARKUP LANGUAGES

3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: Basic computer skills (ability to use Internet, word process documents, manage electronic files).

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 WEB DEVELOPMENT

3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: Basic computer skills (ability to use Internet, word process documents, manage electronic files).

2 hours lecture, 3 hours laboratory

Introductory web development course emphasizing production and design using web authoring software. Includes screen design, navigation design and color design. Students will apply skills and concepts to plan, develop and publish a small website.

CSU

## 213 ADVANCED WEB DEVELOPMENT

3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: Experience with web, database design and development which can be learned in CIS 140 and 212 or equivalent. Students must have experience with the authoring tool designated in the schedule. CIS 140 can be taken at the same time as 213.

2 hours lecture, 3 hours laboratory

Students will use a WYSIWYG authoring tool to create dynamic websites useful for e-commerce. Production topics include database integration, forms, cascading style sheets, script editing, searches. Design focus is on usability and accessibility.

CSU

## 215 JAVASCRIPT PROGRAMMING

3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 211 or equivalent or two years verifiable XHTML and CSS coding experience.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CS 119 or equivalent or programming experience.

2 hours lecture, 3 hours laboratory

Introductory course in JavaScript programming which focuses on creating interactive web pages. The foundation is set with JavaScript basics such as the Document Object Model, variables, data types, syntax, control structures, and functions. JavaScript will be integrated with HTML and CSS to perform real-world tasks including form validation, image rollovers, pull-down menus, pop-up windows, and form calculations. Current uses of JavaScript (e.g., AJAX) will be introduced.

CSU

## 216 ACTIVE SERVER PAGES

3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CIS 211 or HTML experience, 212 or experience developing a website, 213, CS 180ABCD or 182 or experience with Visual Basic or Java, or equivalent.

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 is 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: "C" grade or higher or "Pass" in CIS 140 or equivalent or some experience with database development, CIS 211 or equivalent or proficiency with HTML or XHTML.

2 hours lecture, 3 hours laboratory

Provides the knowledge and skills necessary to use the PHP scripting language to develop dynamic web-based applications. Topics include the fundamentals of scripting, using PHP with HTML forms, creating functions, and integrating with the MySQL database.

CSU

## 221 DIGITAL VIDEO EDITING AND DVD PRODUCTION

3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CIS 110 or equivalent or basic computer skills.

2 hours lecture, 3 hours laboratory

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

## 240 ADVANCED DATABASES

3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CIS 140 or equivalent.

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 those who

wish to create very efficient customized applications.

CSU

## 242 DATABASE DESIGN 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in 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.

CSU

## 261 TELECOMMUNICATIONS NETWORKING CAPSTONE 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CIS 120, 121, 161, 190, 201, 202 or 125 or equivalent.

2 hours lecture, 3 hours laboratory

This unique course combines advanced telecommunications and other networking topics with comprehensive hands-on labs in which students build end-to-end voice, video, data, and wireless networks. Emerging technologies and advanced networks are explored, such as: 10 Gigabit Ethernet, Fiber Optics, Dense Wavelength Division Multiplexing (DWDM), Voice-over-Internet Protocol (VoIP), Wireless to the Home, and Internet Protocol Television. The laboratory component allows students to verify concepts introduced in class and in previous networking classes to develop the prerequisite knowledge and skills required to design, build, test, operate and maintain modern convergent telecommunications networks.

CSU

## 262 WIRELESS NETWORKING 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 125 or 201 or equivalent or possess current CCNA, Network+ or CCENT certification, or two years verifiable network administration experience

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CIS 202 or equivalent

2 hours lecture, 3 hours laboratory

Covers WLAN (Wireless Local Area Network) topics including basic wireless principles, wireless technology concepts, wireless networking devices, 802.11 antenna technology, and WLAN Security. Introduces 802.11 WLAN communication technologies available today. Along with learning wireless technology terms, concepts and principles, students will get hands-on experience configuring a variety of WLAN networking devices and topologies. The CWNA certification is the foundation level enterprise Wi-Fi certification for the Certified Wireless Network Professional (CWNP) program, and is required for the Certified Wireless Security Professional (CWSP) and Certified Wireless Networking Expert (CWNE) certifications.

CSU

## 263 FUNDAMENTALS OF NETWORK SECURITY 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CIS 120, 190, 191 or equivalent.

2 hours lecture, 3 hours laboratory

Entry-level course in network security that addresses the various aspects of designing and implementing a secure network. Designed for

students 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: 12 units in CIS/CS courses related to field in which work experience is sought and current resume highlighting computer science or information system experience and course-related study.

Corequisite: None

Recommended Preparation: None

5 hours paid or 4 hours unpaid work experience per week per unit

Work experience at a designated industry site in a computer and information science occupation category for students seeking job experience in computer science or information systems. *May be taken for a maximum of 12 units.*

CSU

## 290 WINDOWS SYSTEM ADMINISTRATION 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CIS 120, 190 or equivalent.

2 hours lecture, 3 hours laboratory

Comprehensive hands-on application and introduction to multi-user, multi-tasking operating systems and networked operating systems. Topics include: operating system installation and configuration, server/domain promotion, group policy implementation and management, network trusts, storage configuration and management, server security configuration, user and group management, server roles (DNS, DHCP, Print), troubleshooting and disaster recovery.

CSU

## 291 LINUX SYSTEM ADMINISTRATION 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CIS 120, 191 or equivalent.

2 hours lecture, 3 hours laboratory

Comprehensive hands-on application and instruction in multi-user, multi-tasking operating systems and networked operating systems. Topics include: operating system installation and configuration, storage configuration and management, server security configuration, user and group management, configuration and management of various server roles (such as LDAP, DNS, DHCP, Print, Mail, Samba, Apache), troubleshooting and disaster recovery.

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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

CSU

# COMPUTER SCIENCE

## 119 PROGRAM DESIGN AND DEVELOPMENT 3 UNITS

Prerequisite: None

Corequisite: CS 119L

Recommended Preparation: "C" grade or higher or "Pass" in CIS 110 or equivalent, intermediate algebra.

3 hours lecture

Introductory course in program design and development using Java or other object-oriented programming language to serve as a foundation for more advanced programming, computer science or networking courses. Emphasizes the development of problem-solving skills while introducing 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. *Requires concurrent enrollment in CS 119L.*

CSU, UC

## 119L PROGRAM DESIGN AND DEVELOPMENT LAB 1 UNIT

Prerequisite: None

Corequisite: CS 119

Recommended Preparation: "C" grade or higher or "Pass" in CIS 110 or equivalent, 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. *Requires concurrent enrollment in CS 119. Pass/No Pass only.*

CSU, UC

## 180 INTRODUCTION TO VISUAL BASIC PROGRAMMING 4 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CS 119 and MATH 103 or 110 or equivalent

3 hours lecture, 3 hours laboratory

Introduction to computer programming using Visual Basic with an emphasis on practical applications of programming for today's technology. Students with no previous programming experience in Visual Basic will learn how to: plan and create well-structured programs; write programs using sequence, selection and repetition structures; and create and manipulate sequential access files, structs, classes, pointers and arrays. Laboratory instruction includes program development and execution.

CSU, UC



**181 INTRODUCTION TO C++ PROGRAMMING****4 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in CS 119 or equivalent, intermediate algebra.  
 3 hours lecture, 3 hours laboratory  
 Introduction to computer programming using C++. Students with no previous programming experience in C++ will learn how to plan and create well-structured programs, 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: "C" grade or higher or "Pass" in MATH 110 or equivalent.  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in CS 119 or equivalent 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 and mobile application programming are introduced.  
 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 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 taken for a maximum of 9 units.*

**280ABCD INTERMEDIATE VISUAL BASIC PROGRAMMING****4 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in CS 180ABCD or equivalent.  
 3 hours lecture, 3 hours laboratory  
 Continuation of CS 180. Provides the programmer with professional training with an emphasis on documentation, structured programming, and programming to professional standards using Visual Basic.  
 CSU, UC

**281 INTERMEDIATE C++ PROGRAMMING AND FUNDAMENTAL DATA STRUCTURES****4 UNITS**

Prerequisite: "C" grade or higher or "Pass" in CS 181 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture, 3 hours laboratory  
 Continuation of CS 181. Provides 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: "C" grade or higher or "Pass" in CS 182, MATH 175 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture, 3 hours laboratory  
 Continuation of CS 182. Implement and analyze a variety of data structures and the algorithms used with those data structures, and create abstract data types and learn how and when to utilize them. Fundamental data structures include multidimensional arrays, linked lists, stacks, queues, heaps, trees, and hash tables; 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-O notation. A variety of sort algorithms are reviewed and analyzed for best, worst, and average case performance, and are compared with tree traversal algorithms. Develop increased sophistication in object-oriented basics such as inheritance, encapsulation, design of abstract data types and polymorphism, and will gain experience by working on larger programs and managing large, multi-programmer projects. Laboratory instruction includes program development and execution. Mobile and database applications will be introduced.  
 CSU, UC

**289 COMPUTER ORGANIZATION AND SYSTEMS PROGRAMMING****4 UNITS**

Prerequisite: "C" grade or higher or "Pass" in CS 282 or equivalent.  
 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.  
 CSU

**COUNSELING****Formerly Personal Development-Counseling****101 INTRODUCTION TO COLLEGE .5-1 UNIT (formerly PDC 101)**

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.  
**Pass/No Pass only. Non-degree applicable.**

**110 CAREER DECISION MAKING 1 UNIT (formerly PDC 110)**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture  
 Utilization of a group seminar structure to explore and research various career and major options. Lecture, group discussion, experiential activities, and vocational assessment tools will be utilized to assist students in identifying their individual interests, values, and personality styles. Students will conduct educational and career research to relate their vocational assessment results to setting academic and career goals, and will learn how to write a resume and prepare for a job interview. **Pass/No Pass only.**  
 CSU

**124 LIFELONG SUCCESS 3 UNITS (formerly PDC 124)**

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.  
 CSU, CSU GE, UC

**130 STUDY SKILLS AND TIME MANAGEMENT 1 UNIT (formerly PDC 130)**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture  
 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. **Pass/No Pass only. CSU**

#### 140 LIFE SKILLS AND PERSONAL ADJUSTMENT 3 UNITS (formerly PDC 140)

Prerequisite: None  
Corequisite: None  
Recommended Preparation: Placement in ENGL 110 based on assessment.

3 hours lecture

Study of the cognitive, behavioral, humanistic, and existential theories as they relate to the understanding of the self and the dynamics of healthy adjustment. Students will learn life skills that are conducive to achieving a satisfying and healthy relationship with oneself and others. Using many of the skills suggested by the above theories, students will learn and apply personal achievement techniques, basic principles of healthy functioning, and effective coping strategies that facilitate the process of change and adaptation. Utilizing the major theories in the field of psychology and psychotherapy, the development of a healthy and strong identity and an empowered sense of self will be explored. The process of integrating thoughts and emotions into the development of identity will be emphasized.

CSU, CSU GE

#### 199 SPECIAL STUDIES OR PROJECTS IN 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 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 taken for a maximum of 9 units.*

#### 298 SELECTED TOPICS IN COUNSELING 1-3 UNITS

Prerequisite: Varies with topic  
Corequisite: Varies with topic  
Recommended Preparation: Varies with topic

1-9 hours

Selected topics not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-degree applicable.**

#### 299 SELECTED TOPICS IN COUNSELING 1-3 UNITS

Prerequisite: Varies with topic  
Corequisite: Varies with topic  
Recommended Preparation: Varies with topic

1-9 hours

Selected topics not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

CSU

## ECONOMICS

#### 110 ECONOMIC ISSUES AND POLICIES 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None

3 hours lecture

A one-semester course that provides general elementary knowledge of basic economic concepts and serves 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. *Not open to students with credit in ECON 120, 121.*

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

#### 120 PRINCIPLES OF MACROECONOMICS 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in MATH 103 or 110 or equivalent (MATH 110 is recommended for Business majors).

Corequisite: None

Recommended Preparation: None

3 hours lecture

Introductory course focusing on aggregate economic analysis. Topics include: market systems; economic cycles including recession, unemployment and inflation; national income accounts; macroeconomic equilibrium; money and financial institutions; monetary and fiscal policy; and international trade and finance. Includes some use of graphs and elementary algebra.

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

#### 121 PRINCIPLES OF MICROECONOMICS 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in MATH 103 or 110 or equivalent (MATH 110 is recommended for Business majors).

Corequisite: None

Recommended Preparation: None

3 hours lecture

Principles of economic analysis and decision-making from the viewpoint of the individual consumer, worker, and firm. Focuses on the price system allocation of resources and income, supply and demand analysis, the structure of American industry, and applications to current economic policy and problems. Includes 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 taken for a maximum of 1 unit. Pass/No Pass 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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

CSU

## EDUCATION

#### 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 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 taken for a maximum of 9 units.*

#### 200 TEACHING AS A PROFESSION 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Designed for students considering teaching as a profession and for classroom paraprofessionals working in the public school system. Career exploration, foundations of education, critical issues, and an introduction to literacy acquisition are addressed. Standards for the teaching profession and conditions for effective learning are discussed. Guided observation of public school classrooms in a variety of subject areas is required. *Limitation on enrollment: must meet health and safety requirements for public school field experience placement.*

CSU, UC

#### 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a 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, UC 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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.  
 CSU

**ENGINEERING****100 INTRODUCTION TO ENGINEERING AND DESIGN****3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Introduction to engineering as a way of perceiving the world. Overview of design and analytical techniques, problem solving and strategic thinking, disciplines, history, and ethics. Fundamentals of engineering graphics as a universal language and application to the visualization, representation, and documentation of designed artifacts. Focuses on the design process and on spatial reasoning and visualization.

