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 (ASL)

120 AMERICAN SIGN LANGUAGE I 4 UNITS
4 hours lecture
Introduction to American Sign Language (ASL) and Deaf culture. The course is designed to give students with little to no experience in or exposure to ASL an emerging conversational and cultural foundation. Students will develop skills in telling about and comprehending common every day activities and asking questions. Students will learn how to use non-manual signs, facial expressions and other culturally appropriate uses of the face and body to interact with, show comprehension, get attention, and form appropriate cultural connections with Deaf people.
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
4 hours lecture
The 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. Students will continue the study of cultural analysis and comparisons, receptive skill comprehension, expressive skill production, and ASL linguistics.
AA/AS GE, CSU, CSU GE, IGETC, UC

125 AMERICAN SIGN LANGUAGE WITH INFANTS AND TODDLERS 1 UNIT
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.
CSU

126 AMERICAN SIGN LANGUAGE WITH SCHOOL AGE CHILDREN 1 UNIT
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.
CSU

130 AMERICAN SIGN LANGUAGE: FINGERSPELLING 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in ASL 120 or equivalent ability to sign
3 hours lecture
This course is taught using American Sign Language (ASL). The primary focus of this course is to become skilled in use of the American manual alphabet (Fingerspelling). Students will develop an awareness of how and when fingerspelling should be used within ASL. Upon completion of the course, students will demonstrate skilled ability to accurately use and comprehend ASL fingerspelling and numbers within conversational contexts.
CSU, UC

140 INSIDE DEAF CULTURE 3 UNITS
3 hours lecture
This course will introduce students to the Deaf community and American Deaf culture. Deaf heritage, values, behaviors, historical perspectives, and the grammar structure of sign language will be examined. American Sign Language (ASL) literature, Deaf artists, social and political influences, and emerging technology for Deaf people will be studied.
AA/AS GE, CSU, CSU GE, IGETC, UC

220 AMERICAN SIGN LANGUAGE III 4 UNITS
Prerequisite: "C" grade or higher or "Pass" in ASL 121 or equivalent
4 hours lecture
The 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.
AA/AS GE, CSU, CSU GE, IGETC, UC

221 AMERICAN SIGN LANGUAGE IV 4 UNITS
Prerequisite: "C" grade or higher or "Pass" in ASL 220 or equivalent
4 hours lecture
The fourth 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.
AA/AS GE, CSU, CSU GE, IGETC, UC

ANTHROPOLOGY (ANTH)

120 CULTURAL ANTHROPOLOGY 3 UNITS
C-ID ANTH 120
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
C-ID ANTH 110
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

140 INTRODUCTION TO ARCHAEOLOGY 3 UNITS
C-ID ANTH 150
3 hours lecture
This course is an introduction to the field of archaeology; its concepts, theories, data and models that contribute to our knowledge of the human past. The course will provide an introduction to archaeological field methods of survey and excavation; categories of data and dating techniques; analysis; cultural resource management and professional ethics. Major developments in history will be examined using archaeological evidence. The relevance of archaeological research to contemporary society will also be addressed.
AA/AS GE, CSU, CSU GE, IGETC, UC

150 INTRODUCTION TO CULTURAL RESOURCE MANAGEMENT 3 UNITS
2 hours lecture, 3 hours laboratory
An introduction to cultural resource management. Students will be exposed to archaeological methods, field practices, laws and regulations and learn how to be an effective cultural monitor to ensure the protection and preservation of Kumeyaay resources.
AA/AS GE, CSU, CSU GE, UC

160 INTRODUCTION TO ARCHAEOLOGICAL FIELD WORK 4 UNITS
2 hours lecture, 6 hours laboratory
This course is an introduction to the basic techniques of archaeological field work. Emphasis is placed on site survey, site layout, excavation, artifact identification, laboratory analysis and report writing. Topics also include use of compass and transit, Global Positioning Systems (GPS) and Geographic Information Systems (GIS). Students will be exposed to the techniques of data collection and analysis, cultural reconstruction and interpretation, and cultural resource management work. Through a series of workshops with guest experts on Kumeyaay indigenous knowledge, students will learn about Kumeyaay history, prehistory, traditions, politics, and beliefs while training in archaeological data collection and mapping methods. This course is designed for Anthropology and Kumeyaay Studies majors as well as students interested in prehistoric and/or historic research.
CSU, CSU GE, IGETC, UC

ARABIC (ARBC)

120 ARABIC I 5 UNITS
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
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

122 ARABIC FOR THE ARABIC SPEAKER I 5 UNITS
5 hours lecture
Fundamentals of spoken and written Arabic for the bilingual speaker. This course is designed to help Arabic-speaking students further improve their oral and written communication skills. Emphasis on writing, reading comprehension, and vocabulary building at the intermediate level in a cultural context. Exposure to the diversity within the cultures of the Arabic-speaking world. This course is designed to provide the bilingual speaker with the linguistic and learning skills required for successfully completing upper division courses in Arabic. The course will be taught in Arabic.
AA/AS GE, CSU, CSU GE, IGETC, UC

123 ARABIC FOR THE ARABIC SPEAKER II 5 UNITS
Prerequisite: "C" grade or higher or "Pass" in ARBC 122 or equivalent
5 hours lecture
This course is designed to help Arabic-speaking students further improve their oral and written communication skills. In addition, it provides the bilingual speaker with the linguistic and learning skills required for successfully completing upper division courses in Arabic.
AA/AS GE, CSU, CSU GE, IGETC, UC

130 ARABIC LITERATURE AND CULTURE 3 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in Arabic 121 or equivalent or "C" grade or higher or "Pass" in ENGL 120 or equivalent
3 hours lecture
This course surveys Arabic Literature masterpieces and/or Arabic literature in translation. The course focuses on the historical, social, religious, socio-political, philosophical, and cultural aspects of Arabic literature. It will be a great choice for Arabic learners, heritage speakers, native and non-native speakers of Arabic. A diverse selection of texts in Arabic and/or English is read and discussed to expand students' cultural horizons. Reading selections include works from the Pre-Islamic period, Islamic, Umayyads, Abbasids, and Modern period. Works of classical and modern writers will be included, in addition to prominent Arab-American and women writers.
AA/AS GE, CSU

145 ARABIC CIVILIZATIONS 3 UNITS
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. This course will be taught in Arabic.
AA/AS GE, CSU, CSU GE, IGETC, UC

180 BASIC COMPUTER SKILLS FOR ARABIC LEARNERS 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in Arabic 120 or equivalent
1 hour lecture
Students will be provided with the basic information and skills needed to operate a computer efficiently to support Arabic classes with an emphasis on basic keyboarding techniques and typing in Arabic, editing and formatting text in Arabic, and creating, formatting, and editing PowerPoint presentations in Arabic. Includes an overview of file and folder management to store information, using computer input devices, searching the internet, and sending email with attachments. *Also listed as BOT 180. Not open to students with credit in BOT 180.*
CSU

220 ARABIC III 5 UNITS
Prerequisite: "C" grade or higher or "Pass" in ARBC 121 or three years of high school Arabic or equivalent
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
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 122 or 123 or 220 or 221 or three years of high school Arabic or equivalent
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, IGETC, 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
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, IGETC, UC

254 CONVERSATIONAL IRAQI DIALECT 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in Arabic 121 or 122 or 123 or 220 or 221 or three years of high school Arabic or equivalent
3 hours lecture
Focuses on intermediate level conversation development with vocabulary building and improvement of speaking proficiency using Iraqi dialect in the context of Arabic Iraqi culture. Conversations in the Iraqi dialect are based on culturally relevant vocabulary and idiomatic expressions that deal with everyday situations. The course will focus on speaking and phonetics of Iraqi Arabic. It will continue to develop oral, listening, reading, and writing skills with emphasis in oral proficiency.
AA/AS GE, CSU, CSU GE, UC

ARAMAIC (ARAM)

120 ARAMAIC I 5 UNITS
5 hours lecture
Introductory course to the classical-modern Aramaic language, essentials of grammar and pronunciation, and the Chaldean-Assyrian culture and civilization. Facilitates the practical application of the language in everyday oral and written communication at the beginning level. Students will learn structures that will enable them to function in Aramaic in everyday contexts while becoming familiar with the Aramaic speaking world. The origin of the Semitic languages will be surveyed through selected readings and discussions. *Content equivalent to two years of high school language study.*
AA/AS GE, CSU, CSU GE, IGETC, UC

121 ARAMAIC II 5 UNITS
Prerequisite: "C" grade or higher or "Pass" in ARAM 120 or equivalent
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

220 ARAMAIC III 5 UNITS
Prerequisite: "C" grade or higher or "Pass" in ARAM 121 or equivalent
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

ART (ART)

Courses Related in Content (see page 35)

100 ART APPRECIATION 3 UNITS
C-ID ARTH 100
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
C-ID ARTS 100
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, IGETC, UC

121 PAINTING I 3 UNITS
C-ID ARTS 210
Prerequisite: "C" grade or higher or "Pass" in ART 120 or 124 or equivalent
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
C-ID ARTS 110
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
C-ID ARTS 205
Prerequisite: "C" grade or higher or "Pass" in ART 124 or equivalent
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
C-ID ARTS 101
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
2 hours lecture, 4 hours laboratory
Introduction to basic watercolor tools, materials and techniques emphasizing color principles and skill development in watercolor media.
CSU, UC

140 SURVEY OF WESTERN ART I: PREHISTORY THROUGH MIDDLE AGES 3 UNITS
C-ID ARTH 110
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 SURVEY OF WESTERN ART II: RENAISSANCE THROUGH MODERN 3 UNITS
C-ID ARTH 120
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
C-ID ARTH 150
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, CSU GE, IGETC, UC

144 ARCHITECTURE OF THE 20TH CENTURY 3 UNITS
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 3 UNITS
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

146 ASIAN ART 3 UNITS
C-ID ARTH 130
3 hours lecture
This course provides a select overview of art and architecture from India, Southeast Asia, China, Korea, and Japan, from prehistory to modern times with an emphasis on content, context, and style. The course covers subject matter, function, iconography, patronage, artistic methods and influences, and social and cultural contexts of artworks and monuments. The course includes art from: the Indus Valley, Early Buddhist and Hindu Art in Southeast Asia, later Indian art including Mughal, Neolithic through early Imperial China, Northern Wei through Tang dynasties, later China through contemporary era, Korea, archeological Japan through Heian, and later Japan through contemporary era.
AA/AS GE, CSU, CSU GE, IGETC, UC

148 APPLIED DESIGN AND CRAFTS 3 UNITS
C-ID ARTS 280
2 hours lecture, 4 hours laboratory
Design and construction of aesthetic and functional art projects using a variety of materials and processes to create applied design and crafts from a global perspective.
AA/AS GE, CSU, CSU GE, UC

149 HISTORY OF GRAPHIC DESIGN 3 UNITS
3 hours lecture
This course examines graphic design as a vital component of each culture and period in human history. Leaders in design, innovated technologies and import design movements are covered in their historical context. This course is for students majoring graphic design, art history, studio arts and anyone interested in the history of graphic design.
AA/AS GE, CSU, CSU GE, UC

177 DIGITAL DRAWING AND PAINTING 3 UNITS
2 hours lecture, 4 hours laboratory
This introductory course uses computer based technologies and its application for digital drawings and paintings. Students will develop digital images that showcase perceptual skills, conceptual strategies, production methods and narrative compositions using various software.
CSU, UC

220 PAINTING II 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in ART 121 or equivalent
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
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
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, UC

224 DRAWING III 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in ART 125 or equivalent
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
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
C-ID ARTS 200
Prerequisite: "C" grade or higher or "Pass" in ART 124 or equivalent
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
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
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
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, UC

235 WATERCOLOR II 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in ART 135 or equivalent
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
2 hours lecture, 4 hours laboratory
Continuation of Watercolor II skill and composition techniques. Students will develop a personal style of expression.
CSU, UC

241 ILLUSTRATION I 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in ART 124 or equivalent
2 hours lecture, 4 hours laboratory
This course serves as an introduction to illustration. The course stresses the creative interpretation of subjects, situations, and themes within the context of commercial art such as advertising, editorial, book illustrations, cartooning, and renderings. Emphasis is on developing and communicating visual ideas and imagery. Various media and techniques will be explored.
CSU, UC

242 ILLUSTRATION II 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in ART 241 or equivalent
2 hours lecture, 4 hours laboratory
This course is a continuation of the concepts and techniques presented in Illustration I. Increasingly more advanced illustration projects, techniques, concepts and methods will be presented. Emphasis is placed on the development of original concepts, refinements of techniques, production methods and development and presentation of portfolio quality artwork. In addition, rendering will be presented and incorporated in several projects.
CSU, UC

ASTRONOMY (ASTR)

110 DESCRIPTIVE ASTRONOMY 3 UNITS
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
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

AUTOMOTIVE TECHNOLOGY (AUTO)

099 INTRODUCTION TO AUTOMOTIVE TECHNOLOGY 3 UNITS
C-ID AUTO 110X
3 hours lecture
This course presents a basic overview of information about automotive systems. This course serves as a recommended preparation course for students interested in the Automotive Technology major, or for students who want to gain knowledge about vehicle servicing and repair. This course is complemented by AUTO 100L Laboratory where students are able to perform minor inspections, tests, and services to training vehicles using the department laboratory.
CSU

100L INTRODUCTION TO AUTOMOTIVE TECHNOLOGY LABORATORY 1 UNIT
(formerly AUTO 100)
3 hours lecture
Basic laboratory environment designed to prepare students for entry into the Automotive Technology major. This course includes repair, service, and basic diagnostic procedures of a typical passenger car or light truck. A student may use the department laboratory to perform hands on tests and repairs, using automotive tools and equipment. AUTO 100L is the lab companion course of AUTO 099 Introduction to Automotive Technology lecture.
CSU

111 ENGINE DIAGNOSIS AND REPAIR 2 UNITS
(formerly AUTO 193A)
Recommended Preparation: "C" grade or higher or "Pass" in Automotive Technology 162T – Electronics Diagnosis and Repair Assessment Test Out.
2 hours lecture
This classroom lecture course describes and demonstrates proper operation, disassembly, assembly, repair, and diagnostic techniques for gasoline and diesel engines including the proper timing procedures. The course also includes how to identify and measure critical clearances, and the theory and operation of various combustion engine designs and systems.
CSU

111L ENGINE DIAGNOSIS AND REPAIR LAB 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in Automotive Technology 162T – Electronics Diagnosis and Repair Assessment Test Out
3 hours laboratory
This laboratory course allows a student to practice proper operation, disassembly, assembly, repair, and diagnostic techniques for gasoline and diesel engines including the proper timing procedures. Students will record and demonstrate critical clearance measurements. This course is the lab for students taking AUTO 111 Engine Diagnosis and Repair lecture, and or for students taking Work Experience and need additional instruction and practice completing required NATEF competencies and tasks.
CSU

111T ENGINE DIAGNOSIS AND REPAIR ASSESSMENT TEST OUT .5 UNIT
(formerly AUTO 193B)
Recommended Preparation: "C" grade or higher or "Pass" in Automotive Technology 162T – Electronics Diagnosis and Repair Assessment Test Out.
1.5 hours laboratory
This assessment course includes summative and criterion tests for students to prove knowledge skills and abilities to perform diagnosis and repair of engine systems including diesel engines in the department laboratory; or by using distance education technologies such as augmented reality, virtual reality, or mobile technologies. The tests will include engine component systems such as pistons, bearings, camshafts, electronic and mechanical engine control systems, inputs, actuations, or other auxiliary systems. This course allows a student residing distance from training centers to complete certification requirements. This course is complemented by work experience AUTO 111 lecture, and AUTO 111L lab.
CSU

120 ENGINE PERFORMANCE I - MECHANICAL AND IGNITION SYSTEMS 5 UNITS
Prerequisite: "C" grade or higher or "Pass" in AUTO 099 or 100 or equivalent or concurrent enrollment
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 AUTOMATIC TRANSMISSION THEORY AND OPERATION 2 UNITS
(formerly AUTO 192A)
2 hours lecture
This lecture course contains information about the theory and operation of automatic transmissions. The course topics include mechanical, hydraulic, and electronic controls of torque distribution. Current computerized control system operation and diagnosis of the drivetrain system will be emphasized. This course is complemented by AUTO 121L Automatic Transmission Theory and Operation Laboratory and AUTO 121T Automatic Transmission Theory and Operation Assessment Test Out.
CSU

121L AUTOMATIC TRANSMISSION THEORY AND OPERATION LABORATORY 1 UNIT
3 hours laboratory
This laboratory course allows a student to practice proper operation, disassembly, and assembly for automatic transmissions. Students will record and demonstrate critical clearance measurements. This course is complemented by AUTO 121 Automatic Transmission Theory and Operation lecture, AUTO 121T Automatic Transmission Theory and Operation Assessment Test Out, and/or for students taking Work Experience who need additional instruction and practice completing required ASE competencies and tasks.
CSU

121T AUTOMATIC TRANSMISSION THEORY AND OPERATION ASSESSMENT TEST OUT .5 UNIT
(formerly AUTO 192B)
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 162T Electronics Diagnosis and Repair Assessment Test Out or equivalent.
1.5 hours laboratory
This assessment course includes summative and criterion tests for students to prove knowledge, skills and abilities to perform transmission system repairs, including critical measurements of automatic transmission components using vehicles in the department laboratory; or by using distance education technologies such as augmented reality, virtual reality or mobile technologies. The tests will include drivetrain control systems such as hydraulics, friction clutches, electronic and mechanical transmission control systems, inputs, actuations, or other auxiliary systems. This course allows a student residing at a distance from training centers to complete certification requirements. This course is complemented by AUTO 121 Automatic Transmission Theory and Operation lecture and AUTO 121L Automatic Transmission Theory and Operation laboratory courses.
CSU

122 AUTOMOTIVE ELECTRICAL SYSTEMS 5 UNITS
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 - EMISSION SYSTEMS 5 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 120 or equivalent, AUTO 122 or equivalent, AUTO 127 or equivalent
3 hours lecture, 6 hours laboratory
This is the second in a three course series demonstrating engine performance, applied electronics, and emission systems. AUTO 123 emphasizes the use of computers for the control of fuel and air delivery to the diesel or gasoline engine. Topics include: input and output devices, computer operation, closed loop fuel control, computer-controlled fuel injection, forced air injection, scan tool diagnostics, digital lab scope diagnostics, and on board diagnostics (OBD) . Students will be required to complete associated tasks in the laboratory specified by NATEF (National Automotive Training Educational Foundation). This course prepares students for ASE: A-6 electrical, A-8 engine performance, and L1 advanced engine performance certification tests, and also satisfies California Bureau of Automotive Repair Specified Repair Training for emissions licensing.
CSU

124 ENGINE PERFORMANCE III - DRIVABILITY 5 UNITS
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

126 AUTOMATIC TRANSMISSION DIAGNOSIS AND TESTING 2 UNITS
(formerly AUTO 192C)
2 hours lecture
This lecture course provides training about diagnosing automatic transmission concerns. Topics include normal operation, electrical fault diagnosis, diagnosing shift concerns, diagnosing engagement concerns, and the diagnostic process. This course is preparation for ASE certification, and is complemented by AUTO 126L Automatic Transmission Diagnosis and Testing Laboratory, AUTO 126T Automatic Transmission Diagnosis and Testing Assessment Test Out, and/or by work experience.
CSU

126L AUTOMATIC TRANSMISSION DIAGNOSIS AND TESTING LABORATORY 1 UNIT
3 hours laboratory
This laboratory course describes and demonstrates proper operation, disassembly, assembly, repair, and diagnostic techniques for various automatic transmission types and designs, including FWD and RWD. The course also includes automatic transmission component diagnosis for electronic, hydraulic and mechanical subsystems. This course is the lab for students taking AUTO 126 Automatic Transmission Diagnosis and Testing lecture, and/or for students taking Work Experience who need additional instruction and practice completing required ASE competencies and tasks.
CSU

126T AUTOMATIC TRANSMISSION DIAGNOSIS AND TESTING ASSESSMENT TEST OUT .5 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 121T Automatic Transmission Theory and Operation Assessment Test Out and AUTO 162T Electronics Diagnosis and Repair Assessment Test Out.
1.5 hours laboratory
This assessment course includes summative and criterion tests for students to prove knowledge, skills and abilities to perform diagnosis and repair of automatic transmission systems in the department laboratory; or by using distance education technologies such as augmented reality, virtual reality, or mobile technologies. The tests will include automatic transmission component diagnosis for electronic, hydraulic, and mechanical subsystems. This course allows a student residing at a distance from training centers to complete certification requirements. This course is complemented by work experience, AUTO 126 lecture, and AUTO 126L lab.

127 ADVANCED AUTOMOTIVE ELECTRICAL SYSTEMS 5 UNITS
Prerequisite: "C" grade or higher or "Pass" in AUTO 122 or equivalent
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

130 AUTOMOTIVE BRAKES AND BRAKE LICENSE 5 UNITS
C-ID AUTO 150X
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

131 MANUAL TRANSMISSION AND TRANSAXLE REPAIR 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in Automotive Technology 162T – Electronics Diagnosis and Repair Assessment Test Out
1 hour lecture
This lecture course describes and demonstrates proper operation, disassembly, assembly, repair, and diagnostic techniques for various manual transmission types and designs including electronic shift. The course also includes relationship of torque and coupling using EV electric vehicle motors and traditional clutches.
CSU

131L MANUAL TRANSMISSION AND TRANSAXLE REPAIR LABORATORY 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in Automotive Technology 162T – Electronics Diagnosis and Repair Assessment Test Out
3 hours laboratory
This laboratory course describes and demonstrates proper operation, disassembly, assembly, repair, and diagnostic techniques for various manual transmission types and designs including electronic shift. The course also includes relationship of torque and coupling using EV electric vehicle motors and traditional clutches. This course is the lab for students taking AUTO 131 Manual Transmission and Transaxle lecture, and or for students taking work experience and need additional instruction and practice completing required NATEF competencies and tasks.
CSU

131T MANUAL TRANSMISSION AND TRANSAXLE REPAIR ASSESSMENT TEST OUT .5 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in Automotive Technology 162T – Electronics Diagnosis and Repair Assessment Test Out
1.5 hours laboratory
This student portfolio assessment course includes summative and criterion tests using actual transmission repair techniques to allow a student to demonstrate knowledge of proper operation, disassembly, assembly, repair, and diagnostic techniques for various manual transmission types and designs including electronic shift in the department laboratory or by using distance education technologies, live demonstrations, and recordings of work. The assessments will include various tests using transmissions, gears, clutch assemblies, and vehicle symptoms and conditions. This course allows a student residing distance from training centers to complete manufacturers certification requirements. This course compliments AUTO 131L Manual Transmission and Transaxle lab, 131 Lecture, and by work experience classes.

132 DIFFERENTIAL AND 4WD SYSTEMS DIAGNOSIS AND SERVICE 1 UNIT
(formerly AUTO 192D)
1 hour lecture
This lecture course includes a detailed study of modern automotive electronic or manually controlled differential and 4WD systems and service procedures. The course will describe systems inspection, adjustment and repair procedures, including methods of diagnosing and repairing various mechanical and hydraulic drivetrain systems using specified tools and procedures. This course is accompanied by AUTO 132L Differential and 4WD Systems Diagnosis and Service Laboratory, AUTO 132T Assessment Test Out, and Work Experience courses where students will perform specific ASE competencies related to differential and 4WD diagnosis and repair.
CSU

132L DIFFERENTIAL AND 4WD SYSTEMS LABORATORY 1 UNIT
3 hours laboratory
This laboratory course describes and demonstrates proper operation, disassembly, assembly, repair, and diagnostic techniques for various differentials, transfer cases, and axles of standard and 4WD, and all-wheel drive systems types and designs, including electronic shift and hub locking. This course is the lab for students taking courses AUTO 132 Lecture, AUTO 132T Assessment Test Out, and/or for students taking Work Experience who need additional instruction and practice completing required ASE competencies and tasks.
CSU

132T DIFFERENTIAL AND 4WD SYSTEMS ASSESSMENT TEST OUT .5 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 162T Electronics Diagnosis and Repair Assessment Test Out.
1.5 hours laboratory
This assessment course includes summative and criterion tests using actual differential and 4WD repair techniques. This course allows a student to demonstrate knowledge of proper operation, disassembly, assembly, repair; and diagnostic techniques for various differentials, axles, 4WD, All-Wheel drive types and designs including electronic controls in the department laboratory or by using distance education technologies, live demonstrations, and recordings of work. The assessments will include various tests using differentials and transfer cases, gears, assemblies, and vehicle symptoms and conditions. This course allows a student residing at a distance from training centers to complete manufacturers certification requirements. This course accompanies AUTO 132L Differential and 4WD Systems Lab, 132 Lecture, and Work Experience classes.