AA/AS GE, CSU, UC

**119 BASIC ENGINEERING CAD****3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in CADD 115 or ENGR 100 or equivalent.  
 Corequisite: None  
 Recommended Preparation: Working knowledge of basic computer operations and file administration.  
 2 hours lecture, 4 hours laboratory  
 CAD (Computer-Aided Drafting) fundamentals for engineers. Basic 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 CADD 120, 120ABCD.*

CSU, UC, UC credit limit

**120 ENGINEERING COMPUTER APPLICATIONS****3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in MATH 180 or equivalent 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 SOLID MODELING****3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in CADD 115 or ENGR 100 or equivalent.  
 Corequisite: None  
 Recommended preparation: Working knowledge of basic computer operations and file administration.  
 2 hours lecture, 4 hours laboratory  
 Advanced graphic communication using solid modeling techniques and software (e.g., SolidWorks). Techniques include feature based part construction using extrudes, cuts and revolves, advanced surface shaping using lofts and sweeps, assembly construction and constraining in an engineering design environment. Continues to develop 2D drafting skills including proper organization and layout of component drawing views, dimensioning and tolerancing, sectioning and detailing, detail descriptive geometry, and manufacturing processes. *Also listed as CADD 125. Not open to students with credit in CADD 125.*

CSU, UC, UC credit limit

**170 MECHATRONICS: INTRODUCTION TO MICROCONTROLLERS****2 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 3 hours laboratory  
 Mechatronics is the combination of mechanical, electronic and computer engineering to create automatic "intelligent" devices. Microcontrollers offer an easy and flexible way to do this. Introduces the use of microcontrollers to operate motors, lights and other electromechanical

devices in response to input from mechanical, optical and electrical sensors. Students will learn about microcontrollers through a series of projects of increasing sophistication, culminating in a final project of their own design.

CSU

**171 MECHATRONICS: INTRODUCTION TO ROBOTICS****2 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ENGR 170 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 3 hours laboratory  
 Introduces fundamental concepts in robotics in order to develop autonomous robots that interact with their surroundings. Students will build a basic robot, then use it as a test platform to experiment with these ideas. The objective is to develop robust behavior that achieves a desired goal while promoting robot survival in an uncertain environment.

CSU

**172 MECHATRONICS: INTERMEDIATE MICROCONTROLLERS****2 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ENGR 170 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 3 hours laboratory  
 Development of custom microcontroller circuits including manufacture of printed circuits with a focus on minimizing cost. Detailed control of the microcontroller including memory-mapped I/O (input/output) direct access to registers, and fine control of timing. Control of 120 VAC circuits.

CSU

**173 MECHATRONICS: INTERMEDIATE ROBOTICS****2 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ENGR 171 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 3 hours laboratory  
 Examines various forms of robot locomotion (e.g., walking, DC motors, stepper motions), alternate sources of energy (e.g., solar cells), and alternate theories of robotics such as BEAM (Biology, Electronics, Aesthetics Mechanics) robotics and industrial robotics.

CSU

**175 MECHATRONICS: INTRODUCTION TO MICROCONTROLLERS AND ROBOTICS****2 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 3 hours laboratory  
 Mechatronics is the combination of mechanical, electronic, and computer engineering to create automatic "intelligent" devices. Microcontrollers offer an easy and flexible way to do this. Introduces the use of microcontrollers to operate motors, lights, and other electromechanical devices in response to sensors. Students will learn about microcontrollers through a series of projects of increasing sophistication. Covers fundamental concepts in robotics to let students develop autonomous robots that interact with their surroundings. Students will build a basic robot, then use it as a test platform to experiment with these ideas. *Not open to students with credit in ENGR 171.*

**176 MECHATRONICS: INTERMEDIATE MICROCONTROLLERS AND ROBOTICS 2 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ENGR 175 or 170 and 171 or equivalent  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 3 hours laboratory  
 Continuation and extension of ENGR 175. Detailed control of microcontrollers including memory-mapped I/O (Input/Output), direct access to registers, and fine control of timing. Development of custom microcontroller circuits including manufacture of printed circuits with a focus on minimizing cost. Control of DC motors, stepper motors, and 120 VAC motors. Mechanics of walking, alternate sources of energy (e.g., solar and chemical cells) for robots, and alternate theories of robotics such as BEAM (Biology, Electronics, Aesthetics Mechanics) robotics and industrial robotics. *Not open to students with credit in ENGR 173.*

**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 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 taken for a maximum of 9 units.*

**200 ENGINEERING MECHANICS—STATICS 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in PHYC 190 or equivalent.  
 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; structural analysis of trusses, frames, and machines; forces in beams; dry friction; centroids and moments of inertia.  
 CSU, UC

**210 ELECTRIC CIRCUITS 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in MATH 280, PHYC 200 or equivalent.  
 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**

Prerequisite: "C" grade or higher or "Pass" in MATH 170 or equivalent 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, and construction layout. Introduction to topographic mapping. Earth work computations. *Also listed as SURV 218.*  
 CSU, UC

**220 ENGINEERING MECHANICS—DYNAMICS 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ENGR 200 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Motion of particles, particle systems and rigid bodies, and the effects thereon of applied forces and moments. Newtonian laws of motion, work and energy; linear and angular momentum. Application to engineering problems.  
 CSU, UC

**260 ENGINEERING MATERIALS 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in PHYC 190 or equivalent  
 Corequisite: CHEM 141 or previous enrollment  
 Recommended Preparation: None  
 3 hours lecture  
 Atomic and molecular structure of materials used 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 DESIGN 4 UNITS**

Prerequisite: "C" grade or higher or "Pass" in MATH 175 or 176 or equivalent  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture, 3 hours laboratory  
 Modeling, analysis, simulation, design and construction of combinational and sequential digital logic systems and networks.  
 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.  
 CSU

## ENGLISH

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

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture  
 Learn to hear and use the sounds of the English phonetic system to improve reading and spelling skills. Focuses on those parts of the English sound system that are consistent and regular. Learn common spelling rules. **Pass/No Pass only. Non-degree applicable.**

**049B INTERMEDIATE SPELLING AND PHONICS 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture  
 This second spelling and phonics course continues the study of the English spelling system by focusing on the way words look. Learn common spelling rules as well as exceptions to the rules. Introduction to common spelling demons. Learn strategies for committing words to memory. **Pass/No Pass only. Non-degree applicable.**

**090 BASIC ENGLISH SKILLS 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: Placement based on assessment.  
 3 hours lecture, 1 hour laboratory  
 Instruction in basic English skills through lecture, small group, and individualized instruction while promoting knowledge of spelling, vocabulary and grammar. Students will demonstrate their knowledge by writing sentences and short paragraphs. **Pass/No Pass only. Non-degree applicable.**

**090R READING SKILLS DEVELOPMENT 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: Placement based on assessment; recommend concurrent enrollment in ENGL 090.  
 3 hours lecture, 1 hour laboratory  
 Developmental course for improving basic reading skills. Focuses on building vocabulary, improving comprehension of short reading selections, increasing reading speed, and basic study skills. **Pass/No Pass only. Non-degree applicable.**

**098 ENGLISH FUNDAMENTALS 4 UNITS**

Prerequisite: Grade of "Pass" in ENGL 090, 090R or equivalent or assessment.  
 Corequisite: None  
 Recommended Preparation: None  
 4 hours lecture  
 A course in basic English skills. Grammar, punctuation and standard written English usage will be studied. Introduction to the writing process; learn basic sentence patterns to compose paragraphs and one multi-paragraph essay. *It is recommended that students also enroll in ENGL 098R. Non-degree applicable.*

**098R READING FUNDAMENTALS 3 UNITS**

Prerequisite: Grade of "Pass" in ENGL 090, 090R or equivalent or assessment.  
 Corequisite: None  
 Recommended Preparation: Strongly recommend concurrent enrollment in ENGL 098.  
 3 hours lecture, 1 hour laboratory  
 Introduction to effective reading skills and strategies. Focuses on expanding vocabulary, improving reading comprehension, and increasing reading speed. Learn basic strategies for critical thinking. **Non-degree applicable.**

**109 COMPOSITION FOR COLLEGE 4 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ENGL 098 or ESL 106 or equivalent or assessment  
 Corequisite: None  
 Recommended Preparation: None  
 4 hours lecture  
 Prepares 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 an emphasis on correct and effective expression through the study of appropriate language; grammar, punctuation, and usage; and structural writing skills.



Readings will be studied to stimulate clarity of thought and written expression. Students will practice the reading process by previewing, annotating, and analyzing readings and completing in-class writings based upon them. By the end of the course, students will be able to write a basic, largely error-free researched essay by using and acknowledging at least three sources. *Not open to students with credit in ENGL 110. Non-degree applicable.*

### 110 COLLEGE COMPOSITION 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in ENGL 098 or ESL 106 or equivalent or assessment.

Corequisite: None

Recommended Preparation: None

3 hours lecture, 1 hour laboratory

Prepares 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 an 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.

### 110R PRINCIPLES OF COLLEGE READING 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in ENGL 098R or equivalent or assessment.

Corequisite: None

Recommended Preparation: Concurrent enrollment in ENGL 110.

3 hours lecture, 1 hour laboratory

Provides effective reading skills and strategies necessary for reading college level material. Focuses on developing vocabulary geared toward college textbooks and learning strategies for efficient reading comprehension and retention. Students will learn college level inferential and critical reading skills.

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### 120 COLLEGE COMPOSITION AND READING 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in ENGL 110 or ESL 119 or equivalent or assessment.

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

### 122 INTRODUCTION TO LITERATURE 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in ENGL 120 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: "C" grade or higher or "Pass" in ENGL 120 or equivalent.

Corequisite: None

Recommended Preparation: None

3 hours lecture, 1 hour laboratory

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

Prerequisite: "C" grade or higher or "Pass" in ENGL 110 or equivalent or assessment for ENGL 120.

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. 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 implement them in the campus newspaper. Additional hours per week outside of class are required.

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### 151 PRINCIPLES OF ENGLISH TUTORING 1 UNIT

Prerequisite: "C" grade or higher or "Pass" in ENGL 120 or equivalent

Corequisite: None

Recommended Preparation: None

1 hour lecture

Covers theory of learner-centered, process-oriented English tutoring in order to promote tutee self-responsibility; improve tutee retention; and emphasize reading, writing and learning processes during tutoring. Addresses the roles and goals of a tutor; the procedures for tutoring, such as the Tutoring Cycle; the tools of tutoring, such as Socratic questioning and "Tutor Talk"; and applicable principles of learning theory and brain-based learning. Addresses how to deal with issues that ultimately arise in the tutoring experience, bridging cultural gaps, managing group tutorials, and tutoring learning skills. Provides a basic knowledge of academic resources and facilities available. Covers the essentials of tutoring writing, grammar and punctuation skills for English. **Pass/No Pass only. Non-degree applicable.**

### 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 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 taken for a maximum of 9 units.*

### 201 INTRODUCTION TO IMAGES OF WOMEN IN LITERATURE 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ENGL 120 or equivalent.

3 hours lecture

Examines 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: "C" grade or higher or "Pass" in ENGL 120 or equivalent.

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, 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 course covers the development of the popular romance novel. Includes 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: "C" grade or higher or "Pass" in ENGL 120 or equivalent.

3 hours lecture

Survey of 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****3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ENGL 120 or equivalent.

3 hours lecture

Survey reading course of fantasy and science fiction, a unique literary genre with an unparalleled and still growing popularity. Reading selections 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, IGETC, UC***221 BRITISH LITERATURE I****3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ENGL 120 or equivalent.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ENGL 122 or equivalent.

3 hours lecture

Survey of 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**

Prerequisite: "C" grade or higher or "Pass" in ENGL 120 or equivalent.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ENGL 122 or equivalent.

3 hours lecture

Survey of 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**

Prerequisite: "C" grade or higher or "Pass" in ENGL 120 or equivalent.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ENGL 122 or equivalent.

3 hours lecture

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**

Prerequisite: "C" grade or higher or "Pass" in ENGL 120 or equivalent.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ENGL 122 or equivalent.

3 hours lecture

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 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: "C" grade or higher or "Pass" in ENGL 120 or equivalent.

3 hours lecture

Survey of major works from various continents and cultures prior to 1500 A.D. Focuses on the historical, social, philosophical, and cultural aspects of literature and the roles of women and men. Minority perspectives will be included. Reading selections include 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: "C" grade or higher or "Pass" in ENGL 120 or equivalent.

3 hours lecture

Survey of 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 the roles of women and men. Minority perspectives will be included. Reading selections include 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**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ENGL 120 or equivalent.

3 hours lecture

In-depth study of a literary period. Reading selections cover a body of literature drawn from one literary period (e.g., The Beat Generation, Contemporary World Poetry, Naturalism, or Postmodern Fiction) and at least one secondary work focusing on the literature. Oral and written discussion of such readings and their relevance to the period will be emphasized. May be retaken as the subject matter changes as indicated in the subtitle (e.g., The Beat Generation, Contemporary World Poetry, Naturalism, or Postmodern Fiction).

*AA/AS GE, CSU***276 MAJOR AUTHOR****3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ENGL 120 or equivalent.

3 hours lecture

In-depth study of a major author. Reading selections cover a breadth of literature drawn from one major author (e.g., Sylvia Plath, James Joyce, Tennessee Williams or Fyodor

Dostoyevsky) and at least one secondary work focusing on the literature. Oral and written discussion of such readings and their relevance to the period will be emphasized. May be retaken 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***277 LITERARY THEME****3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ENGL 120 or equivalent.

3 hours lecture

In-depth study of a theme in literature. Reading selections will cover a breadth of literature representative of a major theme (e.g., Images of War, Isolation/Exile, Coming of Age, or Diversity) and at least one secondary work focusing on the literature. Oral and written discussion of such readings and their relevance to the period will be emphasized. May be retaken as the subject matter changes as indicated in the subtitle (e.g., Images of War, Isolation/Exile, Coming of Age, or Diversity).

*AA/AS GE, CSU***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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a 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. ESL 103 and 106 transfer as elective credit to CSU/UC. The ESL program of study 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.

ESL099AorB	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.

ESL 106*	English as a Second Language IV	5
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\*Students will receive an ESL Certificate of Completion upon completion of ESL 106 with a "C" grade or higher or "Pass."