135 ADVANCED BRAKES 5 UNITS
Prerequisite: "C" grade or higher or "Pass" in AUTO 130 or equivalent
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
C-ID AUTO 140X
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

143 STEERING AND SUSPENSION DIAGNOSIS AND REPAIR 1 UNIT
(formerly AUTO 191D)
1 hour lecture
This course includes a detailed study of modern suspension systems and service procedures. This course includes inspection, adjustment, and repair procedures for suspension systems, including methods of diagnosing and repairing various mechanical and hydraulic components using specified tools and procedures. Alignments, adjustments, active suspension, and the relationship between suspension and vehicle dynamics, are demonstrated during lectures. This course is complemented by AUTO 143L Steering and Suspension Diagnosis and Repair Laboratory, AUTO 143T Steering and Suspension Diagnosis and Repair Assessment Test Out, and by Work Experience where students will perform specific ASE competencies related to suspension and steering diagnosis and repair.
CSU

143L STEERING AND SUSPENSION DIAGNOSIS AND REPAIR LABORATORY 1 UNIT
3 hours laboratory
This laboratory course describes and demonstrates proper operation, disassembly, assembly, repair, and diagnostic techniques for various suspension and steering components. This course is the lab for students taking courses AUTO 143 Steering and Suspension Diagnosis and Repair Lecture, AUTO 1431T Steering and Suspension Diagnosis and Repair Assessment Test Out, and/or for students taking Work Experience who need additional instruction and practice completing required ASE competencies and tasks.
CSU

143T STEERING AND SUSPENSION DIAGNOSIS AND REPAIR ASSESSMENT TEST OUT .5 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 162T Electronics Diagnosis and Repair Assessment Test Out.
1.5 hours laboratory
This assessment course includes summative and criterion tests using actual suspension and steering description, diagnosis, and repair. This course allows a student to demonstrate knowledge of proper operation, disassembly, assembly, repair, and diagnostic techniques for various suspension and steering types and designs, including electronic controls in the department laboratory, or by using distance education technologies, live demonstrations, and recordings of work. The assessments will include various tests using vehicles with symptoms and conditions. This course allows a student residing at a distance from training centers to complete ASE certification requirements. This course accompanies AUTO 143L Steering and Suspension Diagnosis and Repair Laboratory, 143 Steering and Suspension Diagnosis and Repair lecture, and Work Experience classes.

144 NOISE, VIBRATION, AND HARSHNESS. .5 UNIT
(formerly AUTO 191E)
.5 hours lecture
This course includes a detailed study of modern Noise, Vibration, and Harshness (NVH) systems and service procedures. This course includes inspection, adjustment, and repair procedures for NVH systems, including methods of diagnosing and repairing various mechanical, electronic, and hydraulic components using specified tools and procedures. This course is complemented by 144L NVH Lab, 144T NVH Assessment Test Out, and Work Experience where students will perform specific ASE competencies related to NVH diagnosis and repair.
CSU

144L NOISE, VIBRATION AND HARSHNESS LABORATORY 1 UNIT
3 hours laboratory
This laboratory course describes and demonstrates proper inspection and diagnostic techniques for various Noise, Vibration, and Harshness (NVH) symptoms and conditions. This course is the lab for students taking courses AUTO 144 Noise, Vibration, and Harshness lecture, AUTO 144T Noise, Vibration, and Harshness Assessment Test Out, and/or for students taking Work Experience. This course assists ASE task completions related to noise and vibration concerns.
CSU

144T NOISE, VIBRATION AND HARSHNESS ASSESSMENT TEST OUT .5 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 161T Electronics Diagnosis and Repair Assessment Test Out.
1.5 hours laboratory
This assessment course includes summative and criterion tests using actual noise and vibration concerns, diagnosis, and repair procedures. This course allows a student to demonstrate knowledge of proper diagnostic techniques for various Noise, Vibration, and Harshness (NVH) concerns in the department laboratory or by using distance education technologies, live demonstrations, and recordings of work. The assessments will include various tests using vehicles with symptoms and conditions. This course allows a student residing at a distance from training centers to complete ASE certification requirements. This course compliments AUTO 144L Noise, Vibration, and Harshness Laboratory, 144 Noise, Vibration, and Harshness Lecture, and Work Experience classes.

145 ADVANCED FOUR WHEEL ALIGNMENT 5 UNITS
Prerequisite: "C" grade or higher or "Pass" in AUTO 140 or equivalent
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

151 BRAKE SYSTEM DIAGNOSIS AND REPAIR 2 UNIT
(formerly AUTO 191A)
2 hours lecture
This course includes a detailed study of modern automotive braking systems and service procedures. The course will demonstrate drum and disc brake systems inspection, adjustment and repair procedures, including methods of diagnosing and repairing various mechanical and hydraulic brake systems using specified tools and procedures. This course is complemented by AUTO 151L Brake System Laboratory, AUTO 151T Brake System Assessment Test Out, and by Work Experience in the dealership where students will perform specific ASE competencies.
CSU

151L BRAKE SYSTEM DIAGNOSIS AND REPAIR LABORATORY 1 UNIT
3 hours laboratory
This laboratory course describes and demonstrates proper inspection and diagnostic techniques for various brake symptoms and conditions. This course is the lab for students taking courses AUTO 151 Brake Diagnosis and Repair Lecture, AUTO 151T Brake Assessment Test Out, and/or for students taking Work Experience who need additional instruction and practice completing required ASE competencies and tasks.
CSU

151T BRAKE SYSTEM DIAGNOSIS AND REPAIR ASSESSMENT TEST OUT .5 UNIT
(formerly AUTO 191B)
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 162T Electronics Diagnosis and Repair Assessment Test Out or equivalent.
1.5 hours laboratory
This portfolio assessment course includes summative and criterion tests using vehicles with brake system concerns for diagnosis and repair. This course allows a student to demonstrate knowledge of proper diagnostic techniques for various brake component concerns in the department laboratory or by using distance education technologies, live demonstrations, and recordings of work. This course allows a student residing at a distance from training centers to complete ASE certification requirements. This course compliments AUTO 151L Brake Systems Laboratory, AUTO 151 Brake Systems Lecture, and Work Experience classes.
CSU

152 DRIVE TRAIN SYSTEMS 4 UNITS
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

153 ADVANCED BRAKE SYSTEM DIAGNOSIS AND REPAIR 2 UNITS
(formerly AUTO 191C)
2 hours lecture
This lecture course includes a detailed study of automotive braking systems and service procedures. The course includes electronic braking systems inspection, adjustment and repair procedures, including methods of diagnosing and repairing various electro mechanical and hydraulic brake systems using specified tools and procedures. This course is complemented by AUTO 153L Advanced Brake System Lab, AUTO 153T Advanced Brake Assessment, and by Work Experience courses at the dealership where students will perform specific ASE competencies related to advanced brake diagnosis and repair.
CSU

153L ADVANCED BRAKE SYSTEM DIAGNOSIS AND REPAIR LABORATORY 1 UNIT
3 hours laboratory
This laboratory course describes and demonstrates proper inspection and diagnostic techniques for various electronic brake symptoms and conditions. Electronic braking system components and operation are included in this course. This course is the lab for students taking courses AUTO 153 Advanced Brake System Diagnosis and Repair Lecture, AUTO 153T Advanced Brake System Assessment Test Out, and/or for students taking Work Experience who need additional instruction and practice completing required ASE competencies and tasks.
CSU

153T ADVANCED BRAKE SYSTEM ASSESSMENT TEST OUT .5 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 162T Electronics Diagnosis and Repair Assessment Test Out and AUTO 151T Brake System Diagnosis and Repair Assessment Test Out or equivalent.
1.5 hours laboratory
This portfolio assessment course includes summative and criterion tests for students to prove knowledge, skills, and abilities to perform diagnosis and repair of active brake systems on vehicles in the department laboratory; or by using distance education technologies such as augmented reality or virtual reality. The tests will include recorded and live student demonstrations used for observation and assessment. This course allows a student residing at a distance from training centers to complete certification requirements prior to performing warranty service at a dealership. This course is complemented by AUTO 153 Advanced Brake System Diagnosis and Repair lecture, AUTO 153L Advanced Brake System Lab, and by Work Experience at a dealership.

155 ADVANCED DRIVE TRAIN SYSTEMS 4 UNITS
Prerequisite: "C" grade or higher or "Pass" in AUTO 152 or equivalent
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
C-ID AUTO 170X
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

161 ELECTRICAL DIAGNOSIS AND REPAIR 2 UNITS
(formerly AUTO 196A)
2 hours lecture
This lecture course includes electrical systems theory, diagnosis and repair procedures utilizing state of the art equipment. Systems covered include storage, generating and starting. Accessory systems covered include lighting, power seats, power door locks, cruise controls, electric windows, electronic dashboards, radios, windshield wipers, and introduction to electronic systems such as transistors and electronic computer controls.
CSU

161L ELECTRICAL DIAGNOSIS AND REPAIR LABORATORY 1 UNIT
3 hours laboratory
This laboratory course describes and demonstrates proper operation, repair, and diagnostic techniques for automotive electrical systems. The course also includes the theory of electricity as related to lighting, power seats, power door locks, cruise controls, electric windows, electronic dashboards, radios, windshield wipers and other automotive systems. This course is the lab for students taking AUTO 161 Electrical Diagnosis and Repair lecture, or for students taking work experience who need additional instruction and practice completing required NATEF competencies and tasks.
CSU

161T ELECTRICAL DIAGNOSIS AND REPAIR ASSESSMENT TEST OUT .5 UNIT
(formerly AUTO 196B)
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 161L Electrical Diagnosis and Repair Laboratory or equivalent.
1.5 hours laboratory
This assessment course includes hands-on summative and criterion tests for students to prove knowledge skills and abilities to perform diagnosis and repair of electrical systems in the department laboratory, or by using distance education technologies such as augmented reality, virtual reality, or mobile technologies. The tests will include electrical systems such as lighting, power seats, power door locks, cruise controls, electric windows, electronic dashboards, radios, windshield wipers, or other systems. This course allows students who reside at a distance from training centers to complete certification requirements. This course is complemented by work experience, AUTO 161 lecture, and AUTO 161L lab.
CSU

162 ELECTRONICS DIAGNOSIS AND REPAIR 2 UNITS
(formerly AUTO 196C)
Prerequisite: Students must have a signed Ford dealership sponsorship agreement.
2 hours lecture
This lecture course includes electronic system theory, diagnosis and repair procedures utilizing state of the art equipment. This course applies basic electrical test applications incorporating electronic controls units and computer networks. Covers various vehicle computer functions such as: body electronics, infotainment systems, and electric vehicle and hybrid vehicle system operations. Students will use test equipment to measure sensor outputs used for computer component activation, and study vehicle electronic wiring diagrams in-depth, gaining knowledge, skills and abilities to perform complex tests.
CSU

162L ELECTRONICS DIAGNOSIS AND REPAIR LABORATORY 1 UNIT
3 hours laboratory
This laboratory course describes and demonstrates proper diagnosis and repair of electronics systems of modern vehicles in the department laboratory, or by using distance education technologies such as augmented reality or virtual reality. The course also includes diagnosis of automotive computer modules, inputs and outs. This course is the lab for students taking AUTO 162 Electronics Diagnosis and Repair lecture, and or for students who are taking work experience and who need additional instruction and practice completing required NATEF competencies and tasks.
CSU

162T ELECTRONICS DIAGNOSIS AND REPAIR ASSESSMENT TEST OUT .5 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 161T Electrical Diagnosis and Repair Assessment Test Out
1.5 hours laboratory
This assessment course includes summative and criterion tests for students to prove knowledge skills and abilities to perform diagnosis and repair of automotive electronic systems in the department laboratory; or by using distance education technologies such as augmented reality, virtual reality, or mobile technologies. The tests will include electronic component diagnosis and repair using scan tools, digital multi-meters, and lab-scopes. This course allows students who reside at a distance from training centers to complete certification requirements. This course is complemented by work experience, AUTO 162 lecture, and AUTO 162L lab.

165 ADVANCED AIR CONDITIONING AND HEATING SYSTEMS 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in AUTO 160 or equivalent
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
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

171 CLIMATE CONTROL SYSTEM DIAGNOSIS AND REPAIR 1 UNIT
(formerly AUTO 196D)
1 hour lecture
This lecture course demonstrates and describes climate control systems, theory, diagnosis and repair procedures utilizing state of the art equipment. This course applies basic heating and air conditioning test applications incorporating electronic controls units and computer networks. This course covers various vehicle computer functions such as: body electronics, climate control units, and electric vehicle and hybrid vehicle climate system operations. This course is preparation for ASE certification, and complemented by AUTO 171L Climate Control Diagnosis and Repair Lab, AUTO 171T Climate Control Diagnosis and Repair Assessment Test Out, and by Work Experience at the dealership.
CSU

171L CLIMATE CONTROL SYSTEM DIAGNOSIS AND REPAIR LABORATORY 1 UNIT
3 hours laboratory
This laboratory course describes and demonstrates proper inspection and diagnostic techniques for various electronic climate control symptoms and conditions. This course is the lab for students taking courses AUTO 171 Climate Control System Diagnosis lecture, AUTO 171T Climate Control System Assessment Test Out, and/or for students taking a Work Experience course who need additional instruction and practice completing required ASE competencies and tasks.
CSU

171T CLIMATE CONTROL SYSTEM DIAGNOSIS AND REPAIR ASSESSMENT TEST OUT .5 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 162T Electronics Diagnosis and Repair Assessment Test Out.
1.5 hours laboratory
This portfolio assessment course includes summative and criterion tests for students to prove knowledge, skills, and abilities to perform diagnosis and repair of climate control systems on vehicles in the department laboratory, or by using distance education technologies, such as augmented reality or virtual reality. The tests will include recorded and live student demonstrations used for observation and assessment. This course allows a student residing at a distance from training centers to complete certification requirements prior to performing warranty service at a dealership. This course is complemented by AUTO 171 Climate System Diagnosis lecture, AUTO 171L Climate Diagnosis Lab, and by Work Experience at a dealership.

175 ADVANCED ENGINE OVERHAUL 5 UNITS
Prerequisite: "C" grade or higher or "Pass" in AUTO 170 or equivalent
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

181 ENGINE PERFORMANCE I IGNITION AND FUEL SYSTEMS 2 UNITS
(formerly AUTO 195A)
2 hours lecture
This lecture course includes an in-depth study of ignition and fuel system engine controls on modern automobiles and trucks, including the diagnosis and repair of these systems. On-board computer logic and strategies of ignition and fuel systems will provide the knowledge needed to describe fundamental engine performance theory and operation. This course is complemented by AUTO 181L Engine Performance I Ignition and Fuel Systems Laboratory, AUTO 181T Engine Performance I Ignition and Fuel Systems Assessment Test Out, and Work Experience courses.
CSU

181L ENGINE PERFORMANCE I IGNITION AND FUEL SYSTEMS LABORATORY 1 UNIT
3 hours laboratory
This laboratory course demonstrates proper inspection and diagnostic techniques for various engine performance symptoms and conditions, including ignition and fuel systems operations. This course is the laboratory practice opportunity for students taking courses AUTO 181 Engine Performance I Ignition and Fuel Systems lecture, AUTO 181T Engine Performance I Ignition and Fuel Systems Assessment Test Out, and for students taking Work Experience to attain required ASE competencies.
CSU

181T ENGINE PERFORMANCE I IGNITION AND FUEL SYSTEMS ASSESSMENT TEST OUT .5 UNIT
(formerly AUTO 195B)
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 162T Electronics Diagnosis and Repair Assessment Test Out.
1.5 hours laboratory
This assessment course includes summative and criterion tests for students to prove knowledge, skills, and abilities to perform diagnosis and repair of engine performance systems on vehicles in the department laboratory, or by using distance education technologies, such as augmented reality or virtual reality. The tests will include recorded and live student demonstrations used for observation and assessment. This course allows a student residing at a distance from training centers to complete certification requirements. This course is the assessment for AUTO 181 Engine Performance I Ignition and Fuel Systems lecture, AUTO 181L Engine Performance I Ignition and Fuel Systems Laboratory, and Work Experience courses.
CSU

183 ENGINE PERFORMANCE II INTAKE EXHAUST AND EMISSION SYSTEMS 2 UNITS
(formerly AUTO 195C)
2 hours lecture
This lecture course provides the knowledge and skills needed to describe and identify engine performance diagnosis and testing methods of the intake, exhaust, and emission control systems. This course demonstrates diagnostic processes of normally aspirated, forced air systems, exhaust treatment, lambda sensor inputs, and various emission controls. This course is part of a three course series including AUTO 183L Engine Performance II Intake, Exhaust and Emission Systems Laboratory, AUTO 183T Engine Performance II Intake, Exhaust and Emission Systems Assessment Test Out, and Work Experience courses.
CSU

183L ENGINE PERFORMANCE II INTAKE EXHAUST EMISSION SYSTEMS LABORATORY 1 UNIT
3 hours laboratory
This laboratory course describes and demonstrates proper inspection and diagnostic techniques for various engine performance symptoms and conditions, including intake and exhaust systems operations. This course is the laboratory opportunity for students taking courses AUTO 183 Engine Performance II Intake Exhaust Emission Systems lecture, AUTO 183T Engine Performance II Intake Exhaust Emission Systems Assessment Test Out, and for students taking Work Experience for required ASE competencies.
CSU

183T ENGINE PERFORMANCE II INTAKE EXHAUST EMISSION SYSTEMS ASSESSMENT TEST OUT .5 UNIT
Recommended Preparation: "C" grade or higher or "Pass" 162T Electronics Diagnosis and Repair Assessment Test Out or the equivalent.
1.5 hours laboratory
This assessment course includes summative and criterion tests for students to prove knowledge, skills, and abilities to perform diagnosis and repair of engine performance systems on vehicles in the department laboratory, or by using distance education technologies such as augmented reality or virtual reality. The tests will include recorded and live student demonstrations used for observation and assessment. This course allows a student residing at a distance from training centers to complete ASE certification requirements. This course is the assessment for AUTO 183 Engine Performance II Intake Exhaust Emission Systems lecture, AUTO 183L Engine Performance II Intake Exhaust Emission Systems Laboratory, and Work Experience courses.

190 ASSET–ORIENTATION, PDI AND LUBRICATION 2 UNITS
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, ADVANCED BRAKES, SUSPENSION AND NVH 7 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 122 or AUTO 196 or equivalent
5 hours lecture, 6 hours laboratory
Ford ASSET course to include a detailed study of modern automotive braking systems and service procedures. The course will describe brake systems inspection, adjustments, and repair procedures. Vehicle dynamic electronic brake systems will be demonstrated and described. This course will require the diagnosis and replacement of mechanical and electronic suspension components, and provide training in wheel balancing and tire service. The relationship between brakes and suspension and various causes of noise vibration and harshness will be emphasized. Students will be required to gain practical experience using diagnosing and repairing vehicles. This course is complemented by required work experience at a Ford dealership.
CSU

192 ASSET–DRIVE TRAIN 8 UNITS
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
3 hours lecture, 4.5 hours laboratory
Ford ASSET course to include diagnosis of engine failures, engine removal and disassembly techniques, engine cleaning and measuring practices, machining principles, assembly procedures and in-car repairs. Engine design theory will be discussed. Preparation for ASE Certification. Complemented by required work experience in the dealership.
CSU

194 DIESEL ENGINE PERFORMANCE AND DIAGNOSIS 2 UNITS
(formerly AUTO 193C)
2 hours lecture
This lecture training course describes and demonstrates diesel engine performance concerns and diagnosis, which includes the use of service publications, diagnostic tests and procedures, as well as special tools and equipment. The information and exercises presented in this course are focused on the common rail diesel engines with electronic fuel injection. This is the lecture course for 194L Diesel Engine Performance and Diagnosis Laboratory and 194T Diesel Engine Performance and Diagnosis Assessment Test Out courses.
CSU

194L DIESEL ENGINE PERFORMANCE AND DIAGNOSIS LABORATORY 1 UNIT
3 hours laboratory
This laboratory course describes and demonstrates proper inspection and diagnostic techniques for various diesel engine performance symptoms and conditions, including fuel systems operations. This course is the laboratory practice opportunity for students taking courses AUTO 194 Diesel Engine Performance and Diagnosis lecture, and Diesel Engine Performance and Diagnosis Assessment Test Out, and/or for students taking a Work Experience course who need additional instruction and practice completing required ASE competencies and tasks.
CSU

194T DIESEL ENGINE PERFORMANCE AND DIAGNOSIS ASSESSMENT TEST OUT .5 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 162T Electronics Diagnosis and Repair Assessment Test Out or the equivalent.
1.5 hours laboratory
This portfolio assessment course includes summative and criterion tests for students to prove knowledge, skills, and abilities to perform diagnosis and repair of diesel engine performance systems on vehicles in the department laboratory, or by using distance education technologies such as augmented reality or virtual reality. The tests will include recorded and live student demonstrations used for observation and assessment. This course allows a student residing at a distance from training centers to complete certification requirements prior to performing warranty service at a dealership. This course is the assessment of AUTO 194 Diesel Engine Performance and Diagnosis lecture, AUTO 194L Diesel Engine Performance and Diagnosis Lab, and is complemented by Work Experience at a dealership.

195 ASSET–ELECTRONIC ENGINE CONTROLS 7 UNITS
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
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

200 ASEP–ORIENTATION 1 UNIT
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
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
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
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
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
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

210 SERVICE MANAGEMENT 3 UNITS
(formerly AUTO 180)
3 hours lecture
This lecture course prepares students for management operations of independent Automotive Repair Dealers (ARDs) and/or manufacturer franchise dealerships. This is an in-depth course about service procedures, customer relations, government regulation, licensing, compliance, repair orders, and warranty policies.
CSU

211 AUTOMOTIVE CUSTOMER SERVICE 2 UNITS
2 hours lecture
This lecture course prepares students to work in the automotive industry as a service consultant, parts department representative, sales associate, or similar customer service position where communication skills are paramount to customer satisfaction and business success.
CSU

212 AUTOMOTIVE WORK EXPERIENCE 1-4 UNITS
(formerly AUTO 182)
75 hours paid or 60 hours non-paid work experience per unit
Students who seek employment in automotive businesses, full-time or part-time, and are able to work specified hours during the semester, are eligible to enroll in this course. Assessment of students will be performed by the instructor using surveys of the mentor and manager, and student self-reflection based on the agreed upon objectives of the course. Work experience compliments classroom curriculum, and is considered essential for student competency. *Occupational cooperative work experience credit may accrue at the rate of one to four units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned. This course may be elected up to five times for a maximum of 16 units.*
CSU

213 ASCCA – WORK EXPERIENCE 1-4 UNITS
75 hours paid work experience per unit, 1-4 units
Automotive Service Councils of California (ASCCA) work experience. Students will attain a sponsoring automotive repair business or approved affiliated business at the start of the training program. This course may be paid work experience at the sponsoring Automotive Repair Dealer (ARD). Students work in the area of emphasis that is concurrent with area of training most recently completed at the college, in order to develop skills attained in the ASE content. *Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of twelve - sixteen units, and students must work 75 paid hours per unit earned. Twelve - sixteen units must accrue for graduation or certification.*
CSU

214 GENERAL MOTORS ASEP WORK EXPERIENCE 1-4 UNITS
(formerly AUTO 206)
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. *Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours per unit earned. Must be taken for a total 12- 16 units.*
CSU

215 FORD ASSET–WORK EXPERIENCE 1-4 UNITS
(formerly AUTO 197)
75 hours paid work experience per unit
Ford ASSET work experience. Students are responsible for attaining sponsoring dealership employment before enrollment in the work experience course. This course is based on paid work experience at the sponsoring Ford dealership. Assessment of students will be performed by the ASSET Instructor with dealership personnel, including the lead technicians, shop foreman, service manager, and through student self-evaluation reflections. Students are expected to work in the content area of diagnosis and repair concurrent with the content area of instruction in order to further develop skills attained in the classroom setting. Ford certifications will not be attained without documentation completed and signed by the student and evaluators in the work experience record book. Each student is required to use a digital portfolio to document competencies and ASE tasks. *Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of twelve to sixteen units, and students must work 75 paid hours per unit earned.*
CSU

263 ADVANCED ELECTRONICS 1 UNIT
1 hour lecture
This lecture course will demonstrate and describe how to program software and perform module updates to networked systems. Examples of anti-theft and remote entry with advanced inputs and out-puts may have module related concerns requiring hard fault diagnosis of modules, and networks using integrated scan tools, and tests of network signals using lab scopes for intermittent network concerns. This course is the lecture course accompanying AUTO 263L Advanced Electronics Laboratory, and AUTO 263T Advanced Electronics Assessment Test Out. Work Experience courses at an automotive workplace support competency practice and evaluations critical for student success.
CSU

263L ADVANCED ELECTRONICS LABORATORY 1 UNIT
3 hours laboratory
This laboratory course describes and demonstrates proper inspection and diagnostic techniques for various network symptoms and conditions, including programing and fault symptom processes. This course is the laboratory practice opportunity for students taking courses AUTO 263 Advanced Electronics lecture, AUTO 263T Advanced Electronics Assessment Test Out, and/or for students taking a Work Experience course who need additional instruction and practice completing required ASE competencies and tasks required for certification.
CSU

263T ADVANCED ELECTRONICS ASSESSMENT TEST OUT .5 UNIT
Prerequisite: "C" grade or higher or "Pass" in AUTO 162T Electronics Diagnosis and Repair Assessment Test Out or the equivalent.
1.5 hours laboratory
This portfolio assessment course includes summative and criterion tests for students to prove knowledge, skills, and abilities to perform diagnosis and repair of engine network systems on vehicles in the department laboratory, or by using distance education technologies such as augmented reality or virtual reality. The tests will include recorded and live student demonstrations used for observation and assessment. This course allows a student residing at a distance from training centers to complete certification requirements prior to performing warranty service at a dealership. This course is the assessment of AUTO 263 Advanced Electronics lecture, and AUTO 263L Advanced Electronics Lab. Work Experience at a dealership will ensure a student is prepared to perform network service and repair based on competency evaluation.

264 HYBRID AND ELECTRIC VEHICLE OPERATION AND DIAGNOSIS 1 UNIT
(formerly AUTO 129)
Recommended Preparation: "C" grade or higher or "Pass" in AUTO 162T Electronics Diagnosis and Repair Assessment Test Out or the equivalent.
1 hour lecture
This lecture is a manufactures course required for certification of hybrid and electric vehicle (EV) systems for passenger cars and light trucks. The history of battery technologies will apply charging and repair techniques from first generation to present day EVs. EV technologies have evolved rapidly, requiring different methods of service for each new generation and system version. High voltage systems are dangerous. Proper safety procedures for hybrid and EV systems are required and emphasized. This course uses actual hybrids and EVs to perform electrical and electronic diagnosis of various systems. Students must have prerequisite knowledge and skill certifications of automotive electronics prior to enrolling in this course. This course is complemented by AUTO 264L Hybrid and Electric Vehicle Operation and Diagnosis Laboratory and AUTO 264T Hybrid and Electric Vehicle Operation and Diagnosis Assessment Test Out.
CSU

264L HYBRID AND ELECTRIC VEHICLE OPERATION AND DIAGNOSIS LABORATORY 1 UNIT

3 hours laboratory

This laboratory course describes and demonstrates proper inspection and diagnostic techniques for various hybrid and electric vehicle symptoms and conditions, including high voltage battery and fault symptom processes. This course is the laboratory practice opportunity for students taking courses AUTO 264 Hybrid and Electric Vehicle Operation and Diagnosis lecture, AUTO 264T Hybrid and Electric Vehicle Operation and Diagnosis Assessment Test Out, and/or for students taking a Work Experience course who need additional instruction and practice completing required ASE competencies and tasks required for certification.

CSU

264T HYBRID AND ELECTRIC VEHICLE OPERATION AND DIAGNOSIS ASSESSMENT TEST OUT .5 UNIT

Prerequisite: "C" grade or higher or "Pass" in AUTO 162T Electronics Diagnosis and Repair Assessment Test Out or the equivalent.

1.5 hours laboratory

This portfolio assessment course includes summative and criterion tests for students to prove knowledge, skills, and abilities to perform diagnosis and repair of automotive hybrid and electric vehicle systems in the department laboratory; or by using distance education technologies such as augmented reality, virtual reality, or mobile technologies. The tests include high voltage electronic component diagnosis and repair using scan tools, digital multi-meters, and lab scopes. This course allows a student residing at a distance from training centers to complete certification requirements. This course is complemented by Work Experience, AUTO 264 Hybrid and Electric Vehicle Operation and Diagnosis lecture, and AUTO 264L Hybrid and Electric Vehicle Operation and Diagnosis Laboratory courses.

283 ADVANCED ENGINE PERFORMANCE 1 UNIT

(formerly AUTO 195D)

Prerequisite: "C" grade or higher or "Pass" or the equivalent in: AUTO 162T Electronics Diagnosis and Repair Assessment Test Out, and 181T Engine Performance I Ignition and Fuel Systems Assessment Test Out, and 183T Engine Performance II Intake Exhaust Emissions Systems Assessment Test Out.

1 hour lecture

This lecture course describes and demonstrates proper diagnosis and repair of advanced engine performance systems using diagnostic methods, including programming. Use the scan tool, reference values, mode 6 data, and follow pinpoint tests to diagnose intermittent related DTC's and symptoms. This course is part of a three course series including 283L Advanced Engine Performance Laboratory, 283T Advanced Engine Performance Assessment Test Out, and Work Experience courses.

CSU

283L ADVANCED ENGINE PERFORMANCE LABORATORY 1 UNIT

Prerequisite: "C" grade or higher or "Pass" or the equivalent in: AUTO 162T Electronics Diagnosis and Repair Assessment Test Out, and 181T Engine Performance I Ignition and Fuel Systems Assessment Test Out, and 183T Engine Performance II Intake Exhaust Emission Systems Assessment Test Out.

3 hours laboratory

This laboratory course describes and demonstrates proper inspection and diagnostic techniques for various advanced engine performance symptoms and conditions, including intermittent problems affecting ignition and fuel systems operations. This course is the laboratory practice opportunity for students taking courses AUTO 283 Advanced Engine Performance lecture, AUTO 283T Advanced Engine Performance Assessment Test Out, and/or for students taking a Work Experience course and need additional instruction and practice completing required ASE competencies.

CSU

283T ADVANCED ENGINE PERFORMANCE ASSESSMENT TEST OUT .5 UNIT

Prerequisite: "C" grade or higher or "Pass" or the equivalent in: AUTO 162T Electronics Diagnosis and Repair Assessment Test Out, and 181T Engine Performance I Ignition and Fuel Systems Assessment Test Out, and 183T Engine Performance II Intake Exhaust Emission Systems Assessment Test Out

1.5 hours laboratory

This assessment course includes summative and criterion tests for students to prove knowledge, skills, and abilities to perform diagnosis and repair of advanced engine performance systems on vehicles in the department laboratory, or by using distance education technologies such as augmented reality or virtual reality. The tests will include recorded and live student demonstrations used for observation and assessment. This course allows a student residing at a distance from training centers to complete ASE certification requirements. This course is the assessment of AUTO 283 Advanced Engine Performance lecture, AUTO 283L Advanced Engine Performance Laboratory, and is complemented by Work Experience courses.

284 LEVEL I INSPECTOR TRAINING EMISSION CONTROL LICENSE 2 UNITS

(formerly AUTO 141)

2 hours lecture

This lecture course contains the theory of operation and inspection of emission control devices with strong emphasis on federal and state laws and regulations required for licensing and testing of vehicles. This course describes the most current testing devices used for inspection procedures approved by the State of California Bureau of Automotive Repair (BAR). This course prepares students to take the BAR Inspector Only (I.O.) licensing examination. Experienced candidates may skip Level I training if they possess ASE A6, A8, and L1 certification; or have an AA/AS degree or certificate in Automotive Technology and have 1 year experience; or have 2 years of experience and have completed BAR specified diagnostic and repair training.

CSU

284L LEVEL I INSPECTOR TRAINING EMISSION CONTROL LICENSE LABORATORY 1 UNIT

3 hours laboratory

This laboratory course describes and demonstrates proper inspection and testing techniques for various emission systems and conditions including, exhaust, evaporative fuel controls, monitors, forced air, and normally aspirated. This course is the laboratory practice opportunity for students taking courses AUTO 284 Level I Inspector Training lecture, AUTO 284T Level I Inspector Training Assessment Test Out, and/or for students taking a Work Experience course at a Smog Inspection Station who need additional instruction and practice completing required ASE competencies and tasks required to properly perform inspections.

CSU

284T LEVEL I INSPECTOR TRAINING EMISSION CONTROL LICENSE ASSESSMENT TEST OUT .5 UNIT

Recommended Preparation: "C" grade or higher or "Pass" in AUTO 162T Electronics Diagnosis and Repair Assessment Test Out, AUTO 181T Engine Performance I Ignition and Fuel Systems Assessment Test Out, and AUTO 183 Engine Performance II Intake, Exhaust and Emission Systems Assessment Test Out.

1.5 hours laboratory

This assessment course includes summative and criterion tests for students to prove knowledge, skills, and abilities to perform emission system inspections in the department laboratory, or by using distance education technologies such as augmented reality or virtual reality. The tests will include recorded and live student demonstrations used for observation and assessment. This course allows students residing at a distance from training centers to complete certification requirements prior to performing warranty service at a dealership. This course is the assessment of AUTO 284 Inspector Level I Emissions lecture, AUTO 284L Level I Inspector Emission Training Lab, and complemented by Work Experience at a Smog Inspection Station.

285 LEVEL II INSPECTOR TRAINING EMISSION CONTROL LICENSE 1 UNIT

(formerly AUTO 142)

1 hour lecture,

This lecture class of smog check procedures training must be completed by all Inspector candidates. This training provides students the procedural knowledge skills and abilities to describe and identify emission inspection procedures. This lecture course is part of a three course series: 285 lecture is accompanied by 285 Lab, and 285 Assessment Test Out, required prior to taking the Bureau of Automotive Repair (BAR) Smog Inspector state licensing examination. To pass level II training students must pass a series of hands-on assessments and a written examination. This course is designed for experienced students who possess ASE A6, A8, and L1 certification; or possess an AA/AS degree or Certificate(s) in automotive technology and have 1 year experience; or have 2 years of experience and have completed BAR specified diagnostic and repair training.

CSU

285L LEVEL II INSPECTOR TRAINING EMISSION CONTROL LICENSE LABORATORY 1 UNIT

3 hours laboratory

This laboratory course is designed for students with vast engine performance experience and knowledge to perform complete smog inspections on various vehicles and designs. This course is the laboratory practice opportunity for students taking courses AUTO 285 Level II Inspector Training lecture, AUTO 285T Level II Inspector Training Assessment Test Out, and/or for students taking a Work Experience course at a Smog Inspection Station who need additional instruction and practice completing required ASE competencies and tasks required to properly perform inspections.

CSU

285T LEVEL II INSPECTOR TRAINING EMISSION CONTROL LICENSE ASSESSMENT TEST OUT .5 UNIT

Recommended Preparation: "C" grade or higher or "Pass" in AUTO 162T Electronics Diagnosis and Repair Assessment Test Out, AUTO 181T Engine Performance I Ignition and Fuel Systems Assessment Test Out, AUTO 183 Engine Performance II Intake, Exhaust and Emission Systems Assessment Test Out and AUTO 284T

Inspector Level I Emissions Control License Training Assessment Test Out.
1.5 hours laboratory
This assessment course includes summative and criterion tests for students to prove knowledge, skills, and abilities to perform emission system inspections in the department laboratory, or by using distance education technologies such as augmented reality or virtual reality. The tests include recorded and live student demonstrations used for observation and assessment. This course allows students residing at a distance from training centers to complete certification requirements prior to performing inspections at a Smog Test Station. This course is the assessment of AUTO 285 Inspector Level II Emissions lecture, AUTO 285L Level II Inspector Emission Training Lab, and is complemented by Work Experience at a Smog Inspection Station. This course may be used to satisfy BAR citation requirements.

BIOLOGICAL SCIENCES (BIO)

112 CONTEMPORARY ISSUES IN ENVIRONMENTAL RESOURCES 3 UNITS
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
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, UC

122 THE SECRET LIFE OF PLANTS 4 UNITS
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

130 GENERAL BIOLOGY I 3 UNITS
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
3 hours laboratory
Laboratory experiments on the basic biological principles with particular emphasis on the molecular and cellular aspects of the organism. Meets transfer requirements for non-majors.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

133 ETHNOECOLOGY 3 UNITS
3 hours lecture
Ethnoecology is the study of the dynamic relationship between people, biota and their environment. Through the scientific study of the principles of ecology, students use their knowledge and scientific reasoning to assess the impacts of humans on Earth's natural systems. This course will focus on the ecological and cultural basis of indigenous land management; particular attention will be paid to the environmental stewardship of the Kumeyaay/Diegueño people of Southern California and Northern Baja California. Local field trips and restoration projects in Cuyamaca College's nature preserve will provide opportunities for working directly with natural habitats.
AA/AS GE, CSU, CSU GE, IGETC, UC

134 ETHNOBOTANY 3 UNITS
3 hours lecture
Ethnobotany is the scientific study of the relationships that exist between peoples and plants, from the perspective of their traditional medicinal, cultural and utilitarian uses. Focusing on the Kumeyaay/Diegueño people of southern California, students will utilize the principles of scientific inquiry and modern plant biology to classify native plants, identify their anatomical structures and phytochemical composition and to relate this information to how plants were woven into the culture of indigenous populations and how plants were used to sustain, heal and protect their people. The historical uses and modern applications of this knowledge will be evaluated. Local field trips will provide opportunities for identification and scientific study of the plants in their natural habitats. Not open to students with credit in GEOG 132.
AA/AS GE, CSU, CSU GE, IGETC, UC

135 ETHNOBOTANY/ETHNOECOLOGY LAB 1 UNIT
Prerequisite: "C" grade or higher or "Pass" in either BIO 133 or 134 or concurrent enrollment
3 hours laboratory
Laboratory experiments to complement BIO 133, Ethnoecology and BIO 134, Ethnobotany. Basic concepts in cell biology, plant taxonomy/identification, plant anatomy, plant physiology, and ecology will be covered. Students will utilize the tools of scientific inquiry to examine the relationship between plants, people and the environment using hands-on experiences. The labs will feature lessons in plant morphology, plant ecology, phytochemistry, and traditional preparation and uses of plants. Particular attention will be paid to the plants and plant communities within the Kumeyaay/Diegueño ethnobotanical region of Southern California.
AA/AS GE, CSU, CSU GE, IGETC, UC

140 HUMAN ANATOMY 5 UNITS
C-ID BIOL 110B
Prerequisite: "C" grade or higher or "Pass" in BIO 130, 131 or equivalent
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
C-ID BIOL 120B (with BIO 141L)
Prerequisite: "C" grade or higher or "Pass" in BIO 130, 131 or equivalent
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
C-ID BIOL 120B (with BIO 141)
Prerequisite: "C" grade or higher or "Pass" in BIO 130, 131 or equivalent, BIO 141 or equivalent or concurrent enrollment
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
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, IGETC, UC

215 STATISTICS FOR LIFE SCIENCES 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in BIO 130, MATH 110 or equivalent
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

230 PRINCIPLES OF CELLULAR, MOLECULAR AND EVOLUTIONARY BIOLOGY 4 UNITS
C-ID BIOL 135S (with BIO 240), 190
Prerequisite: "C" grade or higher or "Pass" in CHEM 141 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

C-ID BIOL 135S (with BIO 230), 140

Prerequisite: "C" grade or higher or "Pass" in MATH 110 or equivalent

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

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.*

CSU, UC

BUSINESS (BUS)

109 ELEMENTARY ACCOUNTING 3 UNITS

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. *No credit if taken after BUS 120.*

CSU

110 INTRODUCTION TO BUSINESS 3 UNITS

C-ID BUS 110

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

3 hours lecture

Provides the prospective small business owner or entrepreneur with the most up-to-date skills necessary in the planning function of opening one's business. Emphasis is on sources of financing, site locations, legal problems, marketing, including an overview of web and internet marketing organizational structure, and self-analysis to determine one's personal readiness for entrepreneurship.

CSU

112 CRAFT ENTREPRENEUR 2 UNITS

2 hours lecture

This course provides an introductory view of today's craft industry. Specific topics will include an introduction to craft industry entrepreneurship, government assistance programs, project management, customer relationship management, information technology, and exploring ethical and social responsibilities.

CSU

113 GIG ECONOMY: THE NEW ENTREPRENEURIAL PATH 2 UNITS

2 hours lecture

The course provides information and solutions for starting and working in the "GIG Economy" – mixing together short-term jobs, contract work, and freelance assignments. The class will assist students in other disciplines where gigging is common, such as music, ornamental horticulture, automotive, and graphic design, as well as, more traditional field of study such as business. The class will touch on freelancing, entrepreneurship, business and legal aspects, and tech developments, with emphasis on employment and entrepreneurial opportunities that exist in the industry.

CSU

115 HUMAN RELATIONS IN BUSINESS 3 UNITS

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

120 FINANCIAL ACCOUNTING 4 UNITS

C-ID ACCT 110

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

C-ID ACCT 120

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

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

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

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

C-ID BUS 120/125

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

C-ID BUS 115

Prerequisite: "C" grade or higher or "Pass" in ESL 2B or placement into ENGL 120 or equivalent

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, reports, emails, and social media messages.

CSU

129 PAYROLL ACCOUNTING AND BUSINESS TAXES 2 UNITS

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

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

150 INDIVIDUAL INCOME TAX ACCOUNTING 3 UNITS
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

155 HUMAN RESOURCES MANAGEMENT 3 UNITS
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
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

161 BUSINESS INTERNSHIP 1-3 UNITS
75 hours paid or 60 hours unpaid work experience per unit, 1-3 units
A work experience course to enable students in various specialty areas of business to gain practical experience and to apply knowledge gained in their business courses. This course is available to any Accounting, Business, Entrepreneurship, or Management major. Students will meet at least twice during the semester to compare field experiences and submit paperwork. It is recommended that students have completed at least 12 units of Business courses prior to registering for this class. *Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 unpaid hours per unit earned.*

162 ANALYSIS OF FINANCIAL STATEMENTS 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in BUS 120 or equivalent
3 hours lecture
This course covers 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
2 hours lecture
An introductory course of computerized accounting functions utilizing an integrated general ledger software package. Especially beneficial to students, teachers and professionals who are using, or plan to use, computerized accounting packages to create a chart of accounts, record customer and vendor transactions, process payroll, and print reports.
CSU

195 PRINCIPLES OF MONEY MANAGEMENT FOR SUCCESS 3 UNITS
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

BUSINESS OFFICE TECHNOLOGY (BOT)

096 COMPUTER BASICS FOR THE OFFICE 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in BOT 100 or equivalent
.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.**

100 BASIC KEYBOARDING 1 UNIT
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 I 1.5 UNITS
Prerequisite: "C" grade or higher or "Pass" in BOT 100 or equivalent
1.5 hours lecture
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 must complete BOT 101B.
CSU

101B KEYBOARDING/DOCUMENT PROCESSING II 1.5 UNITS
Prerequisite: "C" grade or higher or "Pass" in BOT 101A or equivalent
1.5 hours lecture
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: "C" grade or higher or "Pass" in BOT 101B or equivalent
1.5 hours lecture
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: "C" grade or higher or "Pass" in BOT 102A or equivalent
1.5 hours lecture
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
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. Entering 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.
CSU

103B BUILDING KEYBOARDING SKILL II .5 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in BOT 103A 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 25 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
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 30 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
.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

106 EFFECTIVE JOB SEARCH 1 UNIT
1 hour lecture
Provides comprehensive and valuable skills that are needed to successfully secure employment, specializing in the office technology industry. Designed to examine the continuous process of career/life planning through effective, well-planned and efficiently organized job search procedures.
CSU

107 OFFICE SYSTEMS AND PROCEDURES 2 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in BOT 096, 101AB, 119 or equivalent or concurrent enrollment
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

114 ESSENTIAL WORD 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in BOT 096, 100, 119 or equivalent
.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
Recommended Preparation: "C" grade or higher or "Pass" in BOT 096, 100, 119 or equivalent
.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
Recommended Preparation: "C" grade or higher or "Pass" in BOT 096, 100, 119 or equivalent
.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
Recommended Preparation: "C" grade or higher or "Pass" in BOT 096, 100, 119 or equivalent
.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. *Not open to students with credit in BOT 130.*
CSU

118 INTEGRATED OFFICE PROJECTS 1 UNIT
Prerequisite: "C" grade or higher or "Pass" in BOT 114, 115, 116, 117 or equivalent
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). Students will apply their skills and use cloud computing technologies such as Microsoft OneDrive, Microsoft OneNote, and Google Drive to complete projects that integrate these applications.
CSU

119 WINDOWS FOR THE INFORMATION WORKER 2 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in BOT 100 or equivalent, BOT 096 or equivalent or concurrent enrollment
2 hours lecture
This course is designed for students who wish to learn the latest generation of Windows. Students will learn to use the Windows operating system efficiently to customize desktop settings, control desktop applications and online apps, create an online account to access email and the cloud, conduct sophisticated online searches, understand and avoid online threats, and manage drives, files and folders. In addition, students will learn the latest in the "universal" application.
CSU

120 COMPREHENSIVE WORD, LEVEL I 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in BOT 096, 101AB, 119 or equivalent
.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 Specialist (MOS) 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
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 Specialist (MOS) 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
.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 Specialist (MOS) certification examination or similar examinations.
CSU

123 COMPREHENSIVE EXCEL, LEVEL I 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in BOT 096, 100, 119 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 Specialist (MOS) 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
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 Specialist (MOS) 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
.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 Specialist (MOS) certification examination or similar examinations.
CSU

126 COMPREHENSIVE ACCESS, LEVEL I 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in BOT 096, 100, 116, 119 or equivalent
.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 Specialist (MOS) 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
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 Specialist (MOS) 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
.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 Specialist (MOS) certification examination or similar examinations.
CSU

129 COMPREHENSIVE POWERPOINT, LEVEL I 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in BOT 101AB, 114, 120 or equivalent
.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 Specialist (MOS) 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
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 Specialist (MOS) certification examination or similar examinations.
CSU

132 GOOGLE APPLICATIONS FOR BUSINESS 3 UNITS
3 hours lecture
In this course, students learn how to use Google Apps, a collection of free Web-based productivity tools, in a business environment. Topics include Google Search, Gmail, Google Calendar, Google Docs, Google Spreadsheets, Google Presentations, and emerging trends in Google Apps. Students use the internet to access their files and the tools to manipulate and collaborate with them.
CSU

133 ADOBE ACROBAT FOR THE WORKPLACE 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in BOT 119 or equivalent
1 hour lecture
This course involves the study of Adobe Acrobat to create, manage, edit, assemble, and search PDF documents. Students will learn to create Adobe Portable Document Format (PDF), the universal file format for portable documents that preserves all of the fonts, formatting, colors, and graphics of any source document. Additionally, Acrobat can be used to create fillable forms, initiate review processes and apply legal features. Students will learn how to create PDF files from almost any file or paper document, as well as review and comment on PDF files, edit their contents, combine multiple documents into a single PDF file, keep PDF files secure, sign them electronically using the Adobe Document Cloud, and work with interactive online forms. This course will equip students to use Adobe Acrobat successfully in all professional settings, including law offices.

150 USING MICROSOFT PUBLISHER 1 UNIT
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
Recommended Preparation: "C" grade or higher or "Pass" in BOT 096, 100, 114, 119 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

174 COMPUTER CONCEPTS AND APPLICATIONS 3 UNITS
3 hours lecture
This course involves the study of computer concepts and computer skills needed to use computers effectively and efficiently to enhance personal and professional productivity. Computer concepts covered include a basic understanding of the components that comprise computer hardware, system software, social media, mobile computing, and the security and privacy issues related to technology. This course will guide students to achieve entry-level competence with the latest editions of Microsoft Windows, web browsers and the Microsoft Office productivity suite, including OneNote, Outlook, Word, Excel, PowerPoint, and Access.
CSU

180 – BASIC COMPUTER SKILLS FOR ARABIC LEARNERS 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in Arabic 120 or equivalent
1 hour lecture
Students will be provided with the basic information and skills needed to operate a computer efficiently to support Arabic classes with an emphasis on basic keyboarding techniques and typing in Arabic, editing and formatting text in Arabic, and creating, formatting, and editing PowerPoint presentations in Arabic. Includes an overview of file and folder management to store information, using computer input devices, searching the internet, and sending email with attachments. *Also listed as ARBC 180. Not open to students with credit in ARBC 180.*
CSU

201 ADVANCED KEYBOARDING/ DOCUMENT PROCESSING 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in BOT 102AB or equivalent
3 hours lecture
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

223 OFFICE WORK EXPERIENCE 1 UNIT
Prerequisite: Limited to BOT majors who have completed at least 12 units in the major
Recommended Preparation: Keyboarding and computer skills as well as training in a variety of office procedures as required by most worksites
60 hours non-paid or 75 hours paid work experience per semester
Work experience in an office setting. Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned.
CSU

224 OFFICE WORK EXPERIENCE 2 UNITS
Prerequisite: Limited to BOT majors who have completed at least 12 units in the major
Recommended Preparation: Keyboarding and computer skills as well as training in a variety of office procedures as required by most worksites
120 hours non-paid or 150 hours paid work experience per semester
Work experience in an office setting. Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a maximum total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned. A student taking this course for 2 units must work 150 hours paid or 120 hours non-paid.
CSU

225 OFFICE WORK EXPERIENCE 3 UNITS
Prerequisite: Limited to BOT majors who have completed at least 12 units in the major
Recommended Preparation: Keyboarding and computer skills as well as training in a variety of office procedures as required by most worksites
180 hours non-paid or 225 hours paid work experience per semester
Work experience in an office setting. Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a maximum total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned. A student taking this course for 3 units must work 225 hours paid or 180 hours non-paid.
CSU

CADD TECHNOLOGY (CADD)

UC credit limit: all CADD courses, ENGR 119, ENGR 129, OH 200, OH 201 combined: maximum credit, one course

115 ENGINEERING GRAPHICS 3 UNITS
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, tolerances, scales, multiview projections, and pictorial drawings to visualize, represent and document basic engineering problems.
*CSU, *UC credit limit*

120 INTRODUCTION TO COMPUTER-AIDED DRAFTING AND DESIGN 3 UNITS
Corequisite: CADD 115 or previous enrollment
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). Offers a hands-on activity-based approach to the use of AutoCAD as a drafting tool. Course content focuses on manufacturing drawings, but also includes Architectural and General drawings. Students will develop a comprehensive understanding of computer-aided drafting in 2D geometry as well as in 3D-modeling. Not open to students with credit in ENGR 119.
*CSU, *UC credit limit*

125 SOLID MODELING DESIGN 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CADD 115 or ENGR 100 or equivalent
Recommended Preparation: Working knowledge of basic computer operations and file administration
2 hours lecture, 4 hours laboratory
This is advanced graphic communication course using solid modeling techniques. This course covers feature based solid part construction including extrudes, cuts and revolves; advanced surface shaping using lofts and sweeps. This also covers assembly construction and constraining in an engineering design environment. Students learn how to produce technical/engineering drawing including proper layout of component drawing views, sectioning and detailing. Threads and fasteners are also included in this course. Dimensioning and tolerancing will be taught in accordance with ANSI standard. Introduction to 3D printing technology (aka Additive Manufacturing) is part of this course. SolidWorks software is used throughout the course. *Also listed as ENGR 125. Not open to students with credit in ENGR 125.*
*CSU, *UC credit limit*

126 ELECTRONIC DRAFTING 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CADD 120 or equivalent
3 hours lecture
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, *UC credit limit*

127 SURVEY DRAFTING TECHNOLOGY 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CADD 120 or equivalent
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. ***Also listed as SURV 127. Not open to students with credit in SURV 127.***
*CSU, *UC credit limit*

128 GEOMETRIC DIMENSIONING AND TOLERANCING (GDT) 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CADD 120 or equivalent
Recommended Preparation: "C" grade or higher or "Pass" in CADD/ENGR 125 or equivalent
3 hours lecture
Provides the complete fundamentals of Geometric Dimensioning and Tolerancing (GD & T) concepts as adopted by the American National Standard Institute (ANSI) standards: ASME (American Society for Mechanical Engineers)/ANSI Y14.5-2009. The importance of precision technique in conjunction with Computer-Aided Drafting and Design (CADD) is emphasized. The content of this course is considered to be one of the fundamental components to the engineering design and drafting profession.
*CSU, *UC credit limit*