#### 010 AMERICAN CULTURE I 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
First course in American culture for students to practice applied reading, writing, listening and speaking skills gained in the first two levels of the ESL program. Various aspects of American culture such as lifestyles, institutions, values and issues will be studied. **Pass/No Pass only. Non-degree applicable.**

#### 020 AMERICAN CULTURE II 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
Second course in American culture for students to practice applied reading, writing, listening and speaking skills gained in the third and fourth levels of the ESL program. Various aspects of American culture such as lifestyles, attitudes, government, customs and traditions will be studied. **Pass/No Pass only. Non-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 to succeed in a vocational program. Vocational areas offered will be listed in class schedule. **Pass/No Pass only. Non-degree applicable.**

#### 080 INTRODUCTION TO ESL—LITERACY 6 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: Placement based on assessment.  
6 hours lecture  
Bridging course for students who assess below the ESL I (096) level. Students will learn basic written English communication skills as well as problem-solving and intercultural skills necessary for success in the academic setting of the first level of ESL classes. **Pass/No Pass only. Non-degree applicable.**

#### 081 INTRODUCTION TO ESL—COMMUNICATION SKILLS 6 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: Advisory placement in ESL 080 or equivalent based on assessment  
6 hours lecture  
Bridging course for students who assess below the ESL I (096) level. Students will learn basic listening and speaking skills appropriate in an academic setting. Concurrent enrollment in ESL 080 is strongly advised. **Pass/No Pass only. Non-degree applicable.**

#### 090 AMERICAN ENGLISH PRONUNCIATION I 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
Beginning course to assist non-native American English learners develop oral and aural language skills through the improvement of understanding spoken English and articulation of the language. Lessons will facilitate non-native speakers' learning of English through beginning level repetition and oral discrimination exercises; stress, rhythm and intonation exercises; and other types of oral production activities including poster talks, situational role-plays, short planned or impromptu speeches, and informal debates. Beginning level listening tasks include aural discrimination exercises, evaluating short student speeches, dictations, note-taking, and comprehension tests. **Pass/No Pass only. Non-degree applicable.**

#### 096 ENGLISH AS A SECOND LANGUAGE I 5 UNITS

Prerequisite: Grade of "Pass" in ESL 080, 081 or assessment  
Corequisite: None  
Recommended Preparation: None  
5 hours lecture, 1 hour laboratory  
First core course in the study of English reading, writing and grammar for students whose first language is other than English. Includes basic reading, paragraph organization and format, grammar, and sentence structure. One hour a week will be spent using software designed to reinforce reading, writing and grammar skills introduced in class. **Pass/No Pass only. Non-degree applicable.**

#### 097 LISTENING AND SPEAKING I 3 UNITS

Prerequisite: Grade of "Pass" in ESL 080, 081 or assessment into ESL 096  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
First course in the study of English listening and speaking skills for students whose first language is other than English. Designed to improve listening comprehension and increase fluency and accuracy in spoken English. Students will practice basic vocabulary and grammar to include the past, present and future simple tense, and the present progressive in aural and oral activities. **Pass/No Pass only. Non-degree applicable.**

#### 098 ESL READING AND VOCABULARY DEVELOPMENT I 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: Placement based on assessment.  
3 hours lecture  
Beginning course to extend ESL students' vocabulary and reading ability. Emphasis is on improving reading skills and strategies as well as techniques and exercises for developing vocabulary. Concurrent enrollment in ESL 096 is recommended. **Pass/No Pass only. Non-degree applicable.**

#### 099A ESL FOR THE WORKPLACE I 3 UNITS

Prerequisite: Placement based on assessment.  
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. **Pass/No Pass only. Non-degree applicable.**

#### 099B ESL FOR THE WORKPLACE II 3 UNITS

Prerequisite: Grade of "Pass" in ESL 099A or equivalent or assessment.  
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. **Pass/No Pass only. Non-degree applicable.**

#### 100 ENGLISH AS A SECOND LANGUAGE II 5 UNITS

Prerequisite: Grade of "Pass" in ESL 096 or equivalent or assessment.  
Corequisite: None  
Recommended Preparation: None  
5 hours lecture, 1 hour laboratory  
Second 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 the basic skills taught in ESL 096. Includes intermediate reading, paragraph writing, grammar and sentence structure. One hour a week will be spent using 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: Grade of "Pass" in ESL 097 or equivalent or assessment.  
3 hours lecture  
Second course in the study of English listening and speaking skills 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. Students will practice skills learned in ESL 100 and will learn and effectively use and pronounce new vocabulary.



**102 ESL READING AND VOCABULARY DEVELOPMENT II 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: Grade of "Pass" in ESL 098 or equivalent or assessment.  
 3 hours lecture

Intermediate level course 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. Concurrent enrollment in ESL 100 is recommended.

**103 ENGLISH AS A SECOND LANGUAGE III 5 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ESL 100 or equivalent or assessment.  
 Corequisite: None  
 Recommended Preparation: None  
 5 hours lecture, 1 hour laboratory

Third 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 100. Includes high-intermediate reading, paragraph and short essay writing, grammar and sentence structure. One hour a week will be spent using 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: "C" grade or higher or "Pass" in ESL 101 or equivalent or assessment.  
 3 hours lecture

Third course in the study of English listening and speaking skills 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. Students will practice skills learned in ESL 103 and will learn and effectively use and pronounce new vocabulary.

**105 ESL READING AND VOCABULARY DEVELOPMENT III 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ESL 102 or equivalent or assessment.  
 3 hours lecture

Third course 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. Concurrent enrollment in ESL 103 is recommended.

**106 ENGLISH AS A SECOND LANGUAGE IV 5 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ESL 103 or equivalent or assessment.  
 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 software designed to reinforce reading, writing and grammar skills introduced in class.

*CSU, UC credit limit*

**106R ESL READING AND VOCABULARY DEVELOPMENT IV 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ESL 105 or equivalent or placement in ESL 106 based on assessment.  
 3 hours lecture

Advanced course in reading and vocabulary development for ESL students enrolled in college courses who require intensive and extensive reading skills and critical thinking. Focuses on the development of a greater understanding and appreciation of written works, including a widened perspective of texts through the analysis of the techniques and purposes of specific writers and genres. Students will read authentic academic materials and other course-selected readings in order to practice and master various reading strategies and vocabulary skill building employed by independent college readers. In addition to developing reading comprehension and increasing academic vocabulary, students will improve their ability to communicate the information and concepts in course reading materials orally and in writing. Concurrent enrollment in ESL 106 is recommended.

**Pass/No Pass only. Non-degree applicable.**

**107 ORAL COMMUNICATION SKILLS 2 UNITS**

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

Intensive, short-term intermediate level course in the study of English. Focuses on developing accuracy and fluency in oral communication skills. Activities are designed to integrate listening, speaking, and pronunciation practice. Students will be required to complete a variety of listening and speaking tasks and exercises in small groups and independently. Content will focus on high-interest professional and academic themes as well as current events.

**Pass/No Pass only. Non-degree applicable.**

**109 AMERICAN ENGLISH PRONUNCIATION II 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: Grade of "Pass" in ESL 090 or assessment.  
 3 hours lecture

Intermediate level course to assist non-native American English learners develop both oral and aural language skills through the improvement of understanding spoken English and articulation of the language. Intermediate level lessons include repetition and oral discrimination exercises; stress, rhythm and intonation exercises; and other types of oral production activities including poster talks, situational role-plays, short planned or impromptu speeches, and informal debates. Intermediate level listening tasks include aural discrimination exercises, evaluating short student speeches, dictations, note-taking, and comprehension tests. Students are expected to reduce their accent when speaking American English in addition to a number of problems with grammatical accuracy. Improvement scores are based on student and teacher analyses and assessments. **Pass/No Pass only. Non-degree applicable.**

**119 ENGLISH AS A SECOND LANGUAGE V 5 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ESL 106 or equivalent or assessment.  
 Corequisite: None  
 Recommended Preparation: None  
 5 hours lecture, 1 hour laboratory

Fifth core course in the study of English reading, writing and grammar to prepare ESL students for entry into English 120. Students will practice the writing process by composing essays with effective and accurate expression and will develop academic literacy by employing advanced techniques of essay and research writing with an emphasis on critical thinking, argumentation or other rhetorical strategies, synthesis of research materials, and academic citation. Includes effective strategies for reducing errors in grammar, punctuation and usage, and developing self-editing skills. Software/Internet-based modules are designed to reinforce and develop the reading, writing, grammar and research 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 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 taken for a maximum of 9 units.*

**298 SELECTED TOPICS IN ENGLISH AS A SECOND LANGUAGE 1-6 UNITS**

Prerequisite: Varies with topic  
 Corequisite: Varies with topic  
 Recommended Preparation: Varies with topic  
 1-18 hours

Selected topics not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-degree applicable.**

**299 SELECTED TOPICS IN ENGLISH AS A SECOND LANGUAGE 1-6 UNITS**

Prerequisite: Varies with topic  
 Corequisite: Varies with topic  
 Recommended Preparation: Varies with topic  
 1-18 hours

Selected topics not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

*CSU*

## ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT

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

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

General overview of the environmental health and safety management (EHSM) field with an emphasis on hazardous materials, hazardous waste management, and their effect upon the environment and worker health and safety. Focuses on the history of pollution, workplace

hazards leading to current legislation, and current best practices of handling hazardous substances to minimize the harmful impact on society and the environment.

CSU

### 110 POLLUTION PREVENTION 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Study of 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. Topics include: applicable regulations; the importance of waste minimization/pollution prevention concepts; stormwater 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

Study of the acute and chronic health effects produced by exposure to chemical, physical and biological agents with an 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

Overview of the 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: "C" grade or higher or "Pass" in EHSM 100 or equivalent.

3 hours lecture

Introduction to the California and Federal (Cal/OSHA and Fed/OSHA) construction safety standards and regulations. Integrated study of hazard recognition and abatement principles related to the construction worksite. Topics include: 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.

CSU

### 150 HAZARDOUS WASTE MANAGEMENT APPLICATIONS 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in EHSM 100 or equivalent or concurrent enrollment.

Corequisite: None

Recommended Preparation: None

4 hours lecture

Overview of hazardous waste regulations with an emphasis on generator compliance, site investigation and remediation, permitting, enforcement, and liability. Explains the hazardous waste regulatory framework; introduces the wide variety and types of environmental resources available; develops research skills in the hazardous waste area; and provides hands-on application of 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 MANAGEMENT 1-3 UNITS

Prerequisite: Varies with topic

Corequisite: Varies with topic

Recommended Preparation: Varies with topic

3-9 hours

Individual study, research or projects 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 taken for a maximum of 9 units.*

### 200 HAZARDOUS MATERIALS MANAGEMENT (HMM) APPLICATIONS 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in EHSM 100 or equivalent 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. Includes the legal framework of hazardous materials laws and requirements and step-by-step program developments: written plan, obtaining/interpreting MSDSs, labeling, emergency responders site map, shipping, handling, and training. 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: "C" grade or higher or "Pass" in EHSM 100 or equivalent 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 an understanding of basic physiological processes and the effects caused by occupational exposure to hazards. Survey of various

occupational health and safety programs and government regulations as well as industrial hygiene monitoring and sampling techniques for airborne contaminants, noise, heat, radiation and illumination.

CSU

### 205 SAFETY AND RISK MANAGEMENT ADMINISTRATION 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in EHSM 100 or equivalent or concurrent enrollment.

Corequisite: None

Recommended Preparation: None

4 hours lecture

Study of 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 an 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; and employee accommodations in the workplace. Students will develop plans related to safety and risk management.

CSU

### 210 INDUSTRIAL WASTEWATER AND STORMWATER MANAGEMENT 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in EHSM 100 or equivalent or concurrent enrollment.

Corequisite: None

Recommended Preparation: None

4 hours lecture

Overview of water/wastewater regulations with an 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: "C" grade or higher or "Pass" in EHSM 100 or equivalent 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 shutdown, and overall global air quality issues.

CSU

### 230 SAFETY AND EMERGENCY RESPONSE 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in EHSM 100 or equivalent or concurrent enrollment.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in EHSM 130 or equivalent.

3 hours lecture, 3 hours laboratory

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: "C" grade or higher or "Pass" in EHSM 100 or equivalent.  
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. Students are required to select and secure a placement site. Minimum of one unit of cooperative work experience is required to complete the EHSM certificate/degree. *May be taken for a maximum of 8 units.*  
CSU

## 298 SELECTED TOPICS IN ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT 1-4 UNITS

Prerequisite: Varies with topic  
Corequisite: Varies with topic  
Recommended Preparation: Varies with topic  
1-12 hours  
Selected topics not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-degree applicable.**

## 299 SELECTED TOPICS IN ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT 1-4 UNITS

Prerequisite: Varies with topic  
Corequisite: Varies with topic  
Recommended Preparation: Varies with topic  
1-12 hours  
Selected topics not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a 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. With the exception of dance courses, 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. A physical examination is recommended for all classes if the student has medical problems or is over the age of 30.