129 ENGINEERING SOLID MODELING 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CADD 115 or ENGR 100 or equivalent
2 hours lecture, 4 hours laboratory
Advanced 3D computer-aided mechanical design and drafting. This parametric modeling course provides skills and knowledge of appropriate software (Creo Parametric) and feature based part construction using extrudes, cuts, revolves, lofts and sweeps. Students will enhance their skills in model assembly and assembly drawings including proper organization and layout of component drawing views, dimensioning and tolerancing, sectioning and detailing. 3D printing technology (additive manufacturing) is integrated to this course. *Also listed as ENGR 129. Not open to students with credit in ENGR 129.*
*CSU, *UC credit limit*

131 ARCHITECTURAL COMPUTER-AIDED DRAFTING AND DESIGN 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CADD 120 or ENGR 119 or equivalent
2 hours lecture, 4 hours laboratory
This course is a hands-on study of computer-aided drafting and design (CADD) using three-dimensional (3D) parametric solid modeling programs, such as Revit and AutoCAD, and associated commands, techniques, and processes required for the creation of contract documents for residential projects using professional standards. 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.
*CSU, *UC credit limit*

132 ADVANCED COMPUTER-AIDED DRAFTING AND DESIGN IN 3D MODELING 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CADD 115 or equivalent
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 aspects of designing with solid modeling and parametric modeling, concepts, application of three-dimensional constructions, and editing 3D modeling. Exploring and experiencing Additive Manufacturing (aka Rapid Prototyping or 3D Printing Technology). 3D Solid Modeling software *"Autodesk Inventor"* will be used as an instructional tool.
*CSU, *UC credit limit*

133 ADVANCED ARCHITECTURAL COMPUTER-AIDED DRAFTING AND DESIGN 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CADD 131 or equivalent
2 hours lecture, 4 hours laboratory
This course is an advanced, practical study of Revit and Building Information Modeling (BIM). Emphasis is placed on the complex aspects of the Revit program used in the development of two-dimensional, three-dimensional, and presentation documents. This course is intended for advanced CADD/architecture students and practicing professionals.
*CSU, *UC credit limit*

140 INTRODUCTION TO ADVANCED CADD/MANUFACTURING 2 UNITS
2 hours lecture
Concept of manufacturing, provide in depth the fundamental differences between manufacturing and advanced manufacturing processes. Role of artificial intelligence (AI) in manufacturing– robotics, automation, numerical control, quality control, etc.
CSU

141 INTRODUCTION TO TECHNOLOGY OF MACHINE TOOLS 2 UNITS
2 hours lecture
This course introduces new manufacturing technologies and processes. Study of the development of tools throughout history. Covers the standard types of machine tools used in industry as well as the newly developed space-age machines and processes.
CSU

150 OCCUPATIONAL WORK EXPERIENCE IN CADD TECHNOLOGY/ MANUFACTURING 1-4 UNITS
Prerequisite: Preregistration counseling with the instructor is required. Must meet State guidelines for work experience.
Recommended Preparation: Recommendation from Program Coordinator
75 hours paid or 60 hours non-paid work experience per unit
This course is designed to provide a broad range of hands-on technical experience in CADD Technology/Manufacturing. It prepares students for full-time employment in an appropriate CADD industry setting. Students learn how to work safely in the work environment and apply skills attained in the classroom setting. ***Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned.***
CSU

200 INTRODUCTION TO COMPUTER-AIDED LANDSCAPE DESIGN 3 UNITS
2 hours lecture, 3 hours laboratory
Introduction to computer-aided landscape design using AutoCAD software. Creation of site plans, landscape plans, sprinkler plans, contour maps and landscape estimates. Elevation and perspective drawings are also created. *Also listed as OH 200. Not open to students with credit in OH 200.*
*CSU, *UC credit limit*

201 ADVANCED COMPUTER-AIDED LANDSCAPE DESIGN 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CADD/OH 200 or equivalent
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. *Also listed as OH 201. Not open to students with credit in OH 201.*
*CSU, *UC credit limit*

CENTER FOR WATER STUDIES

100 CAREER PATHWAYS IN WATER & WASTEWATER 3 UNITS
3 hours lecture
This course introduces students to Cuyamaca's Center for Water Studies and the career pathways in the water and wastewater field in San Diego County and throughout California. The goal of the course is to develop in each student the skills they need to succeed at Cuyamaca and in their careers in water. This will be the first course in the Center for Water Studies' new Fundamentals of Water module -- a series of four introductory courses -- and students will be encouraged to begin their studies in water and wastewater with the 100 course.
CSU

101 FUNDAMENTALS OF WATER & WASTEWATER 3 UNITS
(formerly WWTR 101)
3 hours lecture
This course provides 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. *Not open to students with credit in WWTR 101.*
CSU

102 CALCULATIONS IN WATER & WASTEWATER 3 UNITS
(formerly WWTR 102)
Recommended Preparation: Competency in basic math skills
3 hours lecture
Study of the mathematical principles and methods involved in solving problems related to water and wastewater treatment, distribution, and collection systems, including volume, flow rate, velocity, pressure, force, unit conversions, dimensional analysis, chemical dose rates, dilutions, filter loading and backwash rates as related to water/wastewater technology. *Not open to students with credit in WWTR 102.*
CSU

103 WATER RESOURCES MANAGEMENT 3 UNITS
(formerly WWTR 103)
3 hours lecture
With the ever increasing demands for safe and reliable supplies of potable water, combined with decreasing supplies and over commitments of our existing water resources, we are facing a serious water crisis in the western United States. This course explores the history and development of California water resources, legal and financial issues, water portfolio diversification, the role of groundwater recharge and management, wastewater reclamation and reuse, desalination, and energy conservation. *Not open to students with credit in WWTR 103.*
CSU

105 WATER CONSERVATION 3 UNITS
(formerly WWTR 105)
3 hours lecture
This course provides theoretical and practical training in applied water use efficiency and a foundation in the need for and major components of comprehensive water conservation programs. Topics include residential, commercial, and landscape customers; water uses; budgets; demand management; water audits; Best Management Practices; rate structures; and program design and management. *Not open to students with credit in WWTR 105.*
CSU

106 ELECTRICAL & INSTRUMENTATION PROCESSES 3 UNITS
(formerly WWTR 106)
3 hours lecture
An introductory course in basic electronic, electrical, and control system principles. Electrical safety precautions, component identification, schematic interpretation, motors, transformers, relays and test equipment will be studied. Automated process control devices and an overview of current technologies will be discussed. *Not open to students with credit in WWTR 106.*
CSU

107 SAFETY IN WATER & WASTEWATER 3 UNITS
3 hours lecture
This course provides a broad overview of Occupational Safety and Health issues in the water and wastewater industry. Students will learn the history of safety related laws and regulations for the Construction and General Industry. Contemporary safety related issues facing the water and wastewater industry will be explored with an emphasis on the Occupational Safety and Health Administration of the California Department of Industrial Relations.
CSU

110 LABORATORY ANALYSIS FOR WATER & WASTEWATER 3 UNITS
(formerly WWTR 110)
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. Completion of CWS 110 and CWS 210 provides the foundation necessary to obtain a CWEA Grade 1 Laboratory Analyst Certificate. *Not open to students with credit in WWTR 110.*
CSU

112 WATER TREATMENT PLANT OPERATIONS 3 UNITS
(formerly WWTR 112)
Recommended Preparation: "C" grade or higher or "Pass" in CWS 102 or equivalent
3 hours lecture
Study of the sources of water and the public health aspects of water supply; chemical, physical and bacteriological standards of water quality; types of water treatment plants; and water treatment procedures, operation, maintenance, storage and distribution. *Not open to students with credit in WWTR 112.*
CSU

114 WASTEWATER TREATMENT PLANT OPERATIONS 3 UNITS
(formerly WWTR 114)
3 hours lecture
An introduction to the basic principles involved in the operation of conventional public wastewater treatment plants. Provides information on plant hydraulics, preliminary, primary and secondary treatment processes, disinfection, as well as environmental and safety regulation compliance. *Not open to students with credit in WWTR 114.*
CSU

115 WASTEWATER RECLAMATION AND REUSE 3 UNITS
(formerly WWTR 115)
3 hours lecture
This course covers the fundamentals of wastewater reclamation and reuse. Topics include the history of wastewater treatment and reclamation; total resource recovery including bio-solids/biogas harvesting; planning, design, and construction of reclamation plants; and reclaimed wastewater distribution. Problems regarding regulations, marketing, and public perception of using reclaimed wastewater will be discussed, along with public safety issues. *Not open to students with credit in WWTR 115.*
CSU

130 WATER DISTRIBUTION SYSTEMS 3 UNITS
(formerly WWTR 130)
Recommended Preparation: "C" grade or higher or "Pass" in CWS 102 or equivalent
3 hours lecture
Study of the operation and maintenance of a water supply and distribution system. Water sources, water quality, treatment methods, distribution operations, customer metering, pipeline installation and repair, valves and appurtenances, storage tanks, and maintenance topics will be discussed. Includes mathematical and hydraulic formulas and principles to determine volume, flow, pressure and force. Part of a series required for eligibility to take the California Department of Public Health (CDPH) Water Distribution Operator certification examinations; supports certification examinations for CDPH Water Distribution Operator grade D1 and D2. *Not open to students with credit in WWTR 130.*
CSU

132 WASTEWATER COLLECTION SYSTEMS 3 UNITS
(formerly WWTR 132)
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. *Not open to students with credit in WWTR 132.*
CSU

134 PUMPS, MOTORS & VALVES 3 UNITS
(formerly WWTR 134)
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. *Not open to students with credit in WWTR 134.*
CSU

204 APPLIED HYDRAULICS 3 UNITS
(formerly WWTR 104)
Recommended Preparation: "C" grade or higher or "Pass" in CWS 102 or equivalent
3 hours lecture
Study of the hydraulic principles involved in the operation of water and wastewater distribution and collection systems. The behavior of water in closed-conduit pressure systems and open channel delivery systems, and the types of facilities and infrastructure utilized in water and wastewater service and their operational characteristics will be explored. *Not open to students with credit in WWTR 104.*
CSU

206 ADVANCED ELECTRICAL & INSTRUMENTATION PROCESSES 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CWS 106 or equivalent
3 hours lecture
This course will be an advanced course in instrumentation, controls and SCADA industrial control systems. The focus will be on how these systems are used in the water and wastewater field. This course will cover PLC operations, usage and troubleshooting, how SCADA industrial control systems collect and store data, how the SCADA data historian works and is used by a water and wastewater utility. Finally, the course will look at intelligent equipment, communication standards and the underlying communication network.
CSU

207 PRACTICAL SKILLS IN WATER & WASTEWATER SYSTEMS 2 UNITS
Prerequisite: "C" grade or higher or "Pass" in CWS 107 or equivalent
1.5 hours lecture, 1.5 hours Laboratory
This course provides practical hands-on experience with the equipment and materials commonly used in the water and wastewater industry. Students will become familiar with and learn the specific uses of each piece of equipment commonly utilized in water distribution and wastewater collection systems. Students will have the opportunity to participate in hands-on learning activities and lessons related to the installation and maintenance of equipment and tools used in the water and wastewater industry. This course will utilize the Field Operation Skills Yard (FOSY) to provide a realistic learning environment for the students.
CSU

210 ADVANCED LABORATORY ANALYSIS FOR WATER & WASTEWATER 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CWS 110 or equivalent course
3 hours lecture
Examines the 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. Covers State Department of Public Health and Federal EPA, Clean Water and Safe Drinking Water Act regulations related to the operation of a water or wastewater laboratory. Completion of CWS 110 and CWS 210 provides the foundation knowledge and skills necessary to test for the California Water Environment Association (CWEA) Grade 1 Laboratory Analyst Certificate.
CSU

212 ADVANCED WATER TREATMENT PLANT OPERATIONS 3 UNITS
(formerly WWTR 117)
Prerequisite: "C" grade or higher or "Pass" in CWS 112 or equivalent
3 hours lecture
The 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. ***Not open to students with credit in WWTR 117.***
CSU

214 ADVANCED WASTEWATER TREATMENT PLANT OPERATIONS 3 UNITS
(formerly WWTR 120)
Prerequisite: "C" grade or higher or "Pass" in CWS 114 or equivalent
3 hours lecture
This course examines how modern wastewater treatment plants are operated to maximize efficiency and reliability in processing municipal wastewater. Emphasis on wastewater treatment plant facilities, equipment, preventative maintenance procedures, plant process monitoring & control, and safety & regulatory compliance. ***Not open to students with credit in WWTR 120.***
CSU

230 ADVANCED WATER DISTRIBUTION SYSTEMS 3 UNITS
(formerly WWTR 265)
Prerequisite: "C" grade or higher or "Pass" in CWS 130 or equivalent
3 hours lecture
The 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 water supply and distribution system including advanced calculations, management, safety, and emergency response issues. Contemporary issues facing the water and wastewater industry will be explored in depth. Expands on topics covered in the introductory course, WWTR 130. Part of a series required for eligibility to take the California Department of Public Health (CDPH) Water Distribution Operator certification examinations; prepares students to take and pass CDPH Water Distribution Operator certification examinations for grades D3, D4 and D5. ***Not open to students with credit in WWTR 265.***
CSU

232 ADVANCED WASTEWATER COLLECTION SYSTEMS 3 UNITS
(formerly WWTR 267)
Prerequisite: "C" grade or higher or "Pass" in CWS 132 or equivalent
3 hours lecture
Provides an in-depth understanding of the operation and maintenance of wastewater collection systems. Includes the design, operation, monitoring, maintenance and repair of collection systems and pump stations; equipment maintenance; safety and survival systems; and administration and organizational principles. ***Not open to students with credit in WWTR 267.***
CSU

268 MEMBRANE PLANT OPERATION 3 UNITS
(formerly WWTR 268)
Prerequisite: "C" grade or higher or "Pass" in CWS 112 or 114 or equivalent
3 hours lecture
Study of basic membrane technology and the application of this technology to water and wastewater treatment. This course explores the operation and maintenance of membrane components within a water and wastewater treatment system, as well as pre and post treatment. ***Not open to students with credit in WWTR 268.***
CSU

270 PUBLIC WORKS SUPERVISION 3 UNITS
(formerly WWTR 270)
Prerequisite: "C" grade or higher or "Pass" in CWS 101 or equivalent
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. ***Not open to students with credit in WWTR 270.***
CSU

280 BACKFLOW TESTER TRAINING 2 UNITS
(formerly WWTR 280)
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. ***Not open to students with credit in WWTR 280.***
CSU

282 CROSS-CONNECTION CONTROL SPECIALIST 3 UNITS
(formerly WWTR 282)
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. ***Not open to students with credit in WWTR 282.***
CSU

284 CROSS-CONNECTION CONTROL SPECIALIST–RECYCLED WATER 3 UNITS
(formerly WWTR 284)
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. Various aspects of cross-connection control recycled water shut down testing will be demonstrated. ***Not open to students with credit in WWTR 284.***
CSU

290 COOPERATIVE WORK EXPERIENCE 1-4 UNITS
(formerly WWTR 290)
Recommended Preparation: Successful completion of at least three Water/Wastewater technology courses prior to enrolling in Cooperative Work Experience is highly recommended.
75 hours paid or 60 hours non-paid work experience per unit, 1-4 units
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 non-paid at appropriate curriculum-related work sites. Two on-campus sessions will be scheduled. ***Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned. May be taken for a maximum of 12 units. Not open to students with credit in WWTR 290 without instructor approval.***

CHEMISTRY (CHEM)

012 STRATEGIES FOR SUCCESS IN CHEM 102 INTRODUCTION TO GENERAL, ORGANIC AND BIOLOGICAL CHEMISTRY 1 UNIT
Corequisite: Concurrent enrollment in CHEM 102
3 hours laboratory
The purpose of this course is to review and reinforce the skills and knowledge necessary for success in CHEM 102 (Introduction to General, Organic & Biological Chemistry). Students will strengthen their abilities related to critical thinking strategies, time management skills, coupled with unique features of effective reading strategies in science, technical writing skills and mastery of basic chemistry skills critical to CHEM 102. **Pass/No Pass only. Non-degree applicable.**

020 STRATEGIES FOR SUCCESS IN CHEM 120 1 UNIT
Corequisite: Concurrent enrollment in CHEM 120
3 hours laboratory
The purpose of this course is to review and reinforce the skills and knowledge necessary for success in CHEM 120 (Preparation for General Chemistry). Students will strengthen their abilities related to critical thinking strategies, time management skills, coupled with unique features of effective reading strategies in science, technical writing skills and mastery of basic chemistry skills critical to CHEM 120. **Pass/No Pass only. Non-degree applicable.**

102 INTRODUCTION TO GENERAL, ORGANIC AND BIOLOGICAL CHEMISTRY 5 UNITS
Prerequisite: Appropriate mathematics placement
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.*
AA/AS GE, CSU, CSU GE, IGETC, UC, UC credit limit

115 FUNDAMENTALS OF CHEMISTRY 4 UNITS
C-ID CHEM 101
Prerequisite: Appropriate mathematics placement
3 hours lecture, 3 hours laboratory
Elementary principles of inorganic and general chemistry with a brief introduction to organic and biochemistry. Previous chemistry background is not required. Recommended for students who need only a one-semester general chemistry course and for students entering paramedical and allied health fields. *Students will not receive credit toward graduation for more than one of the following courses: CHEM 115, 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
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
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 115, 120.*
AA/AS GE, CSU, CSU GE, IGETC, UC, UC credit limit

141 GENERAL CHEMISTRY I 5 UNITS
C-ID CHEM 110, 120S (with CHEM 142)
Prerequisite: "C" grade or higher or "Pass" in CHEM 120 or equivalent or the CHEM 141 assessment and "C" grade or higher or "Pass" in MATH 110 or equivalent
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
C-ID CHEM 120S (with CHEM 141)
Prerequisite: "C" grade or higher or "Pass" in CHEM 141 or equivalent
3 hours lecture, 6 hours laboratory
Basic principles and calculations of chemistry with emphasis in the areas of chemical and acid-base equilibrium, thermodynamics, descriptive chemistry of the periodic table, intermolecular forces, properties of liquids, solids and solutions, kinetics, electrochemistry, and coordination compounds. The laboratory is a continuation of CHEM 141 with the quantitative analysis of matter and also includes qualitative analysis.
CSU, CSU GE, IGETC, UC

231 ORGANIC CHEMISTRY I 5 UNITS
C-ID CHEM 150, CHEM 160S (with CHEM 232)
Prerequisite: "C" grade or higher or "Pass" in CHEM 142 or equivalent
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

232 ORGANIC CHEMISTRY II 5 UNITS
C-ID CHEM 160S (with CHEM 231)
Prerequisite: "C" grade or higher or "Pass" in CHEM 231 or equivalent
3 hours lecture, 6 hours laboratory
Second of a two-semester sequence. The topics covered will include: structure and reactivity of carboxylic acids and their derivatives, amines and other nitrogen functional groups, aromatic compounds, heterocyclic compounds, polyfunctional compounds, conjugation and aromaticity, and multistep organic synthesis.
AA/AS GE, CSU, CSU GE, IGETC, UC

CHILD DEVELOPMENT (CD)

101 PARENT EDUCATION 1 UNIT
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: CD 123 or 125 or previous completion of either course with a "C" grade or higher or "Pass"
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

115 CHANGING AMERICAN FAMILY 3 UNITS
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
1 hour lecture
Primarily designed for parents of children enrolled in the Child Development Center. This course 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
C-ID ECE 120
3 hours lecture
This course examines the theoretical principles of developmentally appropriate practices applied to programs and environments, with an emphasis on the key role of relationships, constructive adult-child interactions, and teaching strategies in supporting physical, social, creative, and intellectual development for all children. Content includes the historical roots of early childhood programs; the evolution of the professional practices promoting advocacy, ethics and professional identity; and the legal requirements for programs in California including Title 22 and Title 5.
CSU

124 INFANT AND TODDLER DEVELOPMENT 3 UNITS
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
C-ID CDEV 100
3 hours lecture
The 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
3 hours lecture
This course covers the importance and value of creative art activities for young children with a focus on the variety of art media, and evaluation and selection of materials and strategies for incorporating art into an inclusive classroom environment. Students will participate in a variety of creative art experiences for infants, toddlers, preschool, and primary age children, including children with special needs. Theories of artistic development and creative expression through self-discovery will also be integral components of this course.
CSU

127 SCIENCE AND MATHEMATICS FOR CHILD DEVELOPMENT 3 UNITS
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
3 hours lecture
Exploration of the importance and meaning of music and movement for infants, toddlers, and preschool children, including children with special needs. Areas emphasized will be listening skills, singing, movement education, and creating instruments.
CSU

129 LANGUAGE AND LITERATURE FOR CHILD DEVELOPMENT 3 UNITS
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, and to explore methods and activities that foster language and emerging literacy skills for young children, including children with special needs. The course focus will include first and second language acquisition, techniques of storytelling and puppetry, the evaluation of children's literature, and reference to the California Preschool Learning Foundations.
CSU

130 CURRICULUM: DESIGN AND IMPLEMENTATION 3 UNITS
C-ID ECE 130
Recommended Preparation: "C" grade or higher or "Pass" in CD 123, 125, 126, 127, 128, 129, 131 or equivalent
3 hours lecture
Students will examine a variety of approaches to curriculum development, the essential role of play, and the teacher's role in supporting development and learning. The course 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. An overview of content areas, including language and literacy, social and emotional learning, sensory learning, art and creativity, math and science will be provided.
CSU

131 CHILD, FAMILY AND COMMUNITY 3 UNITS
C-ID CDEV 110
Recommended Preparation: "C" grade or higher or "Pass" in CD 123, 125 or equivalent
3 hours lecture
This course examines the socialization process, including the role families, school, media, peers, and the community play in children's development. Students will learn strategies to support children and families in a diverse society, including how to develop and maintain effective teacher and family relationships. 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 170
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 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
75 hours paid or 60 hours non-paid work experience per unit
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. *Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned.*
CSU

134 HEALTH, SAFETY AND NUTRITION OF YOUNG CHILDREN 3 UNITS
C-ID ECE 220
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
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. Students explore and practice strategies for positive communication strategies including team building, collaboration, and effective problem solving.
CSU

137 ADMINISTRATION OF CHILD DEVELOPMENT PROGRAMS I 3 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in 12 CD units as required by Title 22 licensing regulations: CD 125, 131 and 6 units in program curriculum (CD 123 and 126 or 127 or 128 or 129 or 130)
3 hours lecture
This course is designed for the beginning director of child care and preschool programs. It includes administrative tools, knowledge, and techniques needed to organize, open, and operate a child development facility. Topics include budget, management, regulatory laws, and development of school policies and procedures. This course meets the California Department of Social Services and California Department of Education requirement for child care and preschool program directors and supervisors.
CSU

138 ADMINISTRATION OF CHILD DEVELOPMENT PROGRAMS II 3 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in CD 137 or equivalent
3 hours lecture
This course is 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
3 hours lecture
This course focuses on strategies for working with young children with special needs, including physical, intellectual, emotional, behavioral, and sensory challenges. The emphasis will be on developmentally appropriate inclusive practices, activities, materials, and environments, and developing strong relationships with families and community resources.
CSU

143 RESPONSIVE PLANNING FOR INFANT/TODDLER CARE 3 UNITS
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
3 hours lecture
Students will examine 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.
AA/AS GE, CSU, CSU GE, UC

153 TEACHING IN A DIVERSE SOCIETY 3 UNITS
C-ID ECE 230
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

170 PRACTICUM: FIELD EXPERIENCE WITH INFANTS AND TODDLERS 2 UNITS
Prerequisite: "C" grade or higher or "Pass" in CD 106, 123, 124, 125, 126, 127, 128, 129, and 143 or equivalent
Corequisite: CD 132 or previous enrollment
75 hours paid or 60 hours unpaid work experience per unit
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 of children under three years of age. *Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 unpaid hours per unit earned.*
CSU

210 WORKING WITH YOUNG CHILDREN WITH CHALLENGING BEHAVIORS 3 UNITS
3 hours lecture
This course 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

212 PRACTICUM IN EARLY CHILDHOOD EDUCATION 3 UNITS
C-ID ECE 210
Prerequisite: "C" grade or higher or "Pass" in CD 123, 125, 130, 131 or equivalent
2 hours lecture, 3 hours laboratory
In this course students will practice and demonstrate developmentally appropriate early childhood program planning and teaching competencies under the supervision of ECE/CD faculty and other qualified early education professionals. Students will utilize practical classroom experiences to make connections between theory and practice, develop professional behaviors, and build a comprehensive understanding of children and families. Child-centered, play-oriented approaches to teaching, learning, and assessment, and knowledge of curriculum content areas will be emphasized as student teachers design, implement, and evaluate experiences that promote positive development and learning for all young children.
CSU

213 OBSERVATION AND ASSESSMENT 3 UNITS
C-ID ECE 200
3 hours lecture
This course focuses on the appropriate use of a variety of assessment and observation strategies to document child development and behavior. Child observations will be conducted and analyzed. The use of observation and assessment of children in planning, implementing, and evaluating early childhood curriculum and environments will be included.
CSU

COMMUNICATION (COMM)

110 INTRODUCTION TO MASS COMMUNICATION 3 UNITS
C-ID JOUR 100
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
C-ID COMM 130
3 hours lecture
This course provides an opportunity to learn and apply in daily life principles of interpersonal communication, effective rhetorical strategies, and public speaking skills. Students present speeches and participate in structured oral and written exercises and simulations; these activities are designed to enhance communicative awareness and skills in interpersonal contexts. Emphasis is on personal, situational and cultural influences on interaction. It is designed to assist students in improving their own interpersonal and oral communication skills. Attention is given to rhetorical strategies, human perception, interpersonal dynamics, listening, conflict management, verbal and nonverbal communication skills including delivery of speeches in front of listeners.
AA/AS GE, CSU, CSU GE, IGETC, UC