## 001\* ADAPTED PHYSICAL EXERCISE 1 UNIT

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
1 hour lecture, 1 hour laboratory  
Assessment of physical performance status and postural evaluation. Individually prescribed exercise programs for the physically handicapped. Recreational games and individual sports adapted to students' capabilities.  
CSU, UC credit limit

## 009\* AEROBIC DANCE EXERCISE 1 UNIT

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
1 hour lecture, 1 hour laboratory  
Aerobic dance exercise with an emphasis on conditioning the musculoskeletal system, improving 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

## 010\* CARDIOVASCULAR FITNESS AND NUTRITION .5-1 UNIT

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
1.5 - 3 hours laboratory  
Fitness Center course designed to teach the benefits of cardiovascular exercise, heart-healthy nutrition guidelines, and provide opportunities for students to analyze their eating habits. Format is open entry/exit, computer log-in. Attendance requirements are 24 hours for .5 unit or 48 hours for 1.0 unit. Includes workouts and consultation with an instructor, as well as written and computer assignments. Students will be assessed in the areas of fitness and diet. *Due to health and safety considerations, only one fitness center class (ES 010, 011, 012) may be taken per semester. Pass/No Pass only.*  
CSU, UC credit limit

## 011\* CIRCUIT TRAINING .5-1 UNIT

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
1.5 - 3 hours laboratory  
Fitness Center course designed to develop and encourage positive attitudes and habits with regard to exercise. Format is open entry/exit, computer log-in. Attendance requirements are 24 hours for .5 unit or 48 hours 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 a super circuit. *Due to health and safety considerations, only one fitness center class (ES 010, 011, 012) may be taken per semester. Pass/No Pass only.*  
CSU, UC credit limit

## 012\* INDIVIDUALIZED SPORTS CONDITIONING .5-1 UNIT

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
1.5 - 3 hours laboratory  
Fitness Center course providing advanced exercisers the opportunity to increase their fitness levels with an emphasis on strength training and muscle flexibility. Format is open entry/exit, computer log-in. Attendance requirements are 24 hours for .5 unit or 48 hours for 1.0 unit. Each student will set desired fitness outcomes in consultation with an instructor. An individualized fitness program will then be prescribed utilizing the student's personal fitness goals. *Due to health and safety considerations, only one fitness center class (ES 010, 011, 012) may be taken per semester. Pass/No Pass only.*  
CSU, UC credit limit

## 013\* FLEXIBILITY FITNESS 1.5 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
1 hour lecture, 2 hours laboratory  
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

## 014A\* BEGINNING BODY BUILDING 1.5 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
1 hour lecture, 2 hours laboratory  
Instruction and practice in conditioning, running and resistance exercises with an emphasis on total fitness of the individual.  
CSU, UC credit limit

## 014B\* INTERMEDIATE BODY BUILDING 1.5 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: "C" grade or higher or "Pass" in ES 014A or equivalent.  
1 hour lecture, 2 hours laboratory  
Instruction and practice in weight lifting and weight training with an 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: "C" grade or higher or "Pass" in ES 014B or equivalent.  
1 hour lecture, 2 hours 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  
1 hour lecture, 2 hours laboratory  
Exercise class providing a progression toward increased flexibility while adding the element of weight training. Includes 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 and will focus on each specific area of the body to increase their knowledge of injury prevention. The fundamental principles of physical fitness and its impact on lifelong health and wellness will be studied. 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  
1 hour lecture, 2 hours laboratory  
Exercise class including injury rehabilitation with a guest trainer. Students will tone areas not strengthened with dancing or other exercise activities and will focus on each specific area of the body to increase their knowledge of total fitness. The fundamental principles of physical fitness and its impact on lifelong health and wellness will be studied. 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  
 1 hour lecture, 2 hours laboratory  
 Instruction in physical conditioning, nutrition and weight control.  
*CSU, CSU GE, UC credit limit*

**019B\* INTERMEDIATE PHYSICAL FITNESS 1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 019A or equivalent.  
 1 hour lecture, 2 hours laboratory  
 Further emphasis on individual physical conditioning, nutrition and weight control.  
*CSU, CSU GE, UC credit limit*

**019C\* ADVANCED PHYSICAL FITNESS 1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 019B or equivalent.  
 1 hour lecture, 2 hours laboratory  
 Advanced skills and techniques of physical fitness with an emphasis on new concepts and techniques.  
*CSU, CSU GE, UC credit limit*

**020\* ADAPTED WEIGHT TRAINING 1-1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 1 hour laboratory, 1 unit  
 1 hour lecture, 2 hours laboratory, 1.5 units  
 Weight training class for students who are either temporarily or permanently physically unable to participate in the regular physical education program. Emphasis is on an individual program based on each 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. **Pass/No Pass only.**  
*CSU, UC credit limit*

**035\* ADAPTED SWIMMING FOR THE PHYSICALLY LIMITED 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 1 hour laboratory  
 Instruction and practice in basic swimming skills structured to fit each student's individual needs.  
*May be taken for a maximum of 3 units. Pass/No Pass only.*  
*CSU, UC credit limit*

**060A\* BEGINNING BADMINTON 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 1 hour 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: "C" grade or higher or "Pass" in ES 060A or equivalent.  
 1 hour lecture, 1 hour laboratory  
 Continuation of ES 060A with an emphasis on playing strategy and match play in singles and doubles.  
*CSU, UC credit limit*

**060C\* ADVANCED BADMINTON 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 060B or equivalent.  
 1 hour lecture, 1 hour laboratory  
 Advanced playing techniques, strategy, knowledge and attitudes for students who wish to excel in badminton and increase aerobic capacity.  
*CSU, UC credit limit*

**076A\* BEGINNING TENNIS 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 1 hour laboratory  
 Presentation of the official singles and doubles games including basic strokes, rules, strategy and etiquette.  
*CSU, UC credit limit*

**076B\* INTERMEDIATE TENNIS 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 076A or equivalent.  
 1 hour lecture, 1 hour laboratory  
 Continuation of ES 076A with an emphasis on individual stroke analysis, playing strategy and match play, singles and doubles.  
*CSU, UC credit limit*

**076C\* ADVANCED TENNIS 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 076B or equivalent.  
 1 hour lecture, 1 hour laboratory  
 Continuation of ES 076B with an emphasis on advanced techniques, strategy and match play for singles, doubles and mixed doubles.  
*CSU, UC credit limit*

**080A\* MODERN DANCE I 1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 2 hours laboratory  
 Dance as an artistic expression. Covers 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; and short dance sequences using pure movement. Includes the history of modern dance and its place in the world of dance as well as beginning vocabulary of modern dance.  
*CSU, UC*

**080B\* MODERN DANCE II 1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 080A or equivalent.  
 1 hour lecture, 2 hours laboratory  
 Continuation of ES 080A. Covers modern dance technique using an eclectic approach; center exercises of the torso using various movement qualities such as stretches, contractions and releases; movements of the feet, legs and combinations; floor exercises; fall and recoveries; locomotor movement patterns; and dances using various themes. Reviews the history of modern dance and the leading exponents of modern dance in the United States.  
*CSU, UC*

**080C\* MODERN DANCE III 1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 080B or equivalent.  
 1 hour lecture, 2 hours laboratory  
 Dance as an art form. Covers 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 spatial design and rhythms; and dances based on different ideas and set to music. Includes the work of leading modern dance companies, choreographers and dancers, locally and nationally.  
*CSU, UC*

**080D\* MODERN DANCE IV 1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 080C or equivalent.  
 1 hour lecture, 2 hours laboratory  
 Dance as an art form. Covers advanced dance skills using the theories of Doris Humphrey, Jose Limon, Martha Graham and others well-known in the modern dance field. Dance technique uses an eclectic approach and choreographed dances are based on set themes using different forms of accompaniment. Includes the work of leading modern dance companies and their choreographers.  
*CSU, UC*

**084A\* JAZZ DANCE I 1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 2 hours laboratory  
 Introduces and develops 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 is at the beginning level.  
*CSU, UC*

**084B\* JAZZ DANCE II 1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 084A or equivalent.  
 1 hour lecture, 2 hours laboratory  
 Introduces and develops 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 is at the intermediate level.  
*CSU, UC*

**084C\* JAZZ DANCE III 1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 084B or equivalent.  
 1 hour lecture, 2 hours laboratory  
 Introduces and develops 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 is at the intermediate/advanced level.  
*CSU, UC*

**084D\* JAZZ DANCE IV 1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 084C or equivalent.  
 1 hour lecture, 2 hours laboratory  
 Introduces and develops 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 is at the advanced level.  
*CSU, UC*

**088A\* BALLET I 1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 2 hours laboratory  
 Introduces and develops 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 is at the beginning level.  
*CSU, UC*

**088B\* BALLET II 1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 088A or equivalent.  
 1 hour lecture, 2 hours laboratory  
 Introduces and develops 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 is at the intermediate level.  
*CSU, UC*

**088C\* BALLET III 1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 088B or equivalent.  
 1 hour lecture, 2 hours laboratory  
 Introduces and develops 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 is at the intermediate/advanced level.  
*CSU, UC*

**088D\* BALLET IV 1.5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 088C or equivalent.  
 1 hour lecture, 2 hours laboratory  
 Introduces and develops 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 is at the advanced level.  
*CSU, UC*

**125A\* BEGINNING GOLF 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 1 hour laboratory  
 Instruction and practice in basic golf skills to include course conduct, rules and self-

evaluation of skills. Practice is limited to development of swing, stance and grip.

*CSU, UC credit limit*

**125B\* INTERMEDIATE GOLF 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 125A or equivalent.  
 1 hour lecture, 1 hour laboratory  
 Instruction and practice in golf including skills required to play a small executive course. Students must furnish their own equipment.

*CSU, UC credit limit*

**125C\* ADVANCED GOLF 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 125B or equivalent.  
 1 hour lecture, 1 hour laboratory  
 Continuation of ES 125B with an emphasis on advanced techniques, strategies and tournament play. Students must furnish their own equipment.

*CSU, UC credit limit*

**150\* ADAPTED SPORTS EDUCATION 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 1 hour laboratory  
 This course is for physically challenged individuals in various sports and physical activities including track and field, basketball, football, weight training and golf. Includes the fundamental principles of physical fitness and its impact on lifelong health and wellness.

*CSU, UC credit limit*

**155A\* BEGINNING BASKETBALL 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 1 hour laboratory  
 Instruction and practice in the basic skills of basketball with an emphasis on individual skill development and team play. Includes the fundamental principles of physical fitness and its impact on lifelong health and wellness.

*CSU, UC credit limit*

**155B\* INTERMEDIATE BASKETBALL 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 155A or equivalent.  
 1 hour lecture, 1 hour laboratory  
 Continuation of ES 155A with an emphasis on intermediate level individual skill development, team play, defensive/offensive tactics and team strategies. Includes the fundamental principles of physical fitness and its impact on lifelong health and wellness.

*CSU, UC credit limit*

**155C\* ADVANCED BASKETBALL 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 155B or equivalent.  
 1 hour lecture, 1 hour laboratory  
 Continuation of ES 155B with an emphasis on advanced level individual skill development, team play, defensive/offensive tactics and team strategies. Includes 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  
 1 hour lecture, 1 hour laboratory  
 Basic skills and strategy of soccer with an emphasis on team play and individual skills.

*CSU, UC credit limit*

**170B\* INTERMEDIATE SOCCER 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 170A or equivalent.  
 1 hour lecture, 1 hour laboratory  
 Intermediate soccer skills and team play with an emphasis on 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: "C" grade or higher or "Pass" in ES 170B or equivalent.  
 1 hour lecture, 1 hour laboratory  
 Advanced individual soccer skills and team play. Emphasizes techniques and team strategy.

*CSU, UC credit limit*

**171A\* BEGINNING SOFTBALL 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 1 hour laboratory  
 Introduces the basic fundamentals of the game of softball. For individuals of all ages and fitness levels. Emphasizes lifelong health and vigor through exercise and activities. Promotes enjoyment of the game of softball, physical activity, safety, and injury prevention. Includes individual position skill, and offense and defense strategies.

*CSU, UC credit limit*

**171B\* INTERMEDIATE SOFTBALL 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 171A or equivalent.  
 1 hour lecture, 1 hour laboratory  
 Instruction in the fundamentals of the game of softball at the intermediate level. For individuals of all ages and fitness levels. Emphasizes lifelong health and vigor through exercise and activities. Promotes enjoyment of the game of softball, physical activity, safety, and injury prevention. Includes individual position skill, and offense and defense strategies.

*CSU, UC credit limit*

**171C\* ADVANCED SOFTBALL 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in ES 171B or equivalent.  
 1 hour lecture, 1 hour laboratory  
 Instruction in the game of softball at the advanced level. For individuals of all ages and fitness levels. Emphasizes lifelong health and vigor through exercise and activities. Promotes enjoyment of the game of softball, physical activity, safety, and injury prevention. Includes individual position skill, and offense and defense strategies.

*CSU, UC credit limit*

**175A\* BEGINNING VOLLEYBALL 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 1 hour laboratory  
 Competency development in the team sport of volleyball with an emphasis on individual techniques and team strategy.

*CSU, UC credit limit*

**175B\* INTERMEDIATE VOLLEYBALL 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ES 175A or equivalent.

1 hour lecture, 1 hour laboratory

Continuation of ES 175A with an emphasis on intermediate level play and strategy and four-person teams.

*CSU, UC credit limit***175C\* ADVANCED VOLLEYBALL 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ES 175B or equivalent.

1 hour lecture, 1 hour laboratory

Continuation of ES 175B with an 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 an 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 that students may develop the confidence to stand up and defend themselves, if needed. Students will learn the fundamental principles of physical fitness and its impact on lifelong health and wellness.

*CSU, UC credit limit***181A\* KARATE I 1.5 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

1 hour lecture, 2 hours laboratory

Introduction and practice in the basic skills and philosophy of Shotokan Karate. Introduces the basic stances, blocks, and kicks.

*CSU, UC credit limit***181B\* KARATE II 1.5 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ES 181A or equivalent or possession of equivalent proficiency (8th kyu ranking in Shotokan Karate from ASKA, JKA, AJKA).

Corequisite: None

Recommended Preparation: None

1 hour lecture, 2 hours laboratory

Introduction and practice in the intermediate skills and philosophy of Shotokan Karate. Introduces intermediate level blocks, strikes, punches and kicks, which will be taught individually and then linked and practiced in two and three movement combinations. Covers timing and distancing for three-step sparring without a count and the proper performance and timing of kata Heian Nidan.

*CSU, UC credit limit***181C\* KARATE III 1.5 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ES 181B or equivalent or possession of equivalent proficiency (7th kyu ranking in Shotokan Karate from ASKA, JKA, AJKA).

Corequisite: None

Recommended Preparation: None

1 hour lecture, 2 hours laboratory

Introduction and practice in the high intermediate skills and philosophy of Shotokan Karate. Intermediate II level strikes and blocks, three-move combinations, one step sparring—attacking and defending against face, stomach and front kick—and kata Heian Sandan will be introduced.

*CSU, UC credit limit***181D\* KARATE IV 1.5 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ES 181C or equivalent or possession of equivalent proficiency (6th kyu ranking in Shotokan Karate from ASKA, JKA, AJKA).

Corequisite: None

Recommended Preparation: None

1 hour lecture, 2 hours laboratory

Introduction and practice in the advanced skills and philosophy of Shotokan Karate. Advanced level blocks and strikes, four-move combinations, one-step sparring without a count for five techniques, and kata Heian Yondan will be introduced.

*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 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 taken for a maximum of 9 units.***200\* CONDITIONING AND INJURY PREVENTION FOR ATHLETICS 1.5 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

1 hour lecture, 2 hours laboratory

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: Tryout

Corequisite: None

Recommended Preparation: None

5 hours lecture, 5 hours 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 INTERCOLLEGIATE BASKETBALL 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

1 hour lecture, 1 hour laboratory

Instruction and practice in advanced techniques and strategies of basketball. By incorporating game experience, students will formulate an understanding of the different styles of play. Also serves as the off-season preparation course for the intercollegiate team.

*CSU, UC credit limit***209 INTERCOLLEGIATE CROSS-COUNTRY 2 UNITS**

Prerequisite: Tryout

Corequisite: None

Recommended Preparation: None

5 hours lecture, 5 hours 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: Tryout

Corequisite: None

Recommended Preparation: None

5 hours lecture, 5 hours laboratory

Instruction in team play and strategy. Competition in practice and league play.

*CSU, UC credit limit***218 INTERCOLLEGIATE SOCCER 2 UNITS**

Prerequisite: Tryout

Corequisite: None

Recommended Preparation: None

5 hours lecture, 5 hours 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 INTERCOLLEGIATE SOCCER 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

1 hour lecture, 1 hour laboratory

Designed for students with advanced soccer skills. Instruction and practice in the advanced techniques and strategies of soccer. By incorporating game experience, students will formulate an understanding of the different styles of play. Also serves as the off-season preparation course for the intercollegiate team.

*CSU, UC credit limit***224 INTERCOLLEGIATE TENNIS 2 UNITS**

Prerequisite: Tryout

Corequisite: None

Recommended Preparation: None

5 hours lecture, 5 hours 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 INTERCOLLEGIATE TENNIS 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

1 hour lecture, 1 hour 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. Also serves as the off-season preparation course for the intercollegiate team.

*CSU, UC credit limit***227 INTERCOLLEGIATE TRACK 2 UNITS**

Prerequisite: Tryout

Corequisite: None

Recommended Preparation: None

5 hours lecture, 5 hours laboratory

Open to students with advanced track skills who wish to compete at the intercollegiate level.

*CSU, UC credit limit***230 INTERCOLLEGIATE VOLLEYBALL 2 UNITS**

Prerequisite: Tryout

Corequisite: None

Recommended Preparation: None

5 hours lecture, 5 hours 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 INTERCOLLEGIATE VOLLEYBALL 1 UNIT

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
1 hour lecture, 1 hour 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. Also serves as the off-season preparation course for the intercollegiate team.  
*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 an 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 that pertain 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: "C" grade or higher or "Pass" in ES 254 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
4 hours unpaid work experience per week  
Volunteer work experience in the field of personal training in selected fitness facilities. Students 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  
Instruction in 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  
Instruction in 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  
Survey 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: 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and

faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.  
*CSU*

## FRENCH

### 120 FRENCH I 5 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
5 hours lecture  
Introduction to the French language and the cultures of its speakers. Facilitates the practical application of the language in everyday oral and written communication at the beginning level. The focus is 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

Prerequisite: "C" grade or higher or "Pass" in FREN 120 or two years of high school French or equivalent.  
Corequisite: None  
Recommended Preparation: None  
5 hours lecture  
Continuation of FREN 120. This 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 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 taken for a maximum of 9 units.*

### 220 FRENCH III 5 UNITS

Prerequisite: "C" grade or higher or "Pass" in FREN 121 or three years of high school French or equivalent.  
Corequisite: None  
Recommended Preparation: None  
5 hours lecture  
Continuation of FREN 121. This 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

Prerequisite: "C" grade or higher or "Pass" in FREN 220 or four years of high school French or equivalent.  
Corequisite: None  
Recommended Preparation: None  
5 hours lecture  
Continuation of FREN 220. This 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 I 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in FREN 121 or three years of high school French or equivalent.

Corequisite: None

Recommended Preparation: None

3 hours lecture

Develops oral, reading, writing and listening skills with an emphasis on oral proficiency.

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

**251 CONVERSATIONAL FRENCH II 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in FREN 250 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 an 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a 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, IGETC, UC

**120 ELEMENTS OF PHYSICAL GEOGRAPHY****3 UNITS**

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: "C" grade or higher or "Pass" in GEOG 120 or equivalent 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: "C" grade or higher or "Pass" in GEOG 120 or equivalent or concurrent enrollment.

1 hour lecture, 1 hour laboratory

Provides 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 taken with different content for a maximum of 4 units.*

CSU

**130 HUMAN AND CULTURAL GEOGRAPHY****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 is 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

**132 CULTURAL ETHNOBOTANY****3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Cultural ethnobotany is the study of the relationship between indigenous cultures and the plants of their ancestral homeland. This course will focus on the ethnobotany of the Kumeyaay/Diegueño people of southern

California and northern Baja California, with particular attention to how plants were used to sustain, heal, and protect the Kumeyaay Nation. Both traditional and scientific methods will be used to classify plants and identify their historical and modern uses, and local field trips will provide opportunities for working directly with plant materials in their natural habitats.

AA/AS GE, CSU, 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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a 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, IGETC, UC

**110 PLANET EARTH****3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Introductory physical science course investigating the composition of the earth and the geologic processes by which it formed. Emphasis is placed on the unifying theory of plate tectonics and the associated activities of volcanism, earthquakes, and mountain building. Topics include crystals, minerals and rocks, their

distribution within the planet, and the evolution of the earth across deep time. The sculpturing of the surface of the planet by wind, waves, streams, glaciers and landslides will also be considered.

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

### 111 PLANET EARTH LABORATORY 1 UNIT

Prerequisite: "C" grade or higher or "Pass" in GEOL 110 or equivalent or concurrent enrollment.

Corequisite: None

Recommended Preparation: None

3 hours laboratory

Physical science laboratory course to accompany and augment GEOL 110. Includes laboratory and field investigations of the Earth, emphasizing hands-on experience with minerals, rocks and landforms, as well as topographic and geologic maps.

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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

CSU

## GRAPHIC DESIGN

### 105 FUNDAMENTALS OF DIGITAL MEDIA 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: Basic computer skills (can be learned in introductory BOT or CIS classes).

2 hours lecture, 3 hours laboratory

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). Design principles will be introduced as students explore the creative potential and practical aspects of graphic design with realistic project assignments.

CSU, UC

### 110 GRAPHIC DESIGN PRINCIPLES 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in GD 105 or equivalent or two years verifiable industry experience.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ART 124 or equivalent.

2 hours lecture, 3 hours laboratory

Explores the fundamental concepts of graphic design and visual communication. 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: "C" grade or higher or "Pass" in GD 105 or equivalent.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in GD 110 or equivalent.

2 hours lecture, 3 hours laboratory

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

CSU

### 126ABCD PHOTOSHOP DIGITAL IMAGING 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: Basic computer skills (creating, editing, copying, deleting, organizing files).

2 hours lecture, 3 hours laboratory

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. Explores digital workflows, color management, monitor calibration, and output methods used to achieve the best possible output from digital files. Emphasis is on meeting aesthetic and technical requirements of the commercial arts industry.

CSU

### 129 PAGE LAYOUT 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in GD 110 or equivalent.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in GD 125 or equivalent.

2 hours lecture, 3 hours laboratory

Explores the aesthetic and functional organization of text, charts, graphs, line art, illustrations and photos in multiple page documents. Use of 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: "C" grade or higher or "Pass" in GD 129 or CIS 212 or equivalent. Student must have substantial body of completed design or web projects prior to enrollment in this class.

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Examines professional business practices used in the graphic design industry including design studios, agencies and self-employment. Students will learn how to create a resume, market a portfolio, acquire clients, set fees, and refine their design capabilities using text and images while learning how to perform as business professionals.

CSU

### 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 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 taken for a maximum of 9 units.*

### 210 PROFESSIONAL DIGITAL PHOTOGRAPHY I 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in GD 126ABCD or equivalent.

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Practical course 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. Explores 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 PROFESSIONAL DIGITAL PHOTOGRAPHY II 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in GD 210 or equivalent.

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Focuses on advanced photographic and digital imaging techniques, expanding on knowledge and skills acquired in GD 126ABCD and 210. Covers 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

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CIS 212 or equivalent or basic computer and Internet skills and ability to create and upload a simple website, GD 126ABCD or equivalent or ability to use Adobe Photoshop to create digital images.

2 hours lecture, 3 hours laboratory

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, UC



**222 FLASH WEB ANIMATION 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CIS 212 or equivalent 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

**223 ADVANCED FLASH WEB ANIMATION 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in GD 222 or equivalent.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in CIS 212 or equivalent or ability to create and upload a simple website.

2 hours lecture, 3 hours laboratory

Develop interactive, rich media Flash web applications. Includes principles of interaction and content design, ActionScript programming, and techniques to effectively incorporate animation, sound and graphics.

CSU

**225 DIGITAL ILLUSTRATION 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in GD 105 or equivalent.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ART 124, GD 110 or equivalent.

2 hours lecture, 3 hours laboratory

Uses vector and raster image software to create digital illustrations. Applies design principles and computer technology to create exciting and aesthetic graphic images. Students will produce artwork based on contemporary illustration styles. Applicable for fine art, graphic design, and interactive design.

CSU, UC

**230 GRAPHIC DESIGN WORK EXPERIENCE 1-4 UNITS**

Prerequisite: 12 units in GD courses related to field in which work experience is sought and current resume highlighting graphic design experience and course-related study

Corequisite: None

Recommended Preparation: None

5 hours paid or 4 hours unpaid work experience per week per unit

Work experience at a designated industry site in a graphic design occupational category for students seeking job experience in graphic design. *May be taken for a maximum of 12 units.*

**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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

CSU

## HEALTH EDUCATION

**105 HEALTH EDUCATION FOR TEACHERS 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

1 hour lecture

Designed for multiple or single subject teacher candidates. Provides introductory knowledge of broad health-related issues relevant to K-12 curriculum. Topics include primary and secondary school health education curriculum design, basic legal issues of health education in California, discussion of community resources, behavior modification techniques, stress management, benefits of regular exercise, nutrition and eating disorders, disease prevention, childhood obesity, sexually transmitted diseases, contraception, substance abuse including alcohol and tobacco, safety in the home and school, and violence including gang and domestic violence. Meets the state of California health education requirement for the K-12 teaching credential.

CSU

**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.

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 an 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 FITNESS AND SPORTS 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. Compares 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 is 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 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 taken for a maximum of 9 units.*

**201 INTRODUCTION TO PUBLIC HEALTH 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Introduction to the discipline of public health. Areas of emphasis include the definition of "public health," the history and accomplishments of public health officials and agencies, an overview of various public health professions and institutions, and an in-depth examination of the core public health disciplines. These include epidemiology of infectious and chronic disease, environmental health, health promotion, global health (including health disparities and cultural competence), and health policy and management (including disaster preparedness).

AA/AS GE, CSU, CSU GE, UC

**202 HEALTH PROFESSIONS AND ORGANIZATIONS 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

A review of health organizations and agencies that operate locally, regionally, nationally and internationally. Information regarding potential careers in medicine, allied health, and public health is included.

CSU

**203 SUBSTANCE ABUSE AND PUBLIC HEALTH 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Overview of the epidemiology and toxicology of substance abuse and its relevance to public health. Introduces the concept of substance abuse and dependence, the definition of licit and illicit drugs, and the pharmacologic, neurologic and physiologic effects of selected substances on the human brain. Political, social and economic factors involved in the supply and demand for drugs will be discussed. Epidemiologic data on the prevalence, incidence, and trends of smoking, alcohol, prescription and other drug dependencies in the

U.S. will be covered, as well as risk factors associated with the use and abuse of these substances. Current options for recovery and a survey of local resources will be reviewed.

*CSU, CSU GE*

### 251\* HEALTHY LIFESTYLES: THEORY AND APPLICATION 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

A combination of physical activity and lecture providing 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*

### 255 SCIENCE OF NUTRITION 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in BIO 130, 131 and CHEM 115 or 120 or equivalent.

Corequisite: None

Recommended Preparation: None

3 hours lecture

Establishes the relationship between foods and science through the study and integration of chemistry, biology and nutrition science. The metabolism and functions and sources of nutrients will be covered in detail to correlate the role they have in promotion of health and disease prevention. The challenges that occur during the human life cycle and how nutrient needs change will be studied. Includes evaluation from a scientific perspective of current concepts, controversies, and dietary recommendations. Nutritional issues as they relate to weight maintenance, eating disorders, food labeling, food safety and special needs at various stages in the life cycle will be thoroughly examined.

*CSU, CSU GE, UC*

### 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

*CSU*

\*Meets the activity requirement for graduation.

## HISTORY

### 100 EARLY WORLD HISTORY 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Examination of ancient to early-modern civilizations and the interconnections between diverse world societies to 1500. Included are Mesopotamia, Egypt, China, India, the classical West, early Islamic civilization, 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

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Examination of the civilizations, societies and global interrelationships of the peoples of Africa, the Americas, Asia, Europe, and Oceania since 1500.

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

### 105 EARLY WESTERN CIVILIZATION 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Survey of Mediterranean and European cultures, thought and institutions from ancient times to 1650. Includes Greece, Rome, Medieval Europe, the Renaissance, and the Reformation.

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

### 106 MODERN WESTERN CIVILIZATION 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Survey of European cultures, thought and institutions from 1650 to the present. Includes Absolutism, Scientific Revolution, the Enlightenment, age of the French Revolution, nineteenth-century ideologies, imperialism, the world wars, the Cold War, and contemporary Europe.

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

### 108\* EARLY AMERICAN HISTORY 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Survey of the early political, social and cultural development of the entire geographic area that is now the United States, with an emphasis on the origins of basic American institutions and ideals.