122 PUBLIC SPEAKING 3 UNITS
C-ID COMM 110
3 hours lecture
Theory and techniques of public speaking in a democratic society. Discovery, development and criticism of ideas in public discourse through research, reasoning, organization, presentation, and evaluation of various types of speeches including informative and persuasive speeches.
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
3 hours lecture
Advanced training in the preparation and delivery of common types of public speaking. There is an emphasis on new theoretical approaches to the process of oral communication.
CSU, UC

124 INTERCULTURAL COMMUNICATION 3 UNITS
C-ID COMM 150
3 hours lecture
The purpose of this course is to explore and learn about intercultural communication: the study of face-to-face communication between people from different cultural backgrounds, including those reflecting national or ethnic diversity. This course will utilize a culture-general approach, meaning that the focus will be on general principles of intercultural communication that are applicable across a broad spectrum of cultures and contexts.
AA/AS GE, CSU, CSU GE, IGETC, UC

130 FUNDAMENTALS OF HUMAN COMMUNICATION **3 UNITS**
3 hours lecture
A survey of the theory, basic principles, and methods of human communication with emphasis on improving speaking and listening in public speaking, interpersonal and group contexts.
AA/AS GE, CSU, CSU GE, IGETC, UC

135 ORAL INTERPRETATION OF LITERATURE **3 UNITS**
C-ID COMM 170
3 hours lecture
This course provides both a theoretical and a practical exploration of the oral interpretation of literature. Attention is given to art appreciation, art criticism, and analysis as it relates to the performance of literature in various genres. The oral interpretation of traditional literary genres of poetry, prose, and drama is practiced, as well as newer and more diverse modes of expression such as spoken word and other cultural forms of artistic expression. Emphasis is on the effective interpretation, communication, and evaluation and performance of various literary works.
AA/AS GE, CSU, UC

137 CRITICAL THINKING IN GROUP COMMUNICATION **3 UNITS**
C-ID COMM 140
3 hours lecture
This course is designed to assist students in the development of critical thinking and decision making skills in the small group communication context. There is an emphasis on the basic elements of critical thinking such as evidence, reasoning and language. Students will become familiar with leadership strategies, problem solving techniques, discussion plans, and conflict management as applicable in groups.
AA/AS GE, CSU, CSU GE, UC

145 ARGUMENTATION **3 UNITS**
C-ID COMM 120
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

238 SPEECH AND DEBATE COMPETITION I **1 UNIT**
1 hour lecture, 1 hour laboratory
This is the introductory course to intercollegiate forensics: Cuyamaca's Speech and Debate Team. It is designed to give students preparation procedures for competitive speech/debate tournaments. Students will learn the requirements for the four major areas of competitive speaking: public address, oral interpretation, impromptu/extemporaneous speaking, and debate. Students will be required to participate or observe at one tournament or public speaking activity.
CSU

239 SPEECH AND DEBATE COMPETITION II **2 UNITS**
2 hours lecture, 1 hour laboratory
This course is designed for students who wish to participate in intercollegiate speech and debate tournaments through the Cuyamaca Speech and Debate Team. Students will develop speech performance skills by selecting areas of emphasis which include public speaking, oral interpretation or debate events. Competition in at least one tournament or public speaking activity is required.
CSU

240 SPEECH AND DEBATE COMPETITION III **3 UNITS**
C-ID COMM 160B
2 hours lecture, 3 hours laboratory
This course is designed for students to develop speaking and argumentation skills and participate in multiple intercollegiate speaking competitions, festivals or public events as members of the Cuyamaca Speech and Debate Team. Emphasis is on group and oral performance for team competition at state and national tournaments. Students will focus on multiple events from parliamentary debate, platform speaking, extemporaneous speaking, or oral interpretations events. Competition at two or more tournament or public speaking activities is required.
CSU

241 SPEECH AND DEBATE COMPETITION IV **3 UNITS**
2 hours lecture, 3 hours laboratory
This course is designed for students who have competed in intercollegiate forensics tournaments and want to focus on one or more specific areas of emphasis as a member of the Cuyamaca Speech and Debate Team. Team leadership skills, debate theory, research analyzing political and social issues, directing and writing of readers theatre, and coaching skills, may be selected as possible focus areas. Competition at three or more tournaments or public speaking activities is required.
CSU

COMPUTER AND INFORMATION SCIENCE (CIS)

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

101 FUNDAMENTALS OF INFORMATION TECHNOLOGY **1.5 UNITS**
1 hour lecture, 1.5 hours laboratory
Designed for beginners, no previous computer experience is required. This class introduces students to the various careers that IT has to offer. Students will explore PC Hardware, Operating Systems, Networking, Web design, Programming, Security through highly interactive laboratory exercises:
- Build a personal web page
- Build and secure a home or office network
- Identify computer components assemble a PC, and install an operating system
- Program lights, motors, and devices

When completed, students will have the ability to make informed decisions regarding their educational pathway toward a career in Information Technology.
CSU

105 INTRODUCTION TO COMPUTING **2 UNITS**
2 hours lecture
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. Emphasis is on those skills and knowledge needed to use a home or small business computer.
CSU

110 PRINCIPLES OF INFORMATION SYSTEMS **4 UNITS**
C-ID BUS 140/ITIS 120
3 hours lecture, 3 hours laboratory
An introductory course in information technology with an emphasis on business and business-related applications. Concepts include computer organization, data processing systems, decision support systems, systems analysis and design. The laboratory component consists of hands-on problem solving using software applications including spreadsheets and databases.
CSU, CSU GE, UC

120 COMPUTER MAINTENANCE AND A+ CERTIFICATION **3 UNITS**
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**
2 hours lecture, 3 hours laboratory
This course introduces students to the basic concepts of network cabling systems. It focuses on network cabling design, installation, testing, certification and troubleshooting. 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**
C-ID ITIS 150
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
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

162 TECHNICAL DIAGRAMMING USING MICROSOFT VISIO 2 UNITS
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

170 INTERNET OF THINGS (IOT) – CONNECTING THINGS 3 UNITS
2 hours lecture, 3 hours laboratory
From washing machines to sophisticated components of an airplane's jet engine, even organic items like crops and cows, nearly every object can now be connected to the Internet. The ability to connect things and capture useful data from these connections is transforming organizations in every industry and opening doors for new career specializations. This course is for people who love creating devices. From designing electronic circuits to writing code, the IoT (Internet of Things) provides the platform for various types of professionals. The goal of this course is to explore things and their connection to the IoT by conducting hands-on labs both individually and as a member of a team. Discover the basis of this exciting and emerging field using fun, hands-on activities to model securely connecting sensors to cloud services over IP networks and collecting data in an end-to-end IoT system. While an understanding of basic programming (such as PCAP: Programming Essentials in Python), networking and electronics knowledge is useful, it is not required.
CSU

172 INTERNET OF THINGS (IOT) SECURITY 3 UNITS
Prerequisite: Successful completion of CIS 170
2 hours lecture, 3 hours laboratory
The explosive growth of connected IoT devices enables the world's digitization, but also increases the exposure to security threats. You will use the latest technologies to perform vulnerability and risk assessments, then research and recommend risk mitigation strategies for common security threats in IoT systems. The world needs more skilled cybersecurity professionals. Adding IoT Security to your skillset differentiates you from other job candidates. Consider becoming an IoT Specialist in Network Security by combining this course with your CCENT/CCNA Routing & Switching and CCNA Security certifications. Or pair IoT Security with the CCNA Cybersecurity Operations certification and increase your employability with a deeper understanding of the anatomy of an attack and how to mitigate it.
CSU

190 WINDOWS OPERATING SYSTEM 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CIS 120 or 125 or equivalent or current CompTIA A+ or N+ certification
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 preparing for the current Microsoft Certified Technology Specialist certification exam. 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 SYSTEM 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CIS 120 or 125 or equivalent or current CompTIA A+ or N+ certification
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. Course maps to the Computer Technology Industry Association (CompTIA) Linux+ and Linux Professional Institute (LPI) Certification Level 1 certification exams.
CSU

201 CISCO ACADEMY – INTRODUCTION TO NETWORKING 3 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in CIS 125 or equivalent
2 hours lecture, 3 hours laboratory
This is the first of four courses designed to provide knowledge, experience and skills in current and emerging networking technology. This course is also designed to help students prepare for the professional certification as a Cisco Certified Network Associate (CCNA). This course introduces you to fundamental networking concepts and technologies. In this course, you will learn both the practical and conceptual skills that build the foundation for understanding basic networking. Students will: examine human versus network communication and see the parallels between them; be introduced to the two major models used to plan and implement networks: OSI and TCP/IP; learn about network devices and network addressing schemes, and discover the types of media used to carry data across the network. This course maps to the current Cisco Certified Networking Associate curriculum version.
CSU

202 CISCO ACADEMY – ROUTING, SWITCHING, AND WIRELESS ESSENTIALS 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CIS 201 or completion of CCNA1 Version 6 at another Cisco Networking Academy, or explicit instructor permission
2 hours lecture, 3 hours laboratory
This is the second of four courses designed to provide knowledge, experience and skills in current and emerging networking technology. This course is also designed to help students prepare for the professional certification as a Cisco Certified Network Associate (CCNA). Routing and Switching Essentials describes the architecture, components, and operations of routers and switches. Students learn how to configure basic router and switch functions necessary for planning and implementing small networks. By the end of this course, students will be able to configure routers and switches and troubleshoot common issues with the Routing Information Protocol (RIPv1, RIPv2, and RIPng), single-area Open Shortest Path First Protocol (OSPF), Dynamic Host Configuration Protocol (DHCP), Network Address Translation (NAT), Access Control lists (ACLs), Virtual Local Area Networks (VLANs), and inter-VLAN routing in both IPv4 and IPv6 networks. This course maps to the current Cisco Certified Networking Associate curriculum version.
CSU

203 CISCO ACADEMY – ENTERPRISE NETWORKING, SECURITY, AND AUTOMATION 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CIS 202 or completion of CCNA2 Version 6 at another Cisco Networking Academy, or explicit instructor permission
2 hours lecture, 3 hours laboratory
This is the third of four courses designed to provide knowledge, experience and skills in current and emerging networking technology. This course is also designed to help students prepare for the professional certification as a Cisco Certified Network Associate (CCNA). Scaling Networks describes the architecture, components, and operations of routers and switches in larger and more complex networks. Students learn how to configure routers and switches for advanced functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with Open Shortest Path First (OSPF) protocol, Enhanced Interior Gateway Routing Protocol (EIGRP), First Hop Redundancy Protocols (HSRP), EtherChannel, and Spanning-Tree Protocol (STP) in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to implement a WLAN in a small-to-medium network. This course maps to the current Cisco Certified Networking Associate curriculum version.
CSU

204 CISCO CCNA SECURITY 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CIS 203 or completion of CCNA3 Version 6 at another Cisco Networking Academy, or explicit instructor permission
2 hours lecture, 3 hours laboratory
This is the fourth of four courses designed to provide knowledge, experience and skills in current and emerging networking technology. This course is also designed to help students prepare for the professional certification as a Cisco Certified Network Associate (CCNA) using the current Cisco Academy curriculum. Connected Networks discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement virtual private network (VPN) operations in a complex network.
CSU

205 IMPLEMENTING CISCO IP ROUTING (ROUTE) 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 204 or equivalent or successful completion of the current version of CCNA1, 2, 3 and 4 at another Cisco Networking Academy or possess a current CCNA.

2 hours lecture, 3 hours laboratory

This course 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 and IPv6 routing protocols. Topics include: EIGRP (Enhanced Interior Gateway Routing Protocol); Multi-area OSPF (Open Shortest Path First) routing protocols; mechanisms for controlling routing updates and traffic; BGP (Border Gateway Protocol); and secure routing solutions. This lab-intensive course provides hands-on experience building and configuring complex networks using Cisco routers and switches.

CSU

206 CISCO NETWORKING ACADEMY VI 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 205 or equivalent

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.

CSU

207 CISCO NETWORKING ACADEMY VII 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 204 or equivalent or successful completion of the current version of CCNA1, 2, 3 and 4 at another Cisco Networking Academy or possess a current CCNA certification

2 hours lecture, 3 hours laboratory

Cisco Networking Academy VII–Switch is the fifth level of Cisco Networking Academy routing and switching courses and one of three 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. Campus Network Technologies include: Multilayer Switching, VLANs, VTP (VLAN Trunking Protocol), STP (Spanning Tree Protocol), Switch security techniques (Private VLANs, AAA, VACLs, IEEE 802.1X, and various IOS-based security methods), SPAN (Switched Port Analyzer), PAgP and LACP (EtherChannel, Link Aggregation Control Protocol), Inter-VLAN Routing, HSRP (Hot Standby Router Protocol), VRRP (Virtual Redundant Router Protocol), GLBP (Gateway Load Balancing Protocol), SNMP (Simple Network Management Protocol) and NTP (Network Time Protocol). This lab-intensive course provides hands-on learning and practice to reinforce configuration skills using Cisco networking devices.

CSU

208 CISCO NETWORKING ACADEMY VIII 3 UNITS

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

2 hours lecture, 3 hours laboratory

Cisco Networking Academy VIII–TSHOOT is the seventh level of Cisco Networking Academy courses and one of three 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.

CSU

209 CISCO CYBEROPS 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 202 or equivalent or successful completion of the current version of CCNA1, and 2 at another Cisco Networking Academy or possess a current CCNA or CCENT certification

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, switches, ASAs 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-based network security, administrative access security and Intrusion Prevention System (IPS); Cisco ASA Firewalls; AAA; and VPNs. Preparation for the Implementing Cisco Network Security (IINS) certification exam (210-260 IINS), leading to the CCNA CyberOps certification.

CSU

210 CISCO NETWORKING ACADEMY–VOICE 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in CIS 204 or equivalent or Cisco Networking Academy CCNA1, 2, 3, and 4 version 4 or version 5; or possess current CCNA certification

3 hours lecture, 3 hours laboratory

The Cisco Networking Academy–Voice course covers the topics aligned to the Introducing Cisco Voice and Unified Communications Administration (ICOMM v8.0) 640-461 professional certification exam. This course introduces students to the architecture, components, functionalities, and features related to Cisco Unified Communications. This is a lab-intensive course providing students with the hands-on experience necessary to perform tasks related to system monitoring, moves, additions and changes on Cisco Unified Communications Manager, Cisco Unified Communications Manager Express, Cisco Unity Connection, and Cisco Unified Presence.

CSU

211 WEB DEVELOPMENT I 3 UNITS

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

2 hours lecture, 3 hours laboratory

This course is a hands-on overview of current web development. Emphasis will be placed on coding and debugging valid HTML and Cascading Style Sheets (CSS), but the course will also include design principles and introductory graphics to encourage attractive, usable design. Mobile development will be introduced. Student will use industry standard development environments to create websites.

CSU

213 WEB DEVELOPMENT II 3 UNITS

Recommended Preparation: "C" grade or higher or "Pass" in CIS 211 or equivalent

2 hours lecture, 3 hours laboratory

This course builds on the skills introduced in Web Development I (CIS 211) with hands-on projects that reinforce and further develop HTML5 and CSS3 expertise. Mobile development is addressed in detail. Also covered are content management systems, Search Engine Optimization (SEO), usability, and use of hosted and local servers.

CSU

215 JAVASCRIPT WEB PROGRAMMING 3 UNITS

Recommended Preparation: "C" grade or higher or "Pass" in CIS 211 or equivalent or one year verifiable HTML and CSS coding experience

2 hours lecture, 3 hours laboratory

JavaScript, the most popular web development language, works with HTML and CSS to add interactivity, special effects, and functionality to web pages. This introduction to JavaScript focuses on using JavaScript to develop practical front-end web components such as menus, slide shows, accordions, tabs, form validators, and date pickers. The foundation is set with JavaScript coding and syntax basics and quickly moves on to manipulating web page elements. Students then learn to work with JQuery and jQuery UI, free JavaScript libraries commonly used by web developers to simplify JavaScript programming. The course includes practical examples and hands-on assignments.

CSU

219 PHP/MYSQL DYNAMIC WEB-BASED APPLICATIONS 3 UNITS

Recommended Preparation: Prior experience with HTML/CSS coding, programming, and database development. These skills can be acquired by completing CIS 211, CIS 140, and any Computer Science course.

2 hours lecture, 3 hours laboratory

PHP, a popular server-side web development language, is used to develop web applications that collect data from HTML forms and store them in databases like MySQL. Examples include online stores and content driven sites like WordPress and Wikipedia. This introduction to PHP and MySQL provides the knowledge and skills necessary to develop dynamic web-based applications that allow users to create, read, update, and delete database data via web browser forms. Students will build practical web applications such as shopping carts, address books, and more.

CSU

225 WEB DEVELOPMENT CAPSTONE 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CIS 211 or equivalent and completion of 15+ units with a "C" grade or higher or "Pass" from the following: CIS 140, 211, 213, 215, 219; GD 105, 126, 217
2 hours lecture, 3 hours laboratory
In this course, participants build professional quality websites, gaining the experience and work examples necessary to find employment in the field. The practical, hands-on work of the class will require participants to reinforce and synthesize learning from the Web Development degree core and explore topics too new or advanced for prior courses. Participants will be guided through project analysis, design, development, implementation and evaluation.
CSU

261 NSSA DEGREE CAPSTONE 2 UNITS
Prerequisite: Completion of 30+ units with a "C" grade or higher or "Pass" from the following courses: CIS 120, 121, 125, 140, 190, 191, 201, 202, 203, 204, 209, 210, 262, 263, 290, 291, 293, 294, 295, CS 119, 119L or equivalent
1 hour lecture, 3 hours laboratory
This Networking, Security and System Administration (NSSA) course allows students to verify skills and knowledge obtained in previous computer, networking, security, and telecommunications classes. Students will design, build, test, operate and maintain end-to-end converging and unified information and communication networks during the capstone's "hands-on" lab.
CSU

262 WIRELESS NETWORKING 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CIS 120, CIS 121, and CIS 125 or successful completion of CIS 201 or equivalent or possess current CCNA or CCNET certification or two years verifiable network administration experience
Recommended Preparation: "C" grade or higher or "Pass" in CIS 190, 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
C-ID ITIS 160
Recommended Preparation: "C" grade or higher or "Pass" in CIS 125 or 201 or equivalent, and "C" grade or higher or "Pass" in 190 or 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

264 ETHICAL CYBERSECURITY HACKING 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CIS 263 or CIS 209
2 hours lecture, 3 hours laboratory
This course immerses IT Professionals in hands-on intensive environments, providing in-depth knowledge and experience with current essential security systems. Provides understanding of perimeter defenses and leads to scanning and attacking networks; no real networks are harmed. Students learn how intruders escalate privileges and the steps to be taken to secure a system. Also covers Intrusion Detection, Policy Creation, Social Engineering, DDoS Attacks, Buffer Overflows, and Virtual Creation. Focus includes legal and regulatory requirements, ethical issues, basic methodology and technical tools used for ethical hacking and penetration tests. Students establish a pre-test agreement with the enterprise, discover and exploit vulnerabilities, participate as a member of a pen test team and prepare a penetration test report.
CSU

265 COMPUTER FORENSICS FUNDAMENTALS 3 UNITS
Prerequisite: Completion of CIS 264 with grades of "C" or better
2 hours lecture, 3 hours laboratory
This course introduces the methods used to properly conduct a computer forensics investigation. Topics include ethics, computer forensics as a profession, the computer investigation process, operating systems boot processes and disk structures, data acquisition and analysis, technical writing, and a review of familiar computer forensics tools. The course prepares students for Computer Hacking Forensic Investigation certification (CHFI ECO 312-46).
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
75 hours paid or 60 hours non-paid work experience per unit
Work experience at a designated industry site in an information and communication technology (ICT) occupation category for students seeking job experience in the ICT industry. ***Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned. May be taken for a maximum of 12 units.***
CSU

270 PALO ALTO NETWORK SECURITY I 3 UNITS
Recommended Preparation: CCNA 1-4, CCNA Security, Security +
2 hours lecture, 3 hours laboratory
The Palo Alto Academy course feature hands-on lab training using Palo Alto Networks® next-generation firewalls. This course maps to certification exams that validate proficiency in managing Palo Alto Networks next-generation firewalls. Students learn the fundamentals of cybersecurity and identify the concepts required to recognize as well as mitigate attacks against enterprise networks and mission-critical infrastructure; general concepts involved in maintaining a secure network computing environment; students evaluate cybersecurity principles and demonstrate how to secure a network computing environment through the application of security controls. Students will learn the nature and scope of today's cybersecurity challenges, strategies for network defense and detailed information about next-generation cybersecurity, students will also deploy a variety of security methodologies as well as technologies and concepts used for implementing secure network environments. Students will gain a general understanding of how to install, configure and manage firewalls for the defense of enterprise network architecture. Students will also learn the theory and steps for setting up the security, networking, threat prevention, logging and reporting features of next-generation firewalls. This course is aligned with the U.S. National Initiative for Cybersecurity Education (NICE) framework.
CSU

271 PALO ALTO NETWORKS – CERTIFIED NETWORK SECURITY ADMINISTRATOR (PCNSA) 3 UNITS
Recommended Preparation: CIS 270
2 hours lecture, 3 hours laboratory
Cybersecurity has become an essential survival skill for the modern world. The ability to secure information networks is increasing in demand every day. The Palo Alto Networks firewalls have become the industry standard for front-line Cybersecurity appliances. This course is designed to teach students to configure and manage next-generation firewalls. This is the second course in a series of three that trains students to become Network Security professionals. Students will learn to build and deploy Global Protect systems, manage and maintain high availability firewall protection, and monitor network traffic. Upon completion, students will be prepared to take the PCNSA exam for certification.
CSU

272 – PALO ALTO NETWORKS FIREWALL CONFIGURATION, MANAGEMENT, AND THREAT PREVENTION 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CIS 270 and CIS 271 or equivalent
2 hours lecture, 3 hours laboratory
Palo Alto Networks firewalls are leaders in Cybersecurity. This is the third course designed to teach students how to plan for security, design and implement Palo Alto firewalls for optimum protection. Students will learn to build and deploy high availability firewalls for the defense of Enterprise network architecture. Students will also learn features necessary for setting up traffic handling, advanced content and user identification, quality of service, GlobalProtect, monitoring and reporting, and high availability of next-generation firewalls. This course prepares students to take the Palo Alto Certified Network Security Engineer (PCNSE) exam.
CSU

290 WINDOWS SERVER– INSTALLING AND CONFIGURING 2 UNITS
Prerequisite: "C" grade or higher or "Pass" in CIS 190 or equivalent or current Microsoft Certified Technology Specialist (MCTS) 70-680 certification
1 hour lecture, 3 hours laboratory
Comprehensive hands-on system administration course focusing on the installation, initial implementation, and configuration of Windows server software core services, including: Active Directory (AD) Domain Services, local storage, file and print services, group policy and server virtualization technologies.
CSU

291 LINUX SYSTEM ADMINISTRATION **3 UNITS**
Prerequisite: "C" grade or higher or "Pass" in CIS 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. Course maps to the Linux Professional Institute (LPI) Certification Level 2 exam.
CSU

293 WINDOWS SERVER–ADMINISTERING **2 UNITS**
Prerequisite: "C" grade or higher or "Pass" in CIS 190 or equivalent or current Microsoft Certified Technology Specialist (MCTS) 70-680 certification
1 hour lecture, 3 hours laboratory
Comprehensive hands-on system administration course focusing on the administration tasks essential to administering a Windows server infrastructure, including: user and group management, network access, and data security.
CSU

294 WINDOWS SERVER–ADVANCED CONFI GURATION **2 UNITS**
Prerequisite: "C" grade or higher or "Pass" in CIS 190 or equivalent or current Microsoft Certified Technology Specialist (MCTS) 70-680 certification
1 hour lecture, 3 hours laboratory
Comprehensive hands-on system administration course focusing on advanced Windows server configuration tasks, including: fault tolerance, certificate services, and identity federation.
CSU

295 VMWARE CERTIFIED PROFESSIONAL **3 UNITS**
Prerequisite: "C" grade or higher or "Pass" in CIS 290 or 291 or equivalent or two years verifiable server administration experience
2 hours lecture, 3 hours laboratory
Comprehensive hands-on instruction on enterprise level data center virtualization. Topics include: concepts of Data Center Virtualization; common IT virtualization challenges faced by organizations; and installation, configuration, and management of VMware vSphere (which consists of VMware ESXi and VMware vCenter Server). Course maps to the current VMware Certified Professional exam.
CSU

COMPUTER SCIENCE (CS)

119 PROGRAM DESIGN AND DEVELOPMENT **3 UNITS**
C-ID COMP 112 (with CS 119L)
Corequisite: CS 119L
Recommended Preparation: "C" grade or higher or "Pass" in CIS 110 or equivalent
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.
CSU, UC

119L PROGRAM DESIGN AND DEVELOPMENT LAB **1 UNIT**
C-ID COMP 112 (with CS 119)
Corequisite: CS 119
Recommended Preparation: "C" grade or higher or "Pass" in CIS 110 or equivalent
3 hours laboratory
Laboratory tutorials, drills and programming problems designed to help students master the concepts and programming projects presented/assigned in CS 119.
CSU, UC

165 ASSEMBLY LANGUAGE AND MACHINE ARCHITECTURE **4 UNITS**
C-ID COMP 142
Prerequisite: "C" grade or higher or "Pass" in CS 181, CS 182 or equivalent, or experience programming in C/C++ or Java
3 hours lecture, 3 hours laboratory
This introductory course covers organization and behavior of real computer systems at the assembly-language level. Topics covered include number theory, registers, memory, CPU, linkers, debuggers, basic language syntax and high-level language/operating system interface. This course is intended for persons with a prior background in any other programming language and will emphasize those applications not easily performed using higher-level languages.
CSU, UC