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

### 109\* MODERN AMERICAN HISTORY 3 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Survey of the political, social and cultural development of the modern United States with an emphasis on 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

Survey of 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

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

Survey of 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

Survey of 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 pre-contact Native Americans, Spanish explorations and Mexican California to the present. Unit of study in California state and local government is 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 is 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 is 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 peoples of the North American continent from the period of 1850 to the present. Attention is given to contemporary, historical, political, and socio-economic issues affecting the American Indian nationwide, statewide and locally. Indian perspectives of native and nonnative cultures will be included. The federal and state constitutions are studied with special emphasis given to the effects on and influence of the Indian culture and society. Particular attention is given to political philosophies and the impact of legislation on Indian culture and society.

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

**132 KUMEYAAY HISTORY I: PRECONTACT - 1900****3 UNITS**

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

Historical survey of the Kumeyaay Nation from prehistoric times to 1900. Attention is given to Kumeyaay perspectives of Kumeyaay and non-Kumeyaay cultures. Kumeyaay oral history will be incorporated with discussions of the Creation Story, bird songs, ceremonies, religion and peon games. Overview of tribal sovereignty and Kumeyaay independence, laws pertaining to Native Americans in the United States, and early assimilation policies of the United States and Mexico.

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

**133 KUMEYAAY HISTORY II: 1900 - PRESENT****3 UNITS**

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

Historical survey of the Kumeyaay Nation from 1900 to the present. Attention is given to Kumeyaay perspectives of Kumeyaay and non-Kumeyaay cultures. Specific segments include: The Mission Indian Federation, The Indian Relocation Act, The Termination Era and PL 280, Indian Activism, Indian Self-Determination, and the Indian Gaming Regulatory Act and contemporary Tribal Governments. The modern history of the Kumeyaay Nation including participation in the Mission Indian Federation, impact of Public Law 280, and the growth leading to the creation of current Indian Gaming in San Diego County will be examined. Overview of contemporary tribal sovereignty and Kumeyaay independence, laws pertaining to

Native Americans in the United States, and the termination policies of the United States.

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

**180\* U.S. HISTORY: BLACK PERSPECTIVES I****3 UNITS**

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

United States history with an emphasis on social, economic, political and cultural experiences of Black people. 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 is 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 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 taken 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 a historical period (275), geographical area (276), or historical theme (277). Reading, discussion, lecture and instructional media focuses 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.

*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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

*CSU*

\*Meets part of the American Institutions requirement. See "CSU General Education Breadth" under Degree Requirements & Transfer Information for complete requirements and different options, or visit [www.assist.org](http://www.assist.org).

**HUMANITIES****110 PRINCIPLES OF THE HUMANITIES****3 UNITS**

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

In this interdisciplinary humanities course, students will 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*

**115 ARTS AND CULTURE IN LOCAL CONTEXT—SAN DIEGO****3 UNITS**

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

This course offers an interdisciplinary survey of San Diego's history, art and culture. Focusing on San Diego's cosmopolitan cultural offerings, students will study characteristic elements of art media (such as architecture, sculpture, music, literature, theater), their creators, significant cultural sites, and our position in the broader context of world culture. Guest lectures by local artists and trips to various cultural sites (Balboa Park, Old Globe Theatre, San Diego Museum of Art, Copley Symphony Hall, Gaslamp District) will be integrated into the course to bring students into direct contact with the arts. Field trips and tours of local cultural sites are a required component of this class.

*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, supernatural beings, and the world they live in. Focuses 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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

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## 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 taken 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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

## ITALIAN

**120 ITALIAN I 5 UNITS**

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

Introduction to the Italian language and culture for students with little or no knowledge of Italian. This course 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 Italian as much as possible. Students will learn structures that will enable them to function in Italian in everyday contexts while becoming familiar with the Italian speaking world.

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

**121 ITALIAN II 5 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ITAL 120 or two years of high school Italian or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 5 hours lecture

Continuation of Italian 120. This 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 ITALIAN 1-3 UNITS**

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

Individual study, research or projects 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 taken for a maximum of 9 units.*

**220 ITALIAN III 5 UNITS**

Prerequisite: "C" grade or higher or "Pass" in ITAL 121 or three years of high school Italian or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 5 hours lecture

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

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

**298 SELECTED TOPICS IN ITALIAN 1-5 UNITS**

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

Selected topics not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-degree applicable.**

**299 SELECTED TOPICS IN ITALIAN 1-5 UNITS**

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

Selected topics not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

CSU

## LIBRARY INFORMATION RESOURCES

**110 RESEARCH METHODS IN AN ONLINE WORLD 1 UNIT**

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

Designed for those who would like to become effective online researchers. Learn how to select and effectively use appropriate research tools such as search engines, online directories, meta-search engines, subscription databases and online catalogs. Develop search strategies and focus on expressing research questions in relevant search terms. Learn how to evaluate information for quality, authority, accuracy, and other criteria. Ethical issues about information will be introduced. *Familiarity with basic microcomputer operation is strongly recommended.*

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**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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.  
**CSU**

**MATHEMATICS****080 BASIC MATHEMATICS 2 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 2 hours lecture, 1 hour laboratory  
 Fundamentals of arithmetic including addition, subtraction, multiplication and division with emphasis on mental arithmetic involving whole numbers up to 12. Operations with fractions, decimals and percents are stressed. Area and volume formula for fundamental shapes will be discussed. **Pass/No Pass only. Non-degree applicable.**

**088 PRE-ALGEBRA 4 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: Grade of "Pass" in MATH 080 or equivalent  
 4 hours lecture, 1 hour laboratory  
 Operations with signed numbers are emphasized. The derivation and use of selected measurement concepts and the development of pre-algebra ideas such as variable and equations are included. Measurement, area and volume formulas for fundamental shapes are stressed. These topics are explored in the context of problem solving and appropriate calculator use. **Pass/No Pass only. Non-degree applicable.**

**090 ELEMENTARY ALGEBRA 5 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: Grade of "Pass" in MATH 088 or equivalent.  
 5 hours lecture, 1 hour laboratory  
 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. **Pass/No Pass only. Non-degree applicable.**

**096 PREPARATION FOR ELEMENTARY STATISTICS 6 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 5 hours lecture, 3 hours laboratory  
 An accelerated one-semester course to transfer-level Elementary Statistics (Math 160) covering core concepts from arithmetic, pre-algebra, elementary and intermediate algebra, and descriptive statistics that are needed to understand the basics of college-level statistics. Concepts are taught through the context of

descriptive data analysis. The core arithmetic and algebra skills needed to understand the concepts, formulas, and graphs used in transfer-level statistics are investigated in a "just-in-time" approach rather than the standard sequence found in the traditional algebra path. This course is NOT intended for math, science, computer science, business, or engineering majors.  
**Pass/No Pass only. Non-degree applicable.**

**097 PLANE GEOMETRY 3 UNITS**

Prerequisite: Grade of "Pass" 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. **Pass/No Pass only. Non-degree applicable.**

**103 INTERMEDIATE ALGEBRA 3 UNITS**

Prerequisite: Grade of "Pass" 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: Grade of "Pass" 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**

Prerequisite: "C" grade or higher or "Pass" in MATH 103 or 110 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 This course covers topics from logic, set theory, probability, statistics and computer math that

provide a very brief introduction to the structure of mathematical theories, the history of mathematics, and applications of mathematics to the real world. Designed for students who do not intend to prepare for a career in science or business.

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

**125 STRUCTURE AND CONCEPTS OF ELEMENTARY MATHEMATICS I 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in MATH 103 or 110 and MATH 097 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: "C" grade or higher or "Pass" in MATH 125 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 APPLICATIONS IN MATHEMATICS 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in MATH 110 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 2 hours lecture, 3 hours laboratory  
 Use of computers to analyze mathematical application problems and solutions from statistics, engineering and the physical sciences. Fundamentals of structured technical programming including language commands and computational algorithms.

**CSU, UC**

**160 ELEMENTARY STATISTICS 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in MATH 103 or 110 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

Prerequisite: "C" grade or higher or "Pass" in MATH 097, 110 or equivalent.

Corequisite: None

Recommended Preparation: None

3 hours lecture

Theoretical approach to the study of trigonometric functions with an 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

Prerequisite: "C" grade or higher or "Pass" in MATH 110 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, 176.*

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

### 176 PRECALCULUS: FUNCTIONS AND GRAPHS 6 UNITS

Prerequisite: "C" grade or higher or "Pass" in MATH 097, 110 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, 176.*

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

### 178 CALCULUS FOR BUSINESS, SOCIAL AND BEHAVIORAL SCIENCES 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in MATH 110 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

Prerequisite: "C" grade or higher or "Pass" in MATH 170, 175 or 176 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**

### 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 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 taken for a maximum of 9 units.*

### 245 DISCRETE MATHEMATICS 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in MATH 280 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

Prerequisite: "C" grade or higher or "Pass" in MATH 180 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

Prerequisite: "C" grade or higher or "Pass" in MATH 280 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

Prerequisite: "C" grade or higher or "Pass" in MATH 280 or equivalent.

Corequisite: None

Recommended Preparation: None

3 hours lecture

Topics include: matrix algebra, Gaussian Elimination, systems of equations, determinants, Euclidean and general vector spaces, linear transformations, orthogonality and inner product spaces, bases of vector spaces, the change of basis theorem, eigenvalues and eigenvectors, the rank and nullity of matrices and linear transformations. Designed for transfer students planning to major in mathematics, physics, engineering, computer science, operational research, economics or other sciences.

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

### 285 DIFFERENTIAL EQUATIONS 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in MATH 280 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**

### 298 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

**CSU**

## MUSIC

### 001 MUSIC FUNDAMENTALS 4 UNITS

Prerequisite: None

Corequisite: None

Recommended Preparation: None

4 hours lecture

Basic elements of music. Notation, major and minor keys, intervals, triads and 7th chords with inversions. Musical terms and analysis of chord structures. Keyboard application.

**CSU**



**090-091 PREPARATORY PERFORMANCE STUDIES 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture  
 Preparation for audition into MUS 190. 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.  
**Pass/No Pass only. Non-degree applicable.**

**104 INTRODUCTION TO THE MUSIC INDUSTRY 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Survey of the music industry with an emphasis on individual career options, roles and responsibilities. Includes interaction with industry components and relationships between business personnel and the music artist.  
 CSU

**105 MUSIC THEORY AND PRACTICE I 4 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 4 hours lecture, 2 hours laboratory  
 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: "C" grade or higher or "Pass" in MUS 105 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

**107A AREA STUDIES IN AFRICAN MUSIC 2 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 2 hours laboratory  
 Study of rudimentary playing technique and the broad cultural context of African music.  
 CSU, UC

**107B AREA STUDIES IN SUNDANESE GAMELAN MUSIC 2 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 2 hours laboratory  
 Study of rudimentary playing technique and the broad cultural context of Sundanese gamelan music.  
 CSU, UC

**107C AREA STUDIES IN LATIN AMERICAN MUSIC 2 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 1 hour lecture, 2 hours laboratory  
 Study of rudimentary playing technique and the broad cultural context of Latin American music.  
 CSU, UC

**108-109-208-209 ROCK, POP AND SOUL ENSEMBLE 1 UNIT**

Prerequisite: Audition  
 Corequisite: None  
 Recommended Preparation: None  
 2.5 hours lecture, 2.5 hours laboratory  
 Study and performance of representative popular music compositions from the second half of the 20th century with an emphasis on rock, rhythm and blues, and pop music. Open to instrumentalists and singers.  
 CSU, UC

**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

**114 MUSIC IN THE UNITED STATES 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Music in the United States from pre-Colonial times to the present. Coverage includes the music of Native Americans, the Colonies, the 1800s, distinctive regions and subcultures, jazz, art music, popular music styles, and nonwestern influences.  
 AA/AS GE, CSU, CSU GE, IGETC, UC

**115 HISTORY OF ROCK MUSIC 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Overview of rock and rock-related musical styles from the early 1950s to the present. Coverage includes related social and cultural trends, outstanding artists, the influence of technology on popular music, and relevant trends in the music industry. 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

**117 INTRODUCTION TO MUSIC HISTORY AND LITERATURE 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in MUS 001 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Survey of art music in Western civilization from the ancient period to the present. Musical styles will be studied within the context of concurrent developments in society, politics and other arts.  
 AA/AS GE, CSU, CSU GE, IGETC, UC

**118 INTRODUCTION TO MUSIC 4 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 4 hours lecture  
 A one-semester 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

**119 COOPERATIVE WORK EXPERIENCE IN MUSIC 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 music education. Work experience will be paid or unpaid at local middle or high school music programs. Placement assistance will be provided. Two on-campus sessions will be scheduled. *May be taken for a maximum of 12 units.*  
 CSU

**120 INTRODUCTION TO MUSIC TECHNOLOGY 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in MUS 001 or equivalent.  
 2 hours lecture, 3 hours laboratory  
 Introduction to the basic concepts and processes for editing digital audio and using the digital synthesizer and personal computer to perform, notate and record music. Students should have basic computer skills, basic piano or keyboard skills, and be able to read music.  
 CSU

**121-122-221-222 MUSIC INDUSTRY SEMINAR 1 UNIT**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours laboratory  
 In this project-based class, students will develop and create promotional materials for a local musical artist or groups, and will collaborate to produce concerts of popular music. The course content combines work in recording, print, and electronic media as well as concert production.  
 CSU

**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: "C" grade or higher or "Pass" in MUS 126 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 2 hours lecture

Guitar for non-music majors. Continuation of MUS 126 with an 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

**130A-131A-230A-231A WORLD MUSIC ENSEMBLE: AFRICAN PERCUSSION 1 UNIT**

Prerequisite: "C" grade or higher or "Pass" in MUS 107A or equivalent.  
 Corequisite: None

Recommended Preparation: None  
 2.5 hours lecture, 2.5 hours laboratory  
 Study of different African percussion traditions at regular rehearsals and public performances.

CSU, UC

**130B-131B-230B-231B WORLD MUSIC ENSEMBLE: SUNDANESE GAMELAN 1 UNIT**

Prerequisite: "C" grade or higher or "Pass" in MUS 107B or equivalent.  
 Corequisite: None

Recommended Preparation: None  
 2.5 hours lecture, 2.5 hours laboratory  
 Study of Sundanese gamelan compositions at regular rehearsals and public performances.

CSU, UC

**130C-131C-230C-231C WORLD MUSIC ENSEMBLE: LATIN AMERICAN MUSIC 1 UNIT**

Prerequisite: "C" grade or higher or "Pass" in MUS 107C or equivalent.  
 Corequisite: None

Recommended Preparation: None  
 2.5 hours lecture, 2.5 hours laboratory  
 Study of different Latin American music genres at regular rehearsals and public performances.

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: "C" grade or higher or "Pass" in MUS 132 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

**136-137-236-237 CHAMBER SINGERS 1 UNIT**

Prerequisite: Audition  
 Corequisite: None  
 Recommended Preparation: None

2.5 hours lecture, 2.5 hours laboratory  
 Study of standard and contemporary choral literature (classics to jazz) for small choral ensemble. Includes performances on campus and in local schools and communities. Open to

all singers in the community and students of the college.

CSU, UC

**152-153-252-253 CONCERT BAND 1 UNIT**

Prerequisite: Audition  
 Corequisite: None  
 Recommended Preparation: None

2.5 hours lecture, 2.5 hours laboratory  
 Study of representative concert band compositions in a wide variety of styles at regular rehearsals and public performances.

CSU, UC

**156-157-256-257 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

**158-159-258-259 CHORUS 1 UNIT**

Prerequisite: Audition  
 Corequisite: None  
 Recommended Preparation: None

2.5 hours lecture, 2.5 hours 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

**161 COOPERATIVE WORK EXPERIENCE IN MUSIC INDUSTRY 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 the music industry. Work experience will be paid or unpaid at local businesses that are part of the music industry such as recording studios, booking agencies, and music equipment manufacturers/retailers. Placement assistance will be provided. Two on-campus sessions will be scheduled. *May be taken for a maximum of 12 units.*

CSU

**170-171-270-271 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

**184 DIGITAL AUDIO RECORDING AND PRODUCTION 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in MUS 120 or equivalent.

2 hours lecture, 3 hours laboratory  
 In-depth presentation of digital audio recording, editing and processing. Students will learn techniques for in-studio and live recording and will record and edit new musical recordings. Students should have a basic understanding of digital audio vocabulary and basic experience with using a computer to make/record music.

CSU

**190-191-290-291 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

**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 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 taken for a maximum of 9 units.*

**205 MUSIC THEORY AND PRACTICE III 4 UNITS**

Prerequisite: "C" grade or higher or "Pass" in MUS 106 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: "C" grade or higher or "Pass" in MUS 205 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

**226 CLASS GUITAR III 2 UNITS**

Prerequisite: "C" grade or higher or "Pass" in MUS 127 or equivalent.  
 Corequisite: None

Recommended Preparation: None  
 2 hours lecture  
 Guitar for non-music majors. Continuation of MUS 127 with an emphasis on high position reading, introductory chord and scale alterations, and technical development.

CSU, UC

**227 CLASS GUITAR IV 2 UNITS**

Prerequisite: "C" grade or higher or "Pass" in MUS 226 or equivalent.  
 Corequisite: None

Recommended Preparation: None  
 2 hours lecture  
 Guitar for non-music majors. Continuation of MUS 226 with an emphasis on playing solos and accompaniments in various styles and idioms.

CSU, UC

**232 CLASS PIANO III 3 UNITS**  
 Prerequisite: "C" grade or higher or "Pass" in MUS 133 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: "C" grade or higher or "Pass" in MUS 232 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*

**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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.  
*CSU*

## NATIVE AMERICAN LANGUAGES

**120 KUMEYAAY I 5 UNITS**  
 Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 5 hours lecture  
 Introduction to the Kumeyaay 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 is on basic communication skills, the class will be conducted in Kumeyaay as much as possible. While becoming familiar with the Kumeyaay speaking world, students will learn structures that will enable them to function in Kumeyaay in everyday contexts.  
*AA/AS GE, CSU, CSU GE, IGETC, UC*

**121 KUMEYAAY II 5 UNITS**  
 Prerequisite: "C" grade or higher or "Pass" in NAKY 120 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 5 hours lecture  
 Continuation of NAKY 120. Students 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 NATIVE AMERICAN LANGUAGES 1-3 UNITS**  
 Prerequisite: Varies with topic  
 Corequisite: Varies with topic  
 Recommended Preparation: Varies with topic  
 3-9 hours  
 Individual study, research or projects 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 taken for a maximum of 9 units.*

**220 KUMEYAAY III 5 UNITS**  
 Prerequisite: "C" grade or higher or "Pass" in NAKY 121 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 5 hours lecture  
 Continuation of NAKY 121. Students will develop increasingly advanced oral, listening, reading and writing skills in the Kumeyaay language.  
*AA/AS GE, CSU, CSU GE, IGETC, UC*

**221 KUMEYAAY IV 5 UNITS**  
 Prerequisite: "C" grade or higher or "Pass" in NAKY 220 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 5 hours lecture  
 Continuation of NAKY 220. Students will develop advanced oral, listening, reading and writing skills and proficiency in Kumeyaay.  
*AA/AS GE, CSU, CSU GE, IGETC, UC*

**298 SELECTED TOPICS IN NATIVE AMERICAN LANGUAGES 1-5 UNITS**  
 Prerequisite: Varies with topic  
 Corequisite: Varies with topic  
 Recommended Preparation: Varies with topic  
 1-15 hours  
 Selected topics not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-degree applicable.**

**299 SELECTED TOPICS IN NATIVE AMERICAN LANGUAGES 1-5 UNITS**  
 Prerequisite: Varies with topic  
 Corequisite: Varies with topic  
 Recommended Preparation: Varies with topic  
 1-15 hours  
 Selected topics not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.  
*CSU*

## OCEANOGRAPHY

**112 INTRODUCTION TO OCEANOGRAPHY 3 UNITS**  
 Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 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.  
*AA/AS GE, CSU, CSU GE, IGETC, UC*

**113 OCEANOGRAPHY LABORATORY 1 UNIT**  
 Prerequisite: "C" grade or higher or "Pass" in OCEA 112 or equivalent or concurrent enrollment.  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours laboratory  
 Hands-on oceanographic laboratory experience to accompany and augment OCEA 112. Includes laboratory and field investigations of the marine environment emphasizing the geological, chemical, physical and biological aspects of the ocean.  
*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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a 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 foliage, and practical skills necessary for employment in the floral industry. Fresh, silk and dried flowers will be used.  
*CSU*



**116 FLORAL DESIGN II 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in OH 114 or equivalent.

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. Includes silks, dried flowers, foliages and unique props for creating floral designs.

CSU

**117 WEDDING DESIGN I 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in OH 114 or equivalent.

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Theory and practice of numerous styles of wedding bouquets and corsages including church and reception floral designs. Emphasis is on the skills, mechanics and speed necessary in the floral industry.

CSU

**118 SPECIAL OCCASION FLORAL DESIGN 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in OH 114 or equivalent or one year high school floral design or trade experience.

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

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: "C" grade or higher or "Pass" in OH 117 or equivalent.

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**

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. Emphasis is on 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**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Study of soil formation, characteristics, and classification with an 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

**171 LANDSCAPE DRAFTING 1 UNIT**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

.5 hour lecture, 1.5 hours laboratory

Introduction to basic drafting practices used in landscape design. Includes topography drawings, concept plans, construction drawings, and construction and installation details. Upon completion, students should be able to complete a set of working drawings for a residential landscape.

CSU, UC

**172 INTRODUCTION TO LANDSCAPE DESIGN 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in OH 171 or equivalent.

2 hours lecture, 3 hours laboratory

Principles of landscape design for residential projects with an emphasis on residential landscape design and the creation of usable, pleasant outdoor spaces. Focuses 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, UC

**173 INTERMEDIATE LANDSCAPE DESIGN 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in OH 172 or equivalent.

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, UC

**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. Includes soil preparation, planting, fertilizing, maintenance of common and special turf grasses and ground covers, and particular pest and disease problems and their control.

CSU

**175 ADVANCED LANDSCAPE DESIGN 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in OH 173 or equivalent.

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.

CSU

**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 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 taken 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. Includes the creation of site plans, landscape plans, sprinkler plans, contour maps, landscape estimates, elevation, and perspective drawings.

CSU

**201 ADVANCED COMPUTER AIDED LANDSCAPE DESIGN 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in OH 200 or equivalent.

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Use of computer aided landscape design software for the application of graphics, symbols, patterns, layouts, text and scales for the development of design drawings, concept

plans, construction documents, and cost estimates for residential landscape projects.

CSU

## **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 and 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 be covered. Includes basic materials and methods for construction of decks, overhead structures, wooden fences and gates. 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 be covered.

## **225 LANDSCAPE CONTRACTING 3 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

3 hours lecture

Study of 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. Introduction to system components including valves, backflow prevention devices, controllers and pumps and pipe.

CSU

## **238 IRRIGATION SYSTEM DESIGN 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in OH 235 or equivalent or concurrent enrollment.

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Introduction to 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 with an emphasis on the scheduling of greenhouse crops common to Southern California. Topics include equipment, structures, environmental control, estimation of crop production requirements, and production and sales of common greenhouse crops.

CSU

## **250 LANDSCAPE WATER MANAGEMENT 2 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: None

1 hour lecture, 3 hours laboratory

Water management principles and practices for urban landscapes including water audit methods and certification, irrigation scheduling, water budgets, water use monitoring, and laws and regulations pertaining to urban landscape irrigation and runoff.

CSU

## **255 SUSTAINABLE URBAN LANDSCAPE PRINCIPLES AND PRACTICES 2 UNITS**

Prerequisite: None

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in OH 120 or equivalent.

2 hours lecture

Principles and practices of sustainable landscape design, construction and maintenance. Students will study ways in which urban landscapes in Southern California can become more sustainable by incorporating water conservation, storm water runoff, landscapes for fire prone areas, material reuse, recycling and repurchase, along with other principles of sustainability. Includes the use of technology, materials and methods that enhance the urban landscape with minimal input of labor and materials while reducing negative environmental impacts.

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. Includes 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

Study of the physiology of palms and other monocots, identification traits, and appropriate uses of common species. Requirements for proper growing conditions and pruning will be examined to 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

Introduction 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. Includes 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: "C" grade or higher or "Pass" in OH 174 or equivalent or concurrent enrollment.

Corequisite: None

Recommended Preparation: None

2 hours lecture, 3 hours laboratory

Advanced study in the specialization of 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: "C" grade or higher or "Pass" in OH 120, 130 or equivalent.

1 hour lecture, 1.5 hours laboratory

Explores 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. Focuses 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

This course is 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 provided. Two on-campus sessions will be scheduled. *May be taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be

determined by the Office of Instruction and faculty. Offered in a 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

This course provides a historical perspective of the law and the profession of paralegal. The main focus is the role of the paralegal in the law office including client contact, ethical responsibilities, investigative fact finding, law office management, and legal restrictions. Students will be introduced to legal research and writing, substantive and procedural law, the court systems, and legal terminology.

CSU

## 110 CIVIL LITIGATION PRACTICE AND PROCEDURES 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent.

Corequisite: None

Recommended Preparation: None

3 hours lecture

The initial phase of an action, the issues of jurisdiction, 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 is placed on the paralegal's role and ethical and professional responsibilities in discovery procedures and trial practice.

CSU

## 120 ADMINISTRATIVE LAW 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent.

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 ORGANIZATIONS 1 UNIT

Prerequisite: None

Corequisite: None

Recommended Preparation: None

1 hour lecture

Fundamentals of the formation of business entities such as sole proprietorships, partnerships, limited liability companies and corporations are included. Emphasis will be on formation, maintenance, taxation, termination of business entities, and the ethical constraints on paralegals.

CSU

## 130 LEGAL RESEARCH AND WRITING 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent.

Corequisite: None

Recommended Preparation: "C" grade or higher or "Pass" in ENGL 110 or equivalent.

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: "C" grade or higher or "Pass" in PARA 100, 130 or equivalent or concurrent enrollment in PARA 130.

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 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent.

Corequisite: None

Recommended Preparation: None

3 hours lecture

The United States Federal Bankruptcy Code (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 Code, and will learn pertinent rules of federal procedure associated with bankruptcy case filings. The focus will be on "consumer" Chapters 7 and 13.

CSU

## 140 CRIMINAL LAW AND PROCEDURES 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent.

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: "C" grade or higher or "Pass" in PARA 100 or equivalent.

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: "C" grade or higher or "Pass" in PARA 100 or equivalent.

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: "C" grade or higher or "Pass" in PARA 100 or equivalent.  
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: "C" grade or higher or "Pass" in PARA 100 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
1 hour lecture

Study of the essentials of tort actions with an emphasis on personal injury and other forms of negligence. Special attention will be given to the elements of a cause of action in negligence. Theories of recovery, defenses, case handling, witness interviewing, working with insurance carriers, and evidence requirements under current California law will be reviewed. Students will review the particular ethical constraints on personal injury paralegals.