175 MECHATRONICS: INTRODUCTION TO MICROCONTROLLERS AND ROBOTICS **3 UNITS**
2 hours 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. This course introduces the use of microcontrollers to operate motors, lights, and other electromechanical devices in response to inputs from sensors. Application of these ideas through the development of an autonomous robot. *Also listed as ENGR 175. Not open to students with credit in ENGR 175.*
CSU, UC

176 MECHATRONICS: PROTOTYPE DESIGN **3 UNITS**
Prerequisite: "C" grade or higher or "Pass" in CS 175 or ENGR 175 or equivalent
2 hours lecture, 3 hours laboratory
This course focuses on electromechanical product development. Control of single chip microcontrollers including memory-mapped I/O (Input/Output), direct access to registers, and fine control of timing. Development of custom circuits including manufacture of printed circuits. Control of DC and AC motors and stepper motors. Development of mechanisms and transmissions. Introduction to manufacturing techniques. This course includes a capstone design project. *Also listed as ENGR 176. Not open to students with credit in ENGR 176.*
CSU, UC

181 INTRODUCTION TO C++ PROGRAMMING **4 UNITS**
C-ID COMP 122
Recommended Preparation: "C" grade or higher or "Pass" in CS 119 or equivalent, and intermediate algebra
3 hours lecture, 3 hours laboratory
Introduction to computer programming using a C family language. Students with no previous programming experience in C++ will learn computer organization and operation, binary representation of information, 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.
CSU, UC

182 INTRODUCTION TO JAVA PROGRAMMING **4 UNITS**
C-ID COMP 122
Prerequisite: "C" grade or higher or "Pass" in MATH 110 or equivalent
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

240 DISCRETE STRUCTURES **3 UNITS**
C-ID COMP 152
Prerequisite: "C" grade or higher or "Pass" in CS 181, CS 182 or equivalent, or experience programming in C/C++ or Java
3 hours lecture
This course is an introduction to the discrete structures used in Computer Science with an emphasis on their applications. Topics covered include: Functions, Relations and Sets; Basic Logic; Proof Techniques; Basics of Counting; Graphs and Trees; and Discrete Probability.
CSU, CSU GE, UC

281 INTERMEDIATE C++ PROGRAMMING AND FUNDAMENTAL DATA STRUCTURES **4 UNITS**
C-ID COMP 132
Prerequisite: "C" grade or higher or "Pass" in CS 181 or equivalent
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**
C-ID COMP 132
Prerequisite: "C" grade or higher or "Pass" in CS 182 or equivalent
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 gain experience by working on larger programs and managing large, multi-programmer projects. Laboratory instrtuction includes program development and execution. Mobile and database applications will be introduced.
CSU, UC

COUNSELING (COUN)

095 ACADEMIC AND FINANCIAL AID PLANNING .5 UNIT
.5 hour lecture
This course will familiarize students with: (a) financial aid resources available to them to meet educational expenses; (b) Cuyamaca College's Financial Aid Satisfactory Academic Progress Policy; (c) federal/state regulations for determining and maintaining eligibility for financial aid eligibility; (d) the student's rights and responsibilities in receiving aid. **Pass/No Pass only. Non-degree applicable.**

101 INTRODUCTION TO COLLEGE .5-1 UNIT
.5-1 hour lecture
An introductory course designed to assist students with a successful transition to college. An overview of student responsibilities, college expectations, college and career success strategies will be discussed. Students will learn about the college; its facilities, services, academic regulations, general education requirements, and certificate, degree and transfer options. Students will receive preliminary guidance in education planning. **Pass/No Pass only. Non-degree applicable.**

110 CAREER DECISION MAKING 1 UNIT
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.
CSU

120* COLLEGE AND CAREER SUCCESS 3 UNITS
3 hours lecture
This course teaches success strategies to enhance academic and lifelong learning. The course also discusses the importance of looking at the human being as an integrated physiological, social and psychological organism. Students will explore personality types and examine their own interests and values as a way to increase self-understanding and select an appropriate major and career. Students will identify their learning style and apply psychological principles of learning, memory, motivation and stress management to academic study strategies. Students will also apply life management techniques, such as time and money management, to accomplish personal goals. Students will examine the adult stages of development and develop a plan for wellness and living a long and healthy life. Additionally, students will be given the opportunity to practice creative and critical thinking techniques.
CSU, CSU GE, UC

130 STUDY SKILLS AND TIME MANAGEMENT 1 UNIT
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.
CSU

140 SELF AWARENESS AND INTERPERSONAL RELATIONSHIPS 3 UNITS
3 hours lecture
This course analyzes the cognitive, behavioral, humanistic, and existential theories as they relate to the awareness of the self and the dynamics of healthy relationships. Using many of the skills suggested by the above theories, students will define and utilize personal achievement techniques, basic principles of healthy functioning, and effective coping strategies that facilitate the process of intra and interpersonal change and relationships. 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.
CSU, CSU GE

150* TRANSFER SUCCESS 1 UNIT
1 hour lecture
This course provides the information needed for a student to transfer to a baccalaureate institution, including strategies to achieve academic success and research skills essential to developing a comprehensive educational plan. Topics include the community college transfer process, selection of major, student support services, comparing and contrasting a variety of universities, and clarification of one's educational goal.
CSU, UC

*120 and 150 combined; maximum UC credit, one course

ECONOMICS (ECON)

110 ECONOMIC ISSUES AND POLICIES 3 UNITS
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 or 121.*
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

120 PRINCIPLES OF MACROECONOMICS 3 UNITS
C-ID ECON 202
Prerequisite: Appropriate mathematics placement
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
C-ID ECON 201
Prerequisite: Appropriate mathematics placement
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

EDUCATION (ED)

151 EFFECTIVE TUTORING STRATEGIES 1 UNIT
1 hour lecture
This course is designed to prepare students for tutoring college students. Provides an overview of effective learner-centered, process oriented, tutoring strategies and practices. Topics include basic study skills, the tutoring cycle, learning styles, learning disabilities, behaviors and stresses that affect learning, communication skills, and diversity/cultural awareness. Students interested in working in the Tutoring Center must have a grade of "B" or higher in subject matter to qualify. **Pass/No Pass only. Non-degree applicable.**

200 TEACHING AS A PROFESSION 3 UNITS
C-ID EDUC 200
3 hours lecture
This course introduces students to the concepts and issues related to teaching diverse learners in today's contemporary schools, kindergarten through grade 12 (K-12). Career exploration, historical and philosophical foundations of education, critical issues, California's content standards and frameworks, teaching performance standards, and conditions for effective learning are discussed. A minimum of 45 hours of structured fieldwork in public school elementary classrooms that represent California's diverse student population, and includes cooperation with at least one carefully selected and campus-approved certificated classroom teacher is required. *Limitation on enrollment: must meet health and safety requirements for public school field experience placement.*
CSU, UC

ELECTRONICS TECHNOLOGY (ET)

110 INTRODUCTION TO ELECTRICITY AND ELECTRONICS 4 UNITS
3 hours lecture, 3 hours laboratory
This course includes 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, waveforms, electrical test equipment, circuit construction, and electrical safety. Knowledge of basic algebra and how to use scientific calculators is highly desirable.
AA/AS GE, CSU, CSU GE

ENGINEERING (ENGR)

***UC credit limit: all CADD courses, ENGR 119, ENGR 129, OH 200, OH 201 combined: maximum credit, one course**

100 INTRODUCTION TO ENGINEERING AND DESIGN 4 UNITS

C-ID ENGR 110

3 hours lecture, 3 hours laboratory

Introduction to engineering as a way of perceiving the world. Overview of design and analytical techniques, problem solving and strategic thinking, disciplines, and ethics. Fundamentals of engineering graphics as a universal language and application to the visualization, representation, and documentation of designed artifacts, including orthographic projections, pictorial, section, and detail views; creation of basic to intermediate solid parts and assemblies; dimensioning and tolerancing practices; thread notation per ASME Y14.5M-1994. This course covers the principles of engineering drawings in visually communicating engineering designs, and an introduction to solid modeling and computer-aided design (CAD). Assignments develop technical sketching and 2D and 3D CAD skills. The use of solid modeling CAD software (SolidWorks and Creo Parametric) is an integral part of the course, as is the production of physical prototypes using 3D printing and other techniques. This course 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

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 credit limit*

120 ENGINEERING COMPUTER APPLICATIONS 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in MATH 180 or equivalent or concurrent enrollment

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 DESIGN 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CADD 115 or ENGR 100 or equivalent

Recommended preparation: Working knowledge of basic computer operations and file administration

2 hours lecture, 4 hours laboratory

This is advanced graphic communication course using solid modeling techniques. This course covers feature based solid part construction including extrudes, cuts and revolves; advanced surface shaping using lofts and sweeps. This also covers assembly construction and constraining in an engineering design environment. Students learn how to produce technical/engineering drawing including proper layout of component drawing views, sectioning and detailing. Threads and fasteners are also included in this course. Dimensioning and tolerancing will be taught in accordance with ANSI standard. Introduction to 3D printing technology (aka Additive Manufacturing) is part of this course. SolidWorks software is used throughout the course. *Also listed as CADD 125. Not open to students with credit in CADD 125.*

CSU, UC credit limit

129 ENGINEERING SOLID MODELING 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CADD 115 or ENGR 100 or equivalent

2 hours lecture, 4 hours laboratory

Advanced 3D computer-aided mechanical design and drafting. This parametric modeling course provides skills and knowledge of appropriate software (Creo Parametric) and feature based part construction using extrudes, cuts, revolves, lofts and sweeps. Students will enhance their skills in model assembly and assembly drawings including proper organization and layout of component drawing views, dimensioning and tolerancing, sectioning and detailing. 3D printing technology (additive manufacturing) is integrated to this course. *Also listed as CADD 129. Not open to students with credit in CADD 129.*

*CSU, *UC credit limit*

175 MECHATRONICS: INTRODUCTION TO MICROCONTROLLERS AND ROBOTICS 3 UNITS

2 hours 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. This course introduces the use of microcontrollers to operate motors, lights, and other electromechanical devices in response to inputs from sensors. Application of these ideas through the development of an autonomous robot. *Also listed as CS 175. Not open to students with credit in CS 175.*

CSU, UC

176 MECHATRONICS: PROTOTYPE DESIGN 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CS 175 or ENGR 175 or equivalent

2 hours lecture, 3 hours laboratory

This course focuses on electromechanical product development. Control of single chip microcontrollers including memory-mapped I/O (Input/Output), direct access to registers, and fine control of timing. Development of custom circuits including manufacture of printed circuits. Control of DC and AC motors and stepper motors. Development of mechanisms and transmissions. Introduction to manufacturing techniques. This course includes a capstone design project. *Also listed as CS 176. Not open to students with credit in CS 176.*

CSU

182 WORK EXPERIENCE IN ENGINEERING TECHNOLOGY 1-3 UNITS

Prerequisite: Completion of a minimum of 10 units in an engineering technology program (e.g., CADD Technology, Mechatronics) and recommendation from engineering or CADD instructor. Must meet state guidelines for work experience.

75 hours paid or 60 hours non-paid work experience per unit

Students who are employed in the engineering technology industry 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. *Preregistration counseling with the instructor is required. Occupational cooperative work experience may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned.*

CSU

199 SPECIAL STUDIES OR PROJECTS IN ENGINEERING 1-3 UNITS

48-54 hours (1 unit), 96-108 hours (2 units), 144-162 hours (3 units)

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 repeated with different content for a maximum of 9 units.***

(see catalog page 40, 199 Courses-Special Studies)

200 ENGINEERING MECHANICS–STATICS 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in PHYC 190 or equivalent

Corequisite: MATH 280 or previous enrollment

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 4 UNITS

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

3 hours lecture, 3 hours laboratory

Fundamentals of electrical circuits for engineers. Includes both DC and AC analysis. Concepts include Kirchhoff's laws, nodal and mesh analysis, linearity and superposition, Thevenin's theorem, ideal and real operational amplifiers, step response of first and second order RLC circuits, complex impedance, steady-state sinusoidal AC circuits, and AC power. Laboratory work supports the theory and introduces basic lab practices and tools (e.g., oscilloscopes and signal generators).

CSU, UC

218 PLANE SURVEYING 4 UNITS

Prerequisite: "C" grade or higher or "Pass" in MATH 170 or MATH 176, or equivalent or concurrent enrollment

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. Not open to students with credit in SURV 218.*

CSU, UC

220 ENGINEERING MECHANICS–DYNAMICS 3 UNITS

C-ID ENGR 230

Prerequisite: "C" grade or higher or "Pass" in ENGR 200 or equivalent

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

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
3 hours lecture, 3 hours laboratory
Modeling, analysis, simulation, design and construction of combinational and sequential digital logic systems and networks.
CSU, UC

ENGLISH (ENGL)

020 SUPPORT FOR FRESHMAN COMPOSITION 1 UNIT
Prerequisite: Appropriate Placement
Corequisite: Concurrent enrollment in English 120
1 hour lecture
This course is designed to review and reinforce the skills necessary to be successful in English 120 (freshman composition). Students will study the elements and principles of composition through the practice of editing and revising narrative, expository, and argumentative essays. Students will also be introduced to effective reading skills and strategies necessary for the reading of college level material. **Pass/No Pass only. Non-degree applicable.**

099 ACCELERATED PREPARATION FOR COLLEGE READING, R EASONING, AND WRITING 5 UNITS
5 hours lecture
The course is designed to prepare students for college-level academic reading, reasoning, and writing expected in transfer and associate-degree courses. Students will engage in the essential practice of academic inquiry and practice the writing process with an emphasis on effective expression of ideas. Readings will be studied for form and content in order to enhance critical thinking skills. In a highly supported learning environment, students will develop critical reading, reasoning, and writing strategies and skills to help them engage in research and write academic essays by using and acknowledging multiple sources. **Non-degree applicable.**

120 COLLEGE COMPOSITION AND READING 3 UNITS
C-ID ENGL 100
Prerequisite: "C" grade or higher or "Pass" in ENGL 099 or ESL 2B or equivalent or assessment
3 hours lecture, 1 hour laboratory
Freshman composition course. Students study the elements and principles of composition through the practice of writing expository essays and a research paper. Emphasizing the reading and writing processes, revision is stressed as a means of achieving effective skills in reading and writing college-level texts. Analysis of assigned readings stimulate critical thinking and serve as models of effective writing. Emphasis is on using outside sources as evidence in students' argumentative essays and documenting source material in MLA format. The course allows students to develop metacognitive awareness of the role writing plays in their lives.
AA/AS GE, CSU, CSU GE, IGETC, UC

122 INTRODUCTION TO LITERATURE 3 UNITS
C-ID ENGL 120
Prerequisite: "C" grade or higher or "Pass" in ENGL 120 or equivalent
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
C-ID ENGL 105
Prerequisite: "C" grade or higher or "Pass" in ENGL 120 or ESL 122 or equivalent
3 hours lecture, 1 hour laboratory
This course offers advanced instruction in critical reading, writing, and thinking, with particular emphasis on argumentation and analysis of complex and diverse texts.
AA/AS GE, CSU, CSU GE, IGETC, UC

126 CREATIVE WRITING 3 UNITS
C-ID ENGL 200
Prerequisite: Placement into ENGL 120 or equivalent
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.
AA/AS GE, CSU, UC

200 COOPERATIVE WORK EXPERIENCE IN ENGLISH 1-4 UNITS
75 hours paid or 60 hours non-paid work experience per unit
Practical application of principles and procedures learned in the classroom to the various phases of writing-related career experiences. Work experience will be paid or unpaid at local businesses, organizations, or educational institutions that are relevant to career options for English majors. Placement assistance will be provided and done in collaboration between the faculty member and student. Two on-campus sessions will be scheduled. *Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned. May be taken for a maximum of 12 units.*

201 IMAGES OF WOMEN IN LITERATURE 3 UNITS
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
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/21st 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

214 MASTERPIECES OF DRAMA 3 UNITS
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
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
C-ID ENGL 160
Prerequisite: "C" grade or higher or "Pass" in ENGL 120 or equivalent
Recommended Preparation: "C" grade or higher or "Pass" in ENGL 122 or equivalent
3 hours lecture
Survey of British literature from the Anglo Saxon period to the Romantic period. Students will read and interpret literature from historical, social and philosophical perspectives and according to various schools of critical theory. A typical syllabus might 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
C-ID ENGL 165
Prerequisite: "C" grade or higher or "Pass" in ENGL 120 or equivalent
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 from historical, social, and philosophical perspectives and according to various schools of critical theory. A typical

syllabus might include William Blake, Mary Wollstonecraft, William Wordsworth, Samuel Coleridge, Lord Byron, Percy Shelley, John Keats, Elizabeth Browning, Alfred Tennyson, Robert Browning, Emily Bronte, Matthew Arnold, Christina Rossetti, Oscar Wilde, Jane Austen, Thomas Hardy, William Butler Yeats, Virginia Woolf, James Joyce, Doris Lessing, and Derek Walcott.

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

231 AMERICAN LITERATURE I 3 UNITS

C-ID ENGL 130

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

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 Casteñeda, 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

C-ID ENGL 135

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

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

236 CHICANA/O LITERATURE 3 UNITS

Recommended Preparation:Placement into ENGL 120 or equivalent

3 hours lecture

This course is a survey of colonial, post-colonial, and contemporary Chicano/Chicana literature. Literary works originally written in English and the Chicano/a bilingual idiom as well as English translations of works written in Spanish will be taught. Reading selections may consist of poetry, ballads, short stories, novels, plays, and nonfiction prose. Students analyze the literature and apply critical theory to describe critical events in the histories, cultures, and intellectual and literary traditions, with special focus on the lived experiences, social struggles, and contributions of Latino/a Americans in the United States. *Also listed as ETHN 236. Not open to students with credit in ETHN 236.*

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

238 BLACK LITERATURE 3 UNITS

Recommended Preparation: Placement into ENGL 120 or equivalent

3 hours lecture

This course introduces students to a survey of Black literature, focusing on the early oral tradition, literature of slavery and freedom, the Harlem Renaissance, Modernism, the Black Arts Era, and the contemporary period. Reading selections may consist of poetry, short stories, plays, novels, and nonfiction prose, including essays, letters, political tracts, autobiographies, speeches, and sermons. Students analyze the literature and apply critical theory to describe critical events in the histories, cultures, and intellectual and literary traditions, with special focus on the lived experiences, social struggles, and contributions of African Americans in the United States. *Also listed as ETHN 238. Not open to students with credit in ETHN 238.*

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

270 WORLD LITERATURE I 3 UNITS

C-ID ENGL 140

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

3 hours lecture

This class is a survey and comparison of major works from various continents and cultures prior to 1650 A.D. Students examine the literature as a reflection of multiple and diverse experiences across the world. The course may include discussions on the historical, social, philosophical, aesthetic, and cultural aspects of world literature. Reading selections may consist of poetry, short stories, plays, novels, and nonfiction prose, including essays, letters, political tracts, autobiographies, and speeches. 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

C-ID ENGL 145

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

3 hours lecture

Survey and comparison of major works in translation and in English from various continents and cultures from 1650 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

ENGLISH AS A SECOND LANGUAGE (ESL)

1A ACCELERATED READING AND WRITING FOR ENGLISH AS A SECOND LANGUAGE 6 UNITS

Prerequisite: Grade of "Pass" in ESL 050 or equivalent or assessment into ESL 1A

6 hours lecture

This course is designed to bring students up to the grammatical, reading and composition level needed for three to two levels below ENGL 120. The focus is on reading intermediate-level complex texts, analyzing with critical attitude, and writing paragraph-to-essay length papers with proper format and evidence of intermediate to high intermediate level academic depth and rigor of research. Students in this course are generally on an accelerated pathway through the English as a Second Language program. **Non-degree applicable.**

1AG GRAMMAR FOR ESL ACCELERATED READING AND WRITING 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in ESL 050 or equivalent placement, or concurrent enrollment in ESL 1A

3 hours lecture

This course focuses on the study of English grammar for students whose first language is other than English. It is designed as a companion course to the ESL 1A (Accelerated Reading and Writing for English as a Second Language). It develops and adds to skills in grammar and sentence structure such as is utilized in ESL 1A. Software is utilized to reinforce grammar skills introduced in class. **Pass/No Pass only. Non-degree applicable.**

1B ADVANCED ACCELERATED READING AND WRITING FOR ENGLISH AS A SECOND LANGUAGE 6 UNITS

Prerequisite: "C" grade or higher or "Pass" in ESL 1A or equivalent placement into ESL 1B

6 hours lecture

This course follows the sequence begun with ESL 2B and is designed to bring students up to the grammatical, reading and composition level needed for two levels below ENGL 120. The focus is on reading more complex texts, analyzing with more advanced critical attitude, and writing paragraph-to-essay length papers with proper format and evidence of high intermediate to low advanced academic depth and rigor of research. Students in this course are generally on an accelerated pathway through the English as a Second Language program. **Non-degree applicable.**

1BG GRAMMAR FOR ADVANCED ESL READING AND WRITING 3 UNITS

Prerequisite: Grade of "Pass" in ESL 1AG or ESL 1A or equivalent placement, or concurrent enrollment in ESL 1B

3 hours lecture

This course focuses on the study of English grammar for students whose first language is other than English. It is designed as a companion course to ESL 1B (Advanced Accelerated Reading and Writing for English as a Second Language). It develops and adds to skills in grammar and sentence structure such as is utilized in ESL 1B. Software is utilized to reinforce grammar skills introduced in class. **Pass/No Pass only. Non-degree applicable.**

2 ACCELERATED COMPOSITION FOR ENGLISH AS A SECOND LANGUAGE 6 UNITS

6 hours lecture

This course combines the curricula of ESL 2A and 2B into an accelerated program designed to bring students up to the grammatical and composition level needed for ENGL 120 or ESL 122. The focus is on writing the essay in proper format with proper depth of analysis and rigor of research. Critical written responses to academic readings are also emphasized.

2A ACCELERATED COMPOSITION FOR ENGLISH AS A SECOND LANGUAGE 6 UNITS

6 hours lecture

This course is designed to bring students up to the grammatical and composition level needed for one level below ENGL 120, with the possibility of skipping that level and placing directly into ENGL 120 if student progress is advanced enough. The focus is on writing the essay in proper format with proper depth of analysis and rigor of research. Critical written responses to academic readings are also emphasized.

CSU, UC

2AG GRAMMAR FOR ESL ACCELERATED COMPOSITION 3 UNITS
3 hours lecture
This course focuses on the study of English grammar for students whose first language is other than English. It is designed as a companion course to ESL 2A (Accelerated Composition for English as a Second Language). It develops and adds to skills in grammar and sentence structure such as is utilized in ESL 2A. Software is utilized to reinforce grammar skills introduced in class. **Pass/No Pass only. Non-degree applicable.**

2B ADVANCED ACCELERATED COMPOSITION FOR ENGLISH AS A SECOND LANGUAGE 6 UNITS
Prerequisite: "C" grade or higher or "Pass" in ESL 2A or equivalent placement into ESL 2B
6 hours lecture
This course is designed to bring students up to the advanced grammatical and composition level needed for ENGL 120. The focus is on writing the essay in proper format with proper depth of analysis and rigor of research. Critical written responses to academic readings are also emphasized.
CSU, UC

2BG GRAMMAR FOR ESL ADVANCED ACCELERATED COMPOSITION 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in ESL 2A or 2AG or equivalent, or assessment, or concurrent enrollment in ESL 2B
3 hours lecture
This course builds upon the skills taught in ESL 2AG and further focuses on the study of English grammar for students whose first language is other than English. It is designed as a companion course to ESL 2B (Advanced Accelerated Composition for English as a Second Language). It develops and adds to skills in grammar and sentence structure such as is utilized in ESL 2B. Software is utilized to reinforce grammar skills introduced in class. **Pass/No Pass only. Non-degree applicable.**

3 ADVANCED ENGLISH SUPPORT 2 UNITS
Prerequisite: "C" grade or higher or "Pass" in ESL 2B, or "B" grade or higher in ESL 2A
Corequisite: ENGL 120
2 hours lecture
This is a Boost course for English as a Second Language students who manage to enroll in ENGL 120 but need help with basic skills structure and fundamentals. It is meant to be taken only concurrently with ENGL 120. The basic principles and skills of ENGL 120 are reinforced in this course using a laboratory setting. **Pass/No Pass only. Non-degree applicable.**

010 AMERICAN CULTURE I 3 UNITS
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
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.**

021 ENGLISH AS A SECOND LANGUAGE SUPPORT FOR MATH 3 UNITS
3 hours lecture
This is a course in American culture, vocabulary, and English study skills to help ESL students successfully enter a Math pathway. Students taking this course should be concurrently enrolled in an entry-level Math course requiring concurrent enrollment in ESL 021. Students will develop and apply reading, writing, listening and speaking skills to sufficiently navigate the classroom participation requirements of an entry-level Math course at the college. Various aspects of a Math course covered may include problem scenarios, experiments and their write-ups, critical thinking through word problems, and cultural intentions and implications of course readings in those disciplines. **Pass/No Pass only. Non-degree applicable.**

025 ESL WORKPLACE SKILLS LAB 1 UNIT
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 the class schedule. **Pass/No Pass only. Non-degree applicable.**

026 ESL COMPUTER SKILLS INTRODUCTION AND VOCABULARY 2 UNITS
2 hours lecture
This course is designed as an ESL companion for BOT 100. It focuses on the vocabulary and culture of the computer lab and all the integrated skills needed to successfully submit assignments in future classes. ESL 026 will be "hands-off" any actual computers, emphasizing instead all the language elements that are required for success in a computer skills class teaching proper formatting and software use for preparing assignments. The actual practice of the content of this course will occur in BOT 100, a course which the student must be concurrently enrolled in with ESL 026. **Pass/No Pass only. Non-degree applicable.**

050 BASIC ACCELERATED READING AND WRITING FOR ENGLISH AS A SECOND LANGUAGE 6 UNITS
Prerequisite: Assessment into ESL 050
6 hours lecture
This is the literacy course in the first level of the ESL accelerated course sequence. Students learn to read and write Basic English. They also learn basic word, phrase, and sentence grammar in a Just-In-Time remediation setting. In addition to reading, writing, and grammar, students learn classroom rules and communication necessary in academic settings. The course is designed to expose the students to all the skills necessary to enter a placement of four semesters below transfer level (ESL 1A), with the possibility of advancing in as little as two further semesters given the acceleration pathway. **Pass/No Pass only. Non-degree applicable.**

050G BASIC GRAMMAR FOR ESL ACCELERATED READING AND WRITING 3 UNITS
3 hours lecture
This course focuses on the study of English grammar for students whose first language is other than English. It is designed as a companion course to ESL 050 (Basic Accelerated Reading and Writing for English as a Second Language). It develops and adds to skills in grammar and sentence structure such as is utilized in ESL 050. Software may be utilized to reinforce grammar skills introduced in class. **Pass/No Pass only. Non-degree applicable.**

090 AMERICAN ENGLISH PRONUNCIATION I 3 UNITS
3 hours lecture
Beginning course designed 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.**

099A ESL FOR THE WORKPLACE I 3 UNITS
Prerequisite: Placement based on assessment
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 for beginning to intermediate ESL 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
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 050 and ESL 1A 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.**

109 AMERICAN ENGLISH PRONUNCIATION II 3 UNITS
Recommended Preparation: Grade of "Pass" in ESL 090 or equivalent or assessment
3 hours lecture
Intermediate level 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. 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.**

122 COLLEGE RHETORIC 6 UNITS
Prerequisite: "C" grade or higher or "Pass" in ESL 2, 2A or 2B, or advisory placement in ESL 122 or equivalent
6 hours lecture
ESL 122 is the transfer-level English course designed for advanced, non-native speakers to develop college-level critical reading, writing, and thinking skills and to enhance fluid listening and speaking through academic inquiry across the disciplines. Students analyze and evaluate a variety of texts in response to particular audiences and purposes. They study composition and rhetoric to craft accurate and fluent expository, analytical, and argumentative academic papers and oral presentations, including an extended argument, which synthesizes, integrates, and acknowledges multiple sources. Students expand their cultural competence through discussion and analysis of diverse media addressing contemporary issues and engage in meaningful dialogue with the instructor, peers, and target audience.
AA/AS GE, CSU

ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT (EHSM)

100 INTRODUCTION TO ENVIRONMENTAL AND OCCUPATIONAL SAFETY AND HEALTH (OSH) TECHNOLOGY 4 UNITS
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. Topics include the history of pollution and workplace hazards leading to current legislation, and current best practices of handling hazardous substances to minimize the harmful impact on society and the environment.
CSU

110 POLLUTION PREVENTION 3 UNITS
3 hours lecture
Study of various raw materials and chemicals used in industry and the changes that occur as they move through the industrial process. Topics include: applicable regulations; the material balance concept of inventory; the importance of waste minimization/pollution prevention; pollution 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
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
3 hours lecture
Overview of the elements which are incorporated in a comprehensive general industrial safety program. Emphasizes methods used to reduce accidents/injuries through the 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 the essentials of Personal Protective Equipment (PPE).
CSU

145 CONSTRUCTION SAFETY STANDARDS 3 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in EHSM 100 or equivalent
3 hours lecture
Introduction to 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
4 hours lecture
Overview of hazardous waste regulations with an emphasis on generator compliance, site investigation, remediation, permitting, enforcement, and liability. Explains the hazardous waste regulatory framework and the types of environmental resources available; develops research skills in the hazardous waste area; and provides hands-on application of the regulations at the technician level. Topics include 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.
CSU

200 HAZARDOUS MATERIALS MANAGEMENT (HMM) APPLICATIONS 4 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in EHSM 100 or equivalent or concurrent enrollment
4 hours lecture
Requirements and applications of federal, state and local hazardous materials laws and regulations. Emphasizes program compliance with OSHA (Occupational Health and Safety Administration) Hazard Communication Plan, EPA (Environmental Protection Agency) 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 development: written plan, obtaining/interpreting MSDS (Material Safety Data Sheets), 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 (Department of Environmental Health/ Hazardous Materials Division) Hazardous Material Business Plan, OSHA Hazardous Communication Plan, components of CalARP (California Accidental Release Prevention) and RMP (Risk Management Plan), and planning and reporting functions.
CSU

201 INTRODUCTION TO INDUSTRIAL HYGIENE AND OCCUPATIONAL HEALTH 4 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in EHSM 100 or equivalent or concurrent enrollment
3 hours lecture, 3 hours laboratory
Anticipation, recognition, revaluation and control of biological, chemical and physical hazards in the workplace. Introduction to the development of industrial hygiene and 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. 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
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
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
3 hours lecture
Overview of air quality regulations with an emphasis on federal, state and local requirements. Integrated study of the principles of air permits and permit compliance including source testing, emission reduction, inspections, monitoring, stationary and mobile sources, air toxics, new equipment shakedown, and overall global air quality issues.
CSU

230 HAZWOPER CERTIFICATION 3 UNITS
3 hours lecture
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 (Personal Protective Equipment); 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 (Powered Air Purifying Respirator) and SCBA (Self Contained Breathing Apparatus); and an overview of the ICS (Incident Command System). Satisfies requirements for generalized employee training under OSHA (Occupational Health and Safety Administration) [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

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 Health and Safety Management (EHSM). Work experience will be paid or volunteer positions at local industries or governmental agencies that regulate environmental industries. Placement assistance will be provided, but students are required to select and secure a placement site. Minimum of one unit of work experience is required to complete the EHSM certificate/degree. *Occupational cooperative work experience credit may accrue at the rate of one to 8 units per semester for a total of 16 units, and students must work 75 paid hours or 60 non-paid hours per unit earned. May be taken for a maximum of 8 units in EHSM.*

CSU

ETHNIC STUDIES (ETHN)

107* HISTORY OF RACE & ETHNICITY IN THE UNITED STATES 3 UNITS

3 hours lecture

An introduction to the historical and socio-cultural experiences of racial and ethnic groups and their roles in shaping society and culture in the United States, from pre-contact to the present. Focus will be on migration, colonization, racialization, discrimination, assimilation, social stratification, liberation movements, and the intersection of racial, ethnic, gender, sexual identities as they relate to African Americans, Asian Americans, Latinas/os/x, Native Americans, and Middle Eastern Americans. *Also listed as HIST 107. Not open to students with credit in HIST 107.*

AA/AS GE, CSU, CSU GE

111 CULTURE, ART & IDEAS OF THE UNITED STATES 3 UNITS

3 hours lecture

Humanities of the United States explored through film and television, music, dance, graphic novels, writing, photography, handicrafts (i.e. weaving, pottery, quilting, etc.), architecture, food, philosophy, and social institutions. Focus will be on the experiences and contributions of African Americans, Asian Americans, Latinas/os/x, Native Americans, and Middle Eastern Americans, with an emphasis on discrimination, social stratification, intersectionality, resistance, and liberation movements. *Also listed as HUM 111. Not open to students with credit in HUM 111.*

AA/AS GE, CSU, CSU GE

114 INTRODUCTION TO RACE & ETHNICITY 3 UNITS

3 hours lecture

An introduction to the sociological analysis of ethnicity, race, and immigration in the United States. Topics include the history of racialized and minoritized groups in the United States, patterns of interaction between racial and ethnic groups, colonialism, immigration, identity formation, prejudice, discrimination, ethnocentrism, racism, institutional racism, social movements for civil rights, liberation and decolonization, and the intersection of race and ethnicity with other forms of difference. *Also listed as SOC 114. Not open to students with credit in SOC 114.*

AA/AS GE, CSU, CSU GE

118* U.S. HISTORY: CHICANO/CHICANA PERSPECTIVES I 3 UNITS

3 hours lecture

Historical survey of Mexican Americans in the United States in which attention is given to social, political and economic background, with an emphasis on the origins of basic American institutions and ideals. Particular emphasis on the development of Spanish-speaking peoples' economic, social, political, and racialized experience in the United States, especially in the Southwest from the pre-contact period to the Mexican American War. *Also listed as HIST 118. Not open to students with credit in HIST 118.*

AA/AS GE, CSU

119* U.S. HISTORY: CHICANO/CHICANA PERSPECTIVES II 3 UNITS

3 hours lecture

Historical survey of Mexican Americans in the United States in which attention is given to the social, political, and economic background, including explorations of the U.S. and California constitutions and interactions between federal, state, and local governments. Particular emphasis on the economic, social and political experiences of Mexican Americans and Latinas/os/x in the United States, including migration, colonization, racialization, discrimination, assimilation, social stratification, liberation movements, and the intersection of racial, ethnic, gender, sexual identities, especially in the Southwest from the Mexican-American War to the present. *Also listed as HIST 119. Not open to students with credit in HIST 119.*

AA/AS GE, CSU

130* U.S. HISTORY AND CULTURES: NATIVE AMERICAN PERSPECTIVES I 3 UNITS

3 hours lecture

This course covers the social, political, cultural, economic, and intellectual history of indigenous groups in North America from pre-history to 1850. Areas of focus include: Native American perspectives of native and non-native cultures, the influence of Native Americans on the Federal Constitution and the U.S. political system, the impact of legislation on Native Americans, and Native American resistance and adaptability in response to land encroachment, racial and ethnic discrimination, and assimilation strategies. *Also listed as HIST 130. Not open to students with credit in HIST 130.*

AA/AS GE, CSU

131* U.S. HISTORY AND CULTURES: NATIVE AMERICAN PERSPECTIVES II 3 UNITS

3 hours lecture

This course covers the social, political, cultural, economic, and intellectual history of indigenous groups in North America from 1850 to the present. Areas of focus include: Native American perspectives of native and non-native cultures, the portrayal and influence of Native Americans in popular culture, the influence of Native Americans on the California State Constitution and government, the impact of State and Federal legislation on Native Americans, and Native American agency and resistance movements in the struggle for civil and political rights and indigenous sovereignty. *Also listed as HIST 131. Not open to students with credit in HIST 131.*

AA/AS GE, CSU

132 KUMEYAAY HISTORY I: PRECONTACT - 1845 3 UNITS

3 hours lecture

Historical survey of the Kumeyaay Nation from prehistoric times to 1845. Focus will be on Kumeyaay perspectives of Kumeyaay and non-Kumeyaay cultures; Kumeyaay oral history as it relates to the Creation Story, bird songs, ceremonies, religion and peon games; tribal sovereignty; sociopolitical clan structures; and the evolution of Kumeyaay leadership. Special emphasis will be given to the health and morbidity of indigenous populations and their labor in relation to the Mission San Diego de Alcalá and historic ranchos in San Diego County. *Also listed as HIST 132. Not open to students with credit in HIST 132.*

AA/AS GE, CSU

133 KUMEYAAY HISTORY II: 1846 - PRESENT 3 UNITS

3 hours lecture

Historical survey of the Kumeyaay Nation from 1846 to the present. Focus will be on Kumeyaay perspectives of Kumeyaay and non-Kumeyaay cultures, creation of Kumeyaay reservations, Mission Indian Federation, Public Law 83-280, Indian self-determination, Indian Gaming Regulatory Act, contemporary tribal governments, landmark Indian Gaming court cases, and an overview of laws pertaining to Native Americans in the United States. Special emphasis will be given to contemporary issues affecting the Kumeyaay Nation and Kumeyaay tribal governments, including socioeconomic deficits, tribal sovereignty, blood quantum, tribal enrollment, demographic challenges, language loss and acquisition, historical trauma, and the growing equity gaps among tribes without casinos. *Also listed as HIST 133. Not open to students with credit in HIST 133.*

AA/AS GE, CSU

150 LATINX SOCIOLOGY 3 UNITS

3 hours lecture

This course is an in-depth sociological examination of Latinx/Hispanic communities in the United States. Topics include family structure, gender roles and sexuality; religion; economics; racialization, racism; intersectionality, social movements; U.S./Mexico border issues and immigration policy; and education. Emphasis is placed on social interactions, politics of identity formation, and social processes impacting the status of U.S. Latinx/Hispanics. This course is intended for sociology majors or any student interested in the social sciences. *Also listed as SOC 150. Not open to students with credit in SOC 150.*

AA/AS GE, CSU

165 INTRODUCTION TO THE POLITICS OF RACE AND GENDER 3 UNITS

3 hours lecture

This course is an introduction to the politics of race and gender. The course offers an overview of the identity, status, and power of Women, Native Americans, African Americans, Latina/o Americans, and Asian Americans from an intersectionality perspective. *Also listed as POSC 165. Not open to students with credit in POSC 165.*

AA/AS GE, CSU, CSU GE

166 INTRODUCTION TO NATIVE AMERICAN POLITICS AND POLICY 3 UNITS
3 hours lecture
This course introduces students to Native American politics and policy from the treaty making process that formed the foundation of contemporary tribal sovereignty to legal cases and precedents that impact Native American lands and people. The course will also explore how Native people have both petitioned for access into the American polity and actively resisted assimilation. Emphasis will be given to twelve recognized Kumeyaay tribal governments in the United States and four recognized Kumeyaay/Kumiai tribal governments in Baja California, Mexico. *Also listed as POSC 166. Not open to students with credit in POSC 166.*
AA/AS GE, CSU

180* U.S. HISTORY: BLACK PERSPECTIVES I 3 UNITS
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, with a focus on agency, resistance, self-determination, and liberation. *Also listed as HIST 180. Not open to students with credit in HIST 180.*
AA/AS GE, CSU

181* U.S. HISTORY: BLACK PERSPECTIVES II 3 UNITS
3 hours lecture
Examination of significant aspects of United States history from the aftermath of the Civil War to the present, including explorations of the U.S. and California constitutions and interactions between federal, state, and local governments. Emphasis is on the socio-economic, political, and cultural experiences of African Americans in the United States from Reconstruction to the present, with a focus on agency, resistance, self-determination, and liberation. *Also listed as HIST 181. Not open to students with credit in HIST 181.*
AA/AS GE, CSU

236— CHICANA/O LITERATURE 3 UNITS
Recommended Preparation: Placement into ENGL 120 or equivalent
3 hours lecture
This course is a survey of colonial, post-colonial, and contemporary Chicano/Chicana literature. Literary works originally written in English and the Chicano/a bilingual idiom as well as English translations of works written in Spanish will be taught. Reading selections may consist of poetry, ballads, short stories, novels, plays, and nonfiction prose. Students analyze the literature and apply critical theory to describe critical events in the histories, cultures, and intellectual and literary traditions, with special focus on the lived experiences, social struggles, and contributions of Latino/a Americans in the United States. *Also listed as ENGL 236. Not open to students with credit in ENGL 236.*
AA/AS GE, CSU, CSU GE

238—BLACK LITERATURE 3 UNITS
Recommended Preparation: Placement into ENGL 120 or equivalent
3 hours lecture
This course introduces students to a survey of Black literature, focusing on the early oral tradition, literature of slavery and freedom, the Harlem Renaissance, Modernism, the Black Arts Era, and the contemporary period. Reading selections may consist of poetry, short stories, plays, novels, and nonfiction prose, including essays, letters, political tracts, autobiographies, speeches, and sermons. Students analyze the literature and apply critical theory to describe critical events in the histories, cultures, and intellectual and literary traditions, with special focus on the lived experiences, social struggles, and contributions of African Americans in the United States. *Also listed as ENGL 238. Not open to students with credit in ENGL 238.*
AA/AS GE, CSU, CSU GE

*Can be used to satisfy U.S. History, Constitution, and American Ideals graduation requirement for the CSU.

EXERCISE SCIENCE (ES)

Courses which meet the activity requirement for graduation have an asterisk (*). Intercollegiate athletics courses, ES 206, 209, 213, 218, 224, 227, 230, 248, 249, are repeatable. Intercollegiate sports do not meet the activity requirement for graduation. A physical examination is recommended for all classes if the student has medical problems or is over the age of 30. ***Due to health and safety considerations, only one Kinesiology Lab class (ES 010, 011, 012) may be taken per semester.***

Courses Related in Content (see page 35)

UC credit limit: Maximum of four units of UC credit for physical activity courses (see page 47).

001* ADAPTED PHYSICAL EXERCISE 1 UNIT
1 hour lecture, 1 hour laboratory
Assessment of physical performance status and postural evaluation. Individually prescribed exercise programs for the physically disabled. Recreational games and individual sports adapted to students' capabilities.
CSU, UC credit limit

008A* BEGINNING INDOOR CYCLING 1 UNIT
1 hour lecture, 1 hour laboratory
This course is designed to provide a beginning level indoor cycling experience to develop the key components of health-related physical fitness: cardiorespiratory, endurance, muscular strength/endurance, body composition, and flexibility. The components of fitness will be met through structured individually paced indoor group cycling classes. Students will also learn the fundamental principles of physical fitness and their impact on a life-long health and wellness.
CSU

008B* INTERMEDIATE INDOOR CYCLING 1 UNIT
Recommended Preparation: ES 008A Beginning Indoor Cycling
1 hour lecture, 1 hour laboratory
This course is designed to provide an intermediate level indoor cycling experience to develop the key components of health-related physical fitness: cardiorespiratory, endurance, muscular strength/endurance, body composition, and flexibility. The components of fitness will be met through structured individually paced indoor group cycling classes. Students will also learn the fundamental principles of physical fitness and their impact on a life-long health and wellness.
CSU

008C* ADVANCED INDOOR CYCLING 1 UNIT
Recommended Preparation: ES 008B Intermediate Indoor Cycling
1 hour lecture, 1 hour laboratory
This course is designed to provide an advanced level indoor cycling experience to develop the key components of health-related physical fitness: cardiorespiratory, endurance, muscular strength/endurance, body composition, and flexibility. The components of fitness will be met through structured individually paced indoor group cycling classes. Students will also learn the fundamental principles of physical fitness and their impact on a life-long health and wellness.
CSU

009A* BEGINNING AEROBIC DANCE EXERCISE 1 UNIT
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

009B* INTERMEDIATE AEROBIC DANCE EXERCISE 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in ES 009A or equivalent or specified skill competencies
1 hour lecture, 1 hour laboratory
A continuation of ES 009A emphasizing the development of an intermediate level of conditioning of the musculoskeletal system, improvement of the cardiovascular system, increasing the efficiency of the respiratory system, and increasing flexibility. More complex movement patterns, routines and equipment will be used to increase intensity of exercise to achieve an increased level of fitness. Principles of physical fitness, conditioning, and other relevant health-related topics will also be covered.
CSU, UC, UC credit limit

009C* ADVANCED AEROBIC DANCE EXERCISE 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in ES 009B or equivalent or specified skill competencies
1 hour lecture, 1 hour laboratory
A continuation of ES 009B emphasizing the development of an advanced level of conditioning of the musculoskeletal system, improvement of the cardiovascular system, increasing the efficiency of the respiratory system, and increasing flexibility. More complex movement patterns, routines and equipment will be used to increase intensity of exercise to achieve an increased level of fitness. Principles of physical fitness, conditioning, and other relevant health-related topics will also be covered.
CSU, UC, UC credit limit

010* CARDIOVASCULAR FITNESS AND NUTRITION 1 UNIT
3 hours laboratory
Kinesiology Lab course designed to teach the benefits of cardiovascular exercise, heart-healthy nutrition guidelines, and to provide opportunities for students to analyze their eating habits. This course requires workouts and consultations with the instructor, as well as written and computer assignments. Each student will be assessed in the areas of fitness and diet. ***Due to health and safety considerations, only one Kinesiology Lab class (ES 010, 011, 012) may be taken per semester.***
CSU, UC credit limit

011* CIRCUIT TRAINING 1 UNIT
3 hours laboratory
Kinesiology Lab course designed to develop and encourage positive attitudes and habits with regard to exercise. 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 Kinesiology Lab class (ES 010, 011, 012) may be taken per semester.***
CSU, UC credit limit

012* INDIVIDUALIZED SPORTS CONDITIONING 1 UNIT
3 hours laboratory
Kinesiology Lab course designed to provide advanced exercisers with the opportunity to increase their fitness levels with an emphasis on strength training and muscle flexibility. An individualized fitness program will then be prescribed utilizing the student's personal fitness goals. ***Due to health and safety considerations, only one Kinesiology Lab class (ES 010, 011, 012) may be taken per semester.***
CSU, UC credit limit

013* FLEXIBILITY FITNESS 1.5 UNITS
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
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
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
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

019A* BEGINNING PHYSICAL FITNESS 1.5 UNITS
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
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
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

024A* BEGINNING FITNESS BOOT CAMP 1 UNIT
1 hour lecture, 1 hour laboratory
This course presents a fast-paced, regimented style exercise program designed at a beginning level that works the entire body through the use of calisthenics, running, body resistance training and agility drills designed to promote physical fitness and weight control. Using a variety of basic activities, emphasis will be placed on self-discipline, intensity, and goal-oriented basic exercise programming. The course will utilize numerous training modalities including cross-training, basic boxing, plyometrics, speed and agility, core stability, flexibility training as well as cardiovascular endurance. Students will also learn the fundamental principles of physical fitness and their impact on life-long health and wellness.
CSU, UC

024B* INTERMEDIATE FITNESS BOOT CAMP 1 UNIT
Recommended Preparation: ES 024A Beginning Fitness Boot Camp
1 hour lecture, 1 hour laboratory
This course presents a fast-paced, regimented style exercise program designed at an intermediate level that works the entire body through the use of calisthenics, running, body resistance training and agility drills designed to promote physical fitness and weight control. Using a variety of basic activities, emphasis will be placed on self-discipline, intensity, and goal-oriented basic exercise programming. The course will utilize numerous training modalities including cross-training, basic boxing, plyometrics, speed and agility, core stability, flexibility training as well as cardiovascular endurance. Students will also learn the fundamental principles of physical fitness and their impact on life-long health and wellness.
CSU, UC

024C* ADVANCED FITNESS BOOT CAMP 1 UNIT
Recommended Preparation: ES 024B Intermediate Fitness Boot Camp
1 hour lecture, 1 hour laboratory
This course presents a fast-paced, regimented style exercise program designed at an advanced level that works the entire body through the use of calisthenics, running, body resistance training and agility drills designed to promote physical fitness and weight control. Using a variety of basic activities, emphasis will be placed on self-discipline, intensity, and goal-oriented basic exercise programming. The course will utilize numerous training modalities including cross-training, basic boxing, plyometrics, speed and agility, core stability, flexibility training as well as cardiovascular endurance. Students will also learn the fundamental principles of physical fitness and their impact on life-long health and wellness.
CSU, UC

028A* BEGINNING YOGA 1.5 UNITS
1 hour lecture, 2 hours laboratory
This course is designed to help students increase flexibility and balance as well as practice relaxation and stress reduction through beginning Yoga techniques. The course will focus on safe, effective stretching, balance, stability of supporting muscle groups and breathing techniques. Discussion regarding the history and traditions of Yoga as well as stress reduction will take place. Students will also learn the fundamental principles of physical fitness and their impact on life-long wellness.
CSU, UC

028B* INTERMEDIATE YOGA 1.5 UNITS
Recommended Preparation: ES 028A Beginning Yoga
1 hour lecture, 2 hours laboratory
This course is designed to help students increase flexibility and balance as well as practice relaxation and stress reduction through intermediate Yoga techniques. The course will focus on safe, effective stretching, balance, stability of supporting muscle groups and breathing techniques. Discussion regarding the history and traditions of Yoga as well as stress reduction will take place. Students will also learn the fundamental principles of physical fitness and their impact on life-long wellness.
CSU, UC

028C* ADVANCED YOGA 1.5 UNITS
Recommended Preparation: ES 028B Intermediate Yoga
1 hour lecture, 2 hours laboratory
This course is designed to help students increase flexibility and balance as well as practice relaxation and stress reduction through advanced Yoga techniques. The course will focus on safe, effective stretching, balance, stability of supporting muscle groups and breathing techniques. Discussion regarding the history and traditions of Yoga as well as stress reduction will take place. Students will also learn the fundamental principles of physical fitness and their impact on life-long wellness.
CSU, UC

060A* BEGINNING BADMINTON 1 UNIT
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
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
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
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
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
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

125A* BEGINNING GOLF 1 UNIT
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 1.5 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in ES 125A or equivalent
1 hour lecture, 2 hours 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 1.5 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in ES 125B or equivalent
1 hour lecture, 2 hours 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

155A* BEGINNING BASKETBALL 1 UNIT
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 their impact on lifelong health and wellness.
CSU, UC credit limit

155B* INTERMEDIATE BASKETBALL 1 UNIT
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 their impact on lifelong health and wellness.
CSU, UC credit limit

155C* ADVANCED BASKETBALL 1 UNIT
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 their impact on lifelong health and wellness.
CSU, UC credit limit

170A* BEGINNING SOCCER 1 UNIT
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
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
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
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
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
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
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
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
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
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

206 INTERCOLLEGIATE BASKETBALL 3 UNITS
Prerequisite: Tryout
10 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. *Athletic insurance fee is required. Repeatable.*
CSU, UC credit limit

209 INTERCOLLEGIATE CROSS-COUNTRY 3 UNITS
Prerequisite: Tryout
10 hours laboratory
Open to students with advanced cross-country skills who wish to compete at the intercollegiate level. *Athletic insurance fee is required. Repeatable.*
CSU, UC credit limit

213 INTERCOLLEGIATE GOLF 3 UNITS
Prerequisite: Tryout
10 hours laboratory
Instruction in team play and strategy. Competition in practice and league play. *Athletic insurance fee is required. Repeatable.*
CSU, UC credit limit

218 INTERCOLLEGIATE SOCCER 3 UNITS
Prerequisite: Tryout
10 hours laboratory
Open to students with advanced soccer skills who wish to compete at the intercollegiate level. *Athletic insurance fee is required. Repeatable.*
CSU, UC credit limit

224 INTERCOLLEGIATE TENNIS 3 UNITS
Prerequisite: Tryout
10 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. *Athletic insurance fee is required. Repeatable.*
CSU, UC credit limit

227 INTERCOLLEGIATE TRACK 3 UNITS
Prerequisite: Tryout
10 hours laboratory
Open to students with advanced track skills who wish to compete at the intercollegiate level. *Athletic insurance fee is required. Repeatable.*
CSU, UC credit limit

230 INTERCOLLEGIATE VOLLEYBALL 3 UNITS
Prerequisite: Tryout
10 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. *Athletic insurance fee is required. Repeatable.*
CSU, UC credit limit

248 CONDITIONING FOR INTERCOLLEGIATE ATHLETES 1 UNIT
1 hour lecture, 1 hour 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, games, and resistance exercises will be emphasized. This course is intended for intercollegiate athletes who are proficient in the fundamental skills and have knowledge of the basic rules of the competitive sport. Instruction is geared toward advanced techniques, strategies, injury prevention, conditioning, and team play. *Athletic insurance fee is required. Repeatable.*
CSU

249 COMPETENCIES FOR INTERCOLLEGIATE ATHLETES 2-4 UNITS
Prerequisite: Recommendation of Intercollegiate Coach
1 hour lecture, 3 hours laboratory, 2 units
1 hour lecture, 6 hours laboratory, 3 units
1 hour lecture, 9 hours laboratory, 4 units
This course is designed to prepare student athletes for intercollegiate competition at both the two and four year level, and to maintain athletic conditioning between seasons. It is intended for students who have demonstrated the potential (through performance or interview with respective coach) to succeed in intercollegiate athletics. Students will be required to participate in lab hours within the intercollegiate sport of their choice. *Athletic insurance fee may be required upon enrollment. Repeatable.*
CSU

250 INTRODUCTION TO KINESIOLOGY 3 UNITS
C-ID KIN 100
3 hours lecture
Introduction to the interdisciplinary approach to the study of human movement. An overview of the concepts within and importance of the sub-disciplines in kinesiology will be discussed, along with career opportunities in the areas of teaching, coaching, allied health, dietetic, and fitness professions.
CSU, UC

253 PHYSICAL EDUCATION IN ELEMENTARY SCHOOLS 3 UNITS
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

255 CARE AND PREVENTION OF ATHLETIC INJURIES 3 UNITS
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
1 hour lecture
Instruction in planning and implementing cooperative games for physical education/activities involving pre-school and elementary school-age 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
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
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

GEOGRAPHY (GEOG)

106 WORLD REGIONAL GEOGRAPHY 3 UNITS
C-ID GEOG 125
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 PHYSICAL GEOGRAPHY: EARTH SYSTEMS 3 UNITS
C-ID GEOG 110
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: EARTH SYSTEMS LABORATORY 1 UNIT
C-ID GEOG 111, GEOL 120L
Prerequisite: "C" grade or higher or "Pass" in GEOG 120 or GEOL 104 or equivalent or concurrent enrollment in either course
3 hours laboratory
This course is designed to explore the Earth's physical environment, complementing either the physical geography lecture course (GEOG 120) or the Earth Science lecture course (GEOL 104) through practical applications of materials covered in these courses. This laboratory course enhances the observational and analytical skills that are vital to understanding Earth's major physical and chemical systems including atmospheric, hydrospheric, lithospheric and biospheric processes and the Earth's place within the Solar System. Exercises will utilize the methods of scientific inquiry to explore the Geographic Grid, Earth-Sun relationships; weather and climate; the rock cycle; plate tectonics, including faulting, earthquakes, hot spot volcanism and plate boundary dynamics; erosional and depositional environments; landform genesis, identification and geomorphic change; soil and vegetation distributions and habitat analysis. Students gain experience with map interpretation/analysis, unit conversions and dimensional analysis, field work using GPS, compass, clinometer, and other specialized equipment. Special attention is given to the unique local setting of San Diego County especially as exhibited in the Cuyamaca College Nature Preserve where field experiences are incorporated into laboratory exercises on a regular basis. *Also listed as GEOL 105. Not open to students with credit in GEOL 105.*
AA/AS GE, CSU, CSU GE, IGETC, UC

122 REGIONAL FIELD STUDIES IN PHYSICAL GEOGRAPHY AND GEOLOGY OF DESERT ENVIRONMENTS 1 UNIT
C-ID GEOG 160
Recommended Preparation: "C" grade or higher or "Pass" in GEOG 120, GEOL 104, or GEOL 110 or concurrent enrollment
1 hour lecture, 1 hour laboratory
Are you interested in science and enjoy spending time outdoors? Explore the desert and learn about regional geology and geography with this field studies course! Regional Field Studies in Physical Geography and Geology of Desert Environments provides focused experience in geological and geographical field studies of desert environments in California and western North America. This course emphasizes use of the scientific process, observation, and interpretation of geologic and geographic phenomena in desert environments through direct experience in a field setting. This course centers around multi-day weekend field trips to desert environments in addition to on-campus meetings prior to and immediately following the field trips. Students must supply their own camping gear (sleeping bag, tent, etc.) and attend all class meetings and field trips. *Also listed as GEOL 122. Not open to students with credit in GEOL 122*
CSU

130 HUMAN GEOGRAPHY: THE CULTURAL LANDSCAPE 3 UNITS
C-ID GEOG 120
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

GEOLOGY (GEOL)

104 EARTH SCIENCE 3 UNITS
C-ID GEOL 120
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

105 PHYSICAL GEOLOGY: EARTH SYSTEMS LABORATORY 1 UNIT
C-ID GEOG 111
Prerequisite: "C" grade or higher or "Pass" in GEOG 120 or GEOL 104 or equivalent or concurrent enrollment in either course
3 hours laboratory
This course is designed to explore the Earth's physical environment, complementing either the physical geography lecture course (GEOG 120) or the Earth Science lecture course (GEOL 104) through practical applications of materials covered in these courses. This laboratory course enhances the observational and analytical skills that are vital to understanding Earth's major physical and chemical systems including atmospheric, hydrospheric, lithospheric and biospheric processes and the Earth's place within the Solar System. Exercises will utilize the methods of scientific inquiry to explore the Geographic Grid, Earth-Sun relationships; weather and climate; the rock cycle; plate tectonics, including faulting, earthquakes, hot spot volcanism and plate boundary dynamics; erosional and depositional environments; landform genesis, identification and geomorphic change; soil and vegetation distributions and habitat analysis. Students gain experience with map interpretation/analysis, unit conversions and dimensional analysis, field work using GPS, compass, clinometer, and other specialized equipment. Special attention is given to the unique local setting of San Diego County especially as exhibited in the Cuyamaca College Nature Preserve where field experiences are incorporated into laboratory exercises on a regular basis. *Also listed as GEOG 121. Not open to students with credit in GEOG 121.*
AA/AS GE, CSU, CSU GE, IGETC, UC

110 PLANET EARTH 3 UNITS
C-ID GEOL 100
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
C-ID GEOL 100L
Prerequisite: "C" grade or higher or "Pass" in GEOL 110 or equivalent or concurrent enrollment
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

122 REGIONAL FIELD STUDIES IN PHYSICAL GEOGRAPHY AND GEOLOGY OF DESERT ENVIRONMENTS 1 UNIT
Recommended Preparation: "C" grade or higher or "Pass" in GEOG 120, GEOL 104, or GEOL 110 or concurrent enrollment
1 hour lecture, 1 hour laboratory
Are you interested in science and enjoy spending time outdoors? Explore the desert and learn about regional geology and geography with this field studies course! Regional Field Studies in Physical Geography and Geology of Desert Environments provides focused experience in geological and geographical field studies of desert environments in California and western North America. This course emphasizes use of the scientific process, observation, and interpretation of geologic and geographic phenomena in desert environments through direct experience in a field setting. This course centers around multi-day weekend field trips to desert environments in addition to on-campus meetings prior to and immediately following the field trips. Students must supply their own camping gear (sleeping bag, tent, etc.) and attend all class meetings and field trips. *Also listed as GEOG 122. Not open to students with credit in GEOG 122.*
CSU

GRAPHIC DESIGN (GD)

Repeat Limitation
Unless specifically required by a transfer institution for preparation for a specific major, students are limited to four enrollments in "Digital Art Foundations" courses related in content in the Grossmont-Cuyamaca Community College District. These courses include ART 171, 172, 175, GD 105, 126. Students intending to major in Art, Graphic Design, or a related major at a California State University or University of California campus that requires more than the limit should take documentation to the Admissions & Records Office for clearance.

105 FUNDAMENTALS OF DIGITAL MEDIA 3 UNITS
Recommended Preparation: Basic computer and file management skills
2 hours lecture, 3 hours laboratory
This course explores the digital software used for graphic design, multimedia, and web design, specifically the use of vector (Adobe Illustrator) and raster images (Adobe Photoshop). Using the design process, students will create projects that require the use and comprehension of various file formats and color modes used in print and web design. Input devices such as digital cameras and scanners will be used to enhance projects. The elements of art and principles of design will be introduced as students develop aesthetic compositional skills.
CSU, UC

110 GRAPHIC DESIGN PRINCIPLES 3 UNITS
C-ID ARTS 250
Prerequisite: "C" grade or higher or "Pass" in GD 105 or equivalent or two years verifiable industry experience
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

115 INTRODUCTION TO MULTIMEDIA 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in GD 105 or equivalent
Recommended Preparation: "C" grade or higher or "Pass" in GD 110 or equivalent
2 hours lecture, 3 hours laboratory
This intensive introductory course is designed to teach foundational skills for students who have minimal or no experience in creating multimedia news packages. A hands-on introduction on how to use video, photography, data and other elements to successfully create effective visual and multimedia stories.
CSU, UC

125 TYPOGRAPHY 3 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in GD 110 or equivalent
2 hours lecture, 3 hours laboratory
This course 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. Letterforms will be designed using both traditional and digital processes with an emphasis on developing a professional portfolio.
CSU

126 ADOBE PHOTOSHOP DIGITAL IMAGING 3 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in GD 105 or equivalent
2 hours lecture, 3 hours laboratory
Explores capturing, digitizing and editing images. Students will learn to digitize images and use industry standard software (Adobe Photoshop) to edit, manipulate, retouch, enhance and composite digital images. Explores digital workflows, color management, digital effects, and output methods used to achieve the best possible output from digital image files. Emphasis is on meeting aesthetic and technical requirements of the commercial arts and graphic design industry.
CSU

129 PAGE LAYOUT 3 UNITS
Prerequisite: Understanding and experience with digital image types and composition.
Recommended Preparation: "C" grade or higher or "Pass" in GD 110 or equivalent
2 hours lecture, 3 hours laboratory
This course emphasizes the aesthetic and functional organization of text, charts, graphs, line art, illustrations and photos in multiple page documents for print and electronic applications. Uses traditional and digital processes to develop creative thumbnails, roughs, and comprehensive layouts. Emphasis is on preparing text and images for electronic

pre-press and for selecting printing options as well as for ebook and electronic publishing. Students will develop work for a professional portfolio.
CSU

130 PROFESSIONAL BUSINESS PRACTICES 3 UNITS
Recommended Preparation: Student should have a substantial body of completed design or web projects prior to enrollment in this class.
3 hours lecture
This course emphasizes professional business practices used in the graphic design industry including design studios, agencies and self-employment. Learn how to create a resume, market a portfolio, acquire clients, and set fees. Students will refine their design capabilities using text and images while learning how to perform as business professionals.
CSU

210 PROFESSIONAL DIGITAL PHOTOGRAPHY I 3 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in GD126 or equivalent, or experience using industry standard image editing software
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
Recommended Preparation: "C" grade or higher or "Pass" in GD 210 or equivalent
2 hours lecture, 3 hours laboratory
Focuses on advanced photographic and digital imaging techniques, expanding on knowledge and skills acquired in GD 126 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

212 PROFESSIONAL DIGITAL PHOTOGRAPHY III 3 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in GD 211 or equivalent
2 hours lecture, 3 hours laboratory
Project based course concentrates on advanced photographic shooting and post processing techniques, with an introduction to photoillustration. Students will learn to refine compositional and substantive aspects of photography as a means of communication. Course will cover a variety of tools and techniques for image enhancement including high dynamic range imagery (HDR), exposure compositing, and color management in a digital workflow.
CSU

217 WEB GRAPHICS 3 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in CIS 211 or equivalent or basic computer and Internet skills and ability to create and upload a simple website, GD 126 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 WEB ANIMATION 3 UNITS
Recommended Preparation: "C" grade or higher or "Pass" in CIS 211 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 animation software. Students will create common web animation projects such as advertisements and web interfaces.
CSU

223 ADVANCED WEB ANIMATION 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in GD 222 or equivalent
Recommended Preparation: "C" grade or higher or "Pass" in CIS 211 or equivalent or ability to create and upload a simple website
2 hours lecture, 3 hours laboratory
Develop interactive, rich media web animation 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
Recommended Preparation: "C" grade or higher or "Pass" in 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 graphic images in an aesthetic composition. 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 Graphic Design courses related to field in which work experience is sought and current resume highlighting graphic design experience and course-related study
75 hours paid or 60 hours non-paid work experience per unit
Work experience at a designated industry site in a graphic design occupational category for students seeking job experience in graphic design. *Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned. May be taken for a maximum of 12 units.*
CSU

HEALTH EDUCATION (HED)

105 HEALTH EDUCATION FOR TEACHERS 1 UNIT
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
C-ID PHS 100
3 hours lecture
This course focuses on the exploration of major health issues and behaviors in the various dimensions of health. Emphasis is placed on individual responsibility for personal health and the promotion of informed, positive health behaviors. Topics include nutrition, exercise, weight control, mental health, stress management, violence, substance abuse, reproductive health, disease prevention, aging, healthcare, and environmental hazards and safety.
AA/AS GE, CSU, CSU GE, UC, UC credit limit

201 INTRODUCTION TO PUBLIC HEALTH 3 UNITS
C-ID PHS 101
3 hours lecture
This course provides an introduction to the discipline of Public Health. Students will gain an understanding of the basic concepts and terminologies of public health, and the history and accomplishments of public health officials and agencies. An overview of the functions of various public health professions and institutions, and an in-depth examination of the core public health disciplines is covered. Topics of the discipline include the epidemiology of infectious and chronic disease; prevention and control of diseases in the community including the analysis of the social determinants of health and strategies for eliminating disease, illness and health disparities among various populations; community organizing and health promotion programming; environmental health and safety; global health; and healthcare policy and management.
AA/AS GE, CSU, CSU GE, UC

202 HEALTH PROFESSIONS AND ORGANIZATIONS 3 UNITS
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
C-ID PHS 103
3 hours lecture
This course provides an overview of the epidemiology and toxicology of substance abuse and its relevance to personal and public health. Students will be introduced to the concept of substance abuse and dependence, the definition of licit and illicit drugs, and the pharmacologic, neurologic and physiologic effects of selected substances on the human brain. Political, social and economic factors involved in the supply and demand for drugs will be discussed. Epidemiologic data on the prevalence, incidence, and trends of smoking, alcohol, prescription and other drug dependencies 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.
AA/AS GE, CSU, CSU GE, UC

204 HEALTH AND SOCIAL JUSTICE 3 UNITS
C-ID PHS 102
3 hours lecture
This course provides an introduction to the health inequities in the United States that stem from unequal living conditions. Students will explore how education, socioeconomic status, race and gender shape health epidemics and policy development. The basic knowledge and skills necessary for advocating for health and social justice will be theoretically demonstrated.
AA/AS GE, CSU, CSU GE, IGETC, UC

251* HEALTHY LIFESTYLES: THEORY AND APPLICATION 3 UNITS
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.
AA/AS GE, CSU, CSU GE

*Meets the activity requirement for graduation.

HISTORY (HIST)

100 EARLY WORLD HISTORY 3 UNITS
C-ID HIST 150
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
C-ID HIST 160
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
C-ID HIST 170
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
C-ID HIST 180
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, 19th century ideologies, imperialism, the world wars, the Cold War, and contemporary Europe.
AA/AS GE, CSU, CSU GE, IGETC, UC

107* HISTORY OF RACE & ETHNICITY IN THE UNITED STATES 3 UNITS
3 hours lecture
An introduction to the historical and socio-cultural experiences of racial and ethnic groups and their roles in shaping society and culture in the United States, from pre-contact to the present. Focus will be on migration, colonization, racialization, discrimination, assimilation, social stratification, liberation movements, and the intersection of racial, ethnic, gender, sexual identities as they relate to African Americans, Asian Americans, Latinas/os/x, Native Americans, and Middle Eastern Americans. *Also listed as ETHN 107. Not open to students with credit in ETHN 107.*
AA/AS GE, CSU, CSU GE

108* EARLY AMERICAN HISTORY 3 UNITS
C-ID HIST 130
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
C-ID HIST 140
3 hours lecture
A historical survey of the political, social, economic and cultural development of the United States from 1865 to the present. Explores modern American institutions, ideals, ideologies, and laws, including explorations of the U.S. and California constitutions and interactions between federal, state, and local governments.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

114* COMPARATIVE HISTORY OF THE EARLY AMERICAS 3 UNITS
3 hours lecture
The Americas (North and South America, including the Caribbean) from pre-contact to the nineteenth century. Emphasis on ancient American civilizations and the interactions among Native American, European, and African cultures in the formation of new nations. The social, political, and cultural developments of the early United States, Latin America, and Canada and their political systems.
AA/AS GE, CSU, CSU GE, IGETC, UC

115* COMPARTIVE HISTORY OF THE MODERN AMERICAS 3 UNITS
3 hours lecture
A survey of the political, social, economic, and cultural development of the modern Americas. Emphasis on interactions among Native American, European, and African American cultures and the social, political, and economic transformations of the modern United States, Latin America and Canada from the early nineteenth century to the present.
AA/AS GE, CSU, CSU GE, IGETC, UC

118* U.S. HISTORY: CHICANO/ CHICANA PERSPECTIVES I 3 UNITS
3 hours lecture
Historical survey of Mexican Americans in the United States in which attention is given to social, political and economic background, with an emphasis on the origins of basic American institutions and ideals. Particular emphasis on the development of Spanish-speaking peoples' economic, social, political, and racialized experience in the United States, especially in the Southwest from the pre-contact period to the Mexican American War. *Also listed as ETHN 118. Not open to students with credit in ETHN 118.*
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

119* U.S. HISTORY: CHICANO/ CHICANA PERSPECTIVES II 3 UNITS
3 hours lecture
Historical survey of Mexican Americans in the United States in which attention is given to the social, political, and economic background, including explorations of the U.S. and California constitutions and interactions between federal, state, and local governments. Particular emphasis on the economic, social and political experiences of Mexican Americans and Latinas/os/x in the United States, including migration, colonization, racialization, discrimination, assimilation, social stratification, liberation movements, and the intersection of racial, ethnic, gender, sexual identities, especially in the Southwest from the Mexican-American War to the present. *Also listed as ETHN 119. Not open to students with credit in ETHN 119..*
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

122* WOMEN IN EARLY AMERICAN HISTORY 3 UNITS
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
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
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. Emphasis upon European exploration and interaction with California's Native Americans, Spanish colonization, Mexican California, statehood, late 19th century, pre-WWI Progressive Era, 1910s and 1920s, Depression Era, WWII, Post-WWII era, 1960s to the 1990s, and early 21st century. 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
3 hours lecture
This course covers the social, political, cultural, economic, and intellectual history of indigenous groups in North America from pre-history to 1850. Areas of focus include: Native American perspectives of native and non-native cultures, the influence of Native Americans on the Federal Constitution and the U.S. political system, the impact of legislation on Native Americans, and Native American resistance and adaptability in response to land encroachment, racial and ethnic discrimination, and assimilation strategies. *Also listed as ETHN 130. Not open to students with credit in ETHN 130.*
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

131* U.S. HISTORY AND CULTURES: NATIVE AMERICAN PERSPECTIVES II 3 UNITS
3 hours lecture
This course covers the social, political, cultural, economic, and intellectual history of indigenous groups in North America from 1850 to the present. Areas of focus include: Native American perspectives of native and non-native cultures, the portrayal and influence of Native Americans in popular culture, the influence of Native Americans on the California

State Constitution and government, the impact of State and Federal legislation on Native Americans, and Native American agency and resistance movements in the struggle for civil and political rights and indigenous sovereignty. *Also listed as ETHN 131. Not open to students with credit in ETHN 131.*

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

132 KUMEYAAY HISTORY I: PRECONTACT - 1845 3 UNITS

3 hours lecture

Historical survey of the Kumeyaay Nation from prehistoric times to 1845. Focus will be on Kumeyaay perspectives of Kumeyaay and non-Kumeyaay cultures; Kumeyaay oral history as it relates to the Creation Story, bird songs, ceremonies, religion and peon games; tribal sovereignty; sociopolitical clan structures; and the evolution of Kumeyaay leadership. Special emphasis will be given to the health and morbidity of indigenous populations and their labor in relation to the Mission San Diego de Alcalá and historic ranchos in San Diego County. *Also listed as ETHN 132. Not open to students with credit in ETHN 132.*

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

133 KUMEYAAY HISTORY II: 1846 - PRESENT 3 UNITS

3 hours lecture

Historical survey of the Kumeyaay Nation from 1846 to the present. Focus will be on Kumeyaay perspectives of Kumeyaay and non-Kumeyaay cultures, creation of Kumeyaay reservations, Mission Indian Federation, Public Law 83-280, Indian self-determination, Indian Gaming Regulatory Act, contemporary tribal governments, landmark Indian Gaming court cases, and an overview of laws pertaining to Native Americans in the United States. Special emphasis will be given to contemporary issues affecting the Kumeyaay Nation and Kumeyaay tribal governments, including socioeconomic deficits, tribal sovereignty, blood quantum, tribal enrollment, demographic challenges, language loss and acquisition, historical trauma, and the growing equity gaps among tribes without casinos. *Also listed as ETHN 133. Not open to students with credit in ETHN 133.*

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

148 THE MODERN MIDDLE EAST 3 UNITS

3 hours lecture

A historical survey exploring the history of the modern Middle East. The course includes background material on the origin and spread of Islam, Islamic dynasties and civilizations. Major emphasis on the Ottoman Empire, the colonial era, rise of 20th century independent nation-states, creation of Israel and the Arab-Israeli conflict, 20th and 21st-century wars and conflicts, famous political/religious leaders, intellectual/scientific accomplishments, and artistic/literary works.

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

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

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, with a focus on agency, resistance, self-determination, and liberation. *Also listed as ETHN 180. Not open to students with credit in ETHN 180.*

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

181* U.S. HISTORY: BLACK PERSPECTIVES II 3 UNITS

3 hours lecture

Examination of significant aspects of United States history from the aftermath of the Civil War to the present, including explorations of the U.S. and California constitutions and interactions between federal, state, and local governments. Emphasis is on the socio-economic, political, and cultural experiences of African Americans in the United States from Reconstruction to the present, with a focus on agency, resistance, self-determination, and liberation. *Also listed as ETHN 181. Not open to students with credit in ETHN 181.*

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

275 HISTORICAL PERIOD 3 UNITS

3 hours lecture

In-depth study of an historical period. 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

276 GEOGRAPHICAL AREA 3 UNITS

3 hours lecture

In-depth study of a geographical area. 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

277 HISTORICAL THEME 3 UNITS

3 hours lecture

In-depth study of an historical theme. 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

*Can be used to satisfy U.S. History, Constitution, and American Ideals graduation requirement for the CSU.

HUMANITIES (HUM)

110 PRINCIPLES OF THE HUMANITIES 3 UNITS

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

111 CULTURE, ART, & IDEAS OF THE UNITED STATES 3 UNITS

3 hours lecture

Humanities of the United States explored through film and television, music, dance, graphic novels, writing, photography, handicrafts (i.e. weaving, pottery, quilting, etc.), architecture, food, philosophy, and social institutions. Focus will be on the experiences and contributions of African Americans, Asian Americans, Latinas/os/x, Native Americans, and Middle Eastern Americans, with an emphasis on discrimination, social stratification, intersectionality, resistance, and liberation movements. *Also listed as ETHN 111. Not open to students with credit in ETHN 111.*

AA/AS GE, CSU, CSU GE

115 ARTS AND CULTURE IN LOCAL CONTEXT–SAN DIEGO 3 UNITS

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

116 KUMEYAAY ARTS AND CULTURE 3 UNITS

3 hours lecture

This course is a seasonal survey of arts and culture of the Kumeyaay Nation in what is now commonly known as San Diego and Imperial Counties and Baja California. Students will study Kumeyaay songs and stories, dance, games, pottery, philosophy, spiritual beliefs and traditions, and the various uses of winter and spring plant resources. Guest lectures by Kumeyaay experts will be integrated into the course. Field trips to various cultural sites and events are a required component of this class.

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

117 KUMEYAAY ARTS AND CULTURE II 3 UNITS

3 hours lecture

This course is a seasonal survey of arts and culture of the Kumeyaay Nation in what is now commonly known as San Diego and Imperial Counties and Baja California. Students will study Kumeyaay uses of summer and fall plant resources, and participate in the harvest and construction of Tule boats, e`waa house, hunting and fishing tools, various types of baskets, and clothing and jewelry. Guest lectures by Kumeyaay experts will be integrated into the course. Field trips to various cultural sites and events are a required component of this class.

CSU

120 EUROPEAN HUMANITIES 3 UNITS

3 hours lecture

An 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 HUMANITIES OF THE AMERICAS 3 UNITS

3 hours lecture

Integrated exploration of broadly representative examples of literature, philosophy, drama, music, visual art and architecture of the Americas–the geographical scope of which will include the United States, Canada, the Caribbean, and Latin America.

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

155 WORLD MYTHOLOGY THROUGH THE HUMANITIES