CSU

**165 PROBATE LAW 3 UNITS**  
Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent.  
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: "C" grade or higher or "Pass" in 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

**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 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 taken for a maximum of 9 units.*

**250 INTERNSHIP 1-4 UNITS**  
Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent.  
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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

CSU

## PERSONAL DEVELOPMENT—COUNSELING

*See Counseling*

## PERSONAL DEVELOPMENT—SPECIAL SERVICES

**080 EDUCATIONAL ASSESSMENT AND PRESCRIPTIVE PLANNING .5 UNIT**  
Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
.5 hour lecture

Designed to assess, identify and interpret learning strengths and weaknesses to determine 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. **Pass/No Pass only. Non-degree applicable.**

**081 SELF-ADVOCACY FOR STUDENTS WITH DISABILITIES 1 UNIT**  
Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
1 hour lecture

Designed for students who want to learn more about self advocacy. Involves prescriptive instruction emphasizing personal empowerment, support systems, understanding one's strengths, and legal and ethical issues including awareness of disabilities. *May be taken for a maximum of 4 units. Pass/No Pass only. Non-degree applicable.*

**085 ADAPTED COMPUTER BASICS 1 UNIT**  
Prerequisite: None  
Corequisite: None  
Recommended Preparation: "C" grade or higher or "Pass" 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. *May be taken for a maximum of 4 units. Pass/No Pass only. Non-degree applicable.*

**087 ADAPTED COMPUTER STUDIES 1 UNIT**  
Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
1 hour lecture, 1 hour laboratory

Individualized course of study for students with verifiable disabilities. Provides in-depth, individualized instruction in assistive technology and techniques to maximize independent use of assistive and mainstream computer hardware/software to improve students' ability to succeed in mainstream college-level courses and vocational programs. *May be taken for a maximum of 4 units. Pass/No Pass only. Non-degree applicable.*

**090ABCD LEARNING STRATEGIES PRACTICUM 1 UNIT**  
Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
1 hour lecture

This course is designed for students with specialized learning needs. Emphasis is on the development and implementation of specific learning strategies in a developmental learning environment utilizing specialized software programs to assist students' academic performance. **Pass/No Pass only. Non-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. Emphasizes the development of skills and functional compensatory strategies to enhance disabled students' opportunities for academic success. *May be taken for a maximum of 4 units. Pass/No Pass only. Non-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. *May be taken for a maximum of 4 units. Pass/No Pass only. Non-degree applicable.*

**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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

## PHILOSOPHY

**110 A GENERAL INTRODUCTION TO PHILOSOPHY 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 In this basic orientation, students will explore, compare, analyze, evaluate and discuss a variety of principle questions addressed in philosophy, such as: 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: ANCIENT AND MEDIEVAL 3 UNITS**

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: MODERN AND CONTEMPORARY 3 UNITS**

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 an 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**

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**

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 an 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

**170 PHILOSOPHY OF RELIGION: A CROSS-CULTURAL INTRODUCTION 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 In this introductory course, students will explore cross-cultural perspectives on topics such as the nature and grounds of religious belief, the relation between religion and ethics, the nature and existence of God/ultimate reality, the problem of evil, the validity of religious experience, and religious pluralism versus religious exclusivism. The examination of issues will take into account the diversity of religious thought evident in the world today.

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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a 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  
 This course provides a 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 is on understanding 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 INTRODUCTION TO PHYSICAL SCIENCES LABORATORY 1 UNIT**

Prerequisite: "C" grade or higher or "Pass" in PSC 110 or equivalent or concurrent enrollment.  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours laboratory  
 Laboratory exercises concerning physics, chemistry, geology and astronomy. Emphasis is 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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be

determined by the Office of Instruction and faculty. Offered in a 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 an 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

Prerequisite: "C" grade or higher or "Pass" in MATH 170 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture, 3 hours laboratory  
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 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

Prerequisite: "C" grade or higher or "Pass" in PHYC 120 or equivalent.  
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: "C" grade or higher or "Pass" or concurrent enrollment in MATH 178 or 180 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture, 3 hours laboratory  
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 this course.

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

### 131 FUNDAMENTALS OF PHYSICS 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in PHYC 130 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture, 3 hours laboratory  
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 this course.

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

### 190 MECHANICS AND HEAT 5 UNITS

Prerequisite: "C" grade or higher or "Pass" in MATH 180 or equivalent 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 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 taken for a maximum of 9 units.*

### 200 ELECTRICITY AND MAGNETISM 5 UNITS

Prerequisite: "C" grade or higher or "Pass" in PHYC 190 or equivalent and credit for or concurrent enrollment in MATH 280 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
4 hours lecture, 3 hours laboratory  
Deals with the electric and magnetic behavior of matter. The primary emphasis is 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

Prerequisite: "C" grade or higher or "Pass" in PHYC 190 or equivalent and credit for or concurrent enrollment in MATH 281 or equivalent.  
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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a 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 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
Analysis of 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. Emphasis is on 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 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 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  
Analysis of 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.

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



**140\* INTRODUCTION TO CALIFORNIA GOVERNMENTS AND POLITICS 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Examination of 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 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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

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\*Meets part of the American Institutions requirement. See CSU General Education Breadth under Degree Requirements & Transfer Information for complete requirements and different options, or visit [www.assist.org](http://www.assist.org).

## PSYCHOLOGY

**120 INTRODUCTORY PSYCHOLOGY 3 UNITS**

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, they will be 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 sexually transmitted diseases (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**

Prerequisite: "C" grade or higher or "Pass" in 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  
 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 includes 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 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 taken for a maximum of 9 units.*

**205 RESEARCH METHODS FOR PSYCHOLOGY 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in PSY 120, 215 or equivalent  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Introduction to scientific methodology in psychology. Emphasis is placed on descriptive, experimental, and applied research. Students will learn the American Psychological Association writing style for empirical report writing. This course is intended for psychology majors and behavioral science students interested in the processes of research.

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**215 STATISTICS FOR THE BEHAVIORAL SCIENCES 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in MATH 103 or 110 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 is 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, IGETC, UC credit limit

**220 LEARNING 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in PSY 120 or equivalent.  
 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a 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 is 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 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 taken 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**

**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.  
**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 taken for a maximum of 12 units.*  
**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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.  
**CSU**

## RELIGIOUS STUDIES

**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  
Study of religions based on scriptures selected from Eastern and Western religions.  
**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 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 taken for a maximum of 9 units.*

**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, CSU GE, IGETC, 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, CSU GE, IGETC, 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.  
*CSU*

## SOCIAL WORK

**110 SOCIAL WORK FIELDS  
OF SERVICE 3 UNITS**

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
A generalist perspective that introduces students to the profession of social work and the major fields of practice. Explores the relevance of social work to current social issues. Students will identify and understand the implications of social work practice with diverse populations. This includes, but may not be limited to, the impact of cultural diversity, racism, sexism, disabilities, ageism, homophobia and other forms of discrimination, and the need for and provision of basic human services. Strategies for fulfilling the professional responsibility of the

social worker to create an equitable society will be identified and developed.

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**120 INTRODUCTION TO  
SOCIAL WORK 3 UNITS**

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
Students will use a social problems approach to describe how poverty, child abuse, substance abuse, health and mental health issues, sexism, racism, other forms of discrimination, crime and other social issues affect people. Provides a framework for analyzing policy issues and for making informed civic decisions on social issues. Students are asked to volunteer at a social service/community service agency to observe and report on how social workers attempt to assess and address social problems.  
*CSU*

**199 SPECIAL STUDIES OR  
PROJECTS IN SOCIAL WORK 1-3 UNITS**

Prerequisite: Varies with topic  
Corequisite: Varies with topic  
Recommended Preparation: Varies with topic  
3-9 hours  
Individual study, research or projects 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 taken for a maximum of 9 units.*

**298 SELECTED TOPICS  
IN SOCIAL WORK 1-3 UNITS**

Prerequisite: Varies with topic  
Corequisite: Varies with topic  
Recommended Preparation: Varies with topic  
1-9 hours  
Selected topics not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-degree applicable.**

**299 SELECTED TOPICS  
IN SOCIAL WORK 1-3 UNITS**

Prerequisite: Varies with topic  
Corequisite: Varies with topic  
Recommended Preparation: Varies with topic  
1-9 hours  
Selected topics not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.  
*CSU*

## SOCIOLOGY

**120 INTRODUCTORY SOCIOLOGY 3 UNITS**

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*

**125 MARRIAGE, FAMILY AND  
ALTERNATIVE LIFESTYLES 3 UNITS**

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**

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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.

*CSU*

## SPANISH

**120 SPANISH I 5 UNITS**

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
5 hours lecture  
Introduction 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 students who have not studied the Spanish language. Introduction 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: "C" grade or higher or "Pass" in SPAN 120A or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 2.5 hours lecture  
 Equivalent to the second half of SPAN 120; continuation of SPAN 120A. Continues to introduce 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**

Prerequisite: "C" grade or higher or "Pass" in SPAN 120 or two years of high school Spanish or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 5 hours lecture  
 Continuation of SPAN 120. Continues 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. **Pass/No Pass only.**  
 CSU

**141 SPANISH AND LATIN AMERICAN CULTURES 3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Survey of the 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, 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 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 taken for a maximum of 9 units.*

**220 SPANISH III 5 UNITS**

Prerequisite: "C" grade or higher or "Pass" in SPAN 121 or three years of high school Spanish or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 5 hours lecture  
 Continuation of SPAN 121. Continues 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**

Prerequisite: "C" grade or higher or "Pass" in SPAN 220 or four years of high school Spanish or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 5 hours lecture  
 Continuation of SPAN 220. Continues 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 I 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in SPAN 121 or three years of high school Spanish or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Develop oral, reading, writing and listening skills with an emphasis on oral proficiency.  
 AA/AS GE, CSU, CSU GE, UC

**251 CONVERSATIONAL SPANISH II 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in SPAN 250 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 with an emphasis on oral proficiency.  
 AA/AS GE, CSU, CSU GE, 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.  
 CSU

## SURVEYING

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

Prerequisite: Varies with topic  
 Corequisite: Varies with topic  
 Recommended Preparation: Varies with topic  
 3-9 hours  
 Individual study, research or projects 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 taken for a maximum of 9 units.*

**218 PLANE SURVEYING 4 UNITS**

Prerequisite: "C" grade or higher or "Pass" in MATH 170 or equivalent 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 as ENGR 218.*  
 CSU, UC

**220 BOUNDARY CONTROL AND LEGAL PRINCIPLES 3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in SURV/ENGR 218 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture  
 Legal and professional aspects of surveying such as U.S. public land surveys, property surveys, title search, report laws affecting a surveyor, resurveys or surveys based on the deed or record, and the new divisions of land.  
 CSU

**240 ADVANCED SURVEYING 4 UNITS**

Prerequisite: "C" grade or higher or "Pass" in SURV/ENGR 218 or equivalent.  
 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.). *Not open to students with credit in ENGR 240.*  
 CSU, UC

**298 SELECTED TOPICS IN SURVEYING 1-4 UNITS**

Prerequisite: Varies with topic  
 Corequisite: Varies with topic  
 Recommended Preparation: Varies with topic  
 1-12 hours  
 Selected topics not covered by regular catalog offerings. Content and unit credit to be

determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-degree applicable.**

## 299 SELECTED TOPICS IN SURVEYING 1-4 UNITS

Prerequisite: Varies with topic  
Corequisite: Varies with topic  
Recommended Preparation: Varies with topic  
1-12 hours  
Selected topics not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.  
**CSU**

# THEATRE ARTS

## 110 INTRODUCTION TO THEATRE 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
Provides students with the analytic tools of theatre and 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, CSU GE, IGETC, UC**

## 120 HISTORY OF THE THEATRE I 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
Survey of theatre from Classical Greece through 18th century France and England. The social, political, philosophical and religious impact of theatre and drama will be studied in depth. Exemplary plays from great theatrical periods will be analyzed and critiqued.  
**AA/AS GE, CSU, CSU GE, IGETC, UC**

## 121 HISTORY OF THE THEATRE II 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
Survey of theatre from 19th century Germany through 20th century Europe and America. The social, political, philosophical and religious impact of theatre and drama will be studied in depth. Exemplary plays from great theatrical periods will be analyzed and critiqued.  
**AA/AS GE, CSU, 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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a 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  
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 be explored.  
**CSU**

## 102 CALCULATIONS IN WATER/WASTEWATER TECHNOLOGY 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: Grade of "Pass" in MATH 090 or equivalent.  
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.  
**CSU**

## 104 APPLIED HYDRAULICS 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: "C" grade or higher or "Pass" in WWTR 102 or equivalent.  
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.  
**CSU**

## 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. Includes automated process control devices and an overview of current technologies.

**CSU**

## 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 an 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.  
**CSU**

## 112 BASIC PLANT OPERATIONS: WATER TREATMENT 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: "C" grade or higher or "Pass" in WWTR 102 or equivalent.  
3 hours lecture  
Study of the 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.  
**CSU**

## 114 BASIC PLANT OPERATIONS: WASTEWATER TREATMENT 3 UNITS

Prerequisite: None  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
Introduction to wastewater collection systems and essential safety procedures necessary to their operation, including preliminary and primary treatment processes and maintenance of a wastewater treatment plant.  
**CSU**

## 117 ADVANCED PLANT OPERATIONS: WATER TREATMENT 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in WWTR 112 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
Study of 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, safety, cost, and environmental factors.  
**CSU**

## 120 ADVANCED PLANT OPERATIONS: WASTEWATER TREATMENT 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in WWTR 114 or equivalent.  
Corequisite: None  
Recommended Preparation: None  
3 hours lecture  
Examination of 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.  
**CSU**

**130 WATER DISTRIBUTION SYSTEMS****3 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: "C" grade or higher or "Pass" in WWTR 102 or equivalent.  
 3 hours lecture

Study of 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.

CSU

**132 WASTEWATER COLLECTION SYSTEMS****3 UNITS**

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

Study of the components of wastewater collection systems. Overview of design installation, operation, monitoring, maintenance and repair of sewer pipelines, pump stations and related facilities.

CSU

**134 MECHANICAL MAINTENANCE****3 UNITS**

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

Overview of 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.

CSU

**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 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 taken for a maximum of 9 units.*

**265 WATER DISTRIBUTION SYSTEMS II****3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in WWTR 130 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture

Second of an integrated sequence of courses covering water distribution systems. Students will 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 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.

CSU

**267 WASTEWATER COLLECTION SYSTEMS II****3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in WWTR 132 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None  
 3 hours lecture

Provides 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.

CSU

**270 PUBLIC WORKS SUPERVISION****3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in WWTR 101 or equivalent.  
 Corequisite: None  
 Recommended Preparation: None

3 hours lecture

Introduction to the principles and practices of modern supervision and management with an emphasis on contemporary issues facing supervisors and managers in the water utilities industry.

CSU

**280 BACKFLOW TESTER TRAINING****2 UNITS**

Prerequisite: None  
 Corequisite: None  
 Recommended Preparation: None

1.5 hours lecture, 1.5 hours laboratory

Preparation 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.

CSU

**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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a 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 taken 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 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 taken 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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format. **Pass/No Pass only. Non-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 not covered by regular catalog offerings. Content and unit credit to be determined by the Office of Instruction and faculty. Offered in a lecture and/or laboratory format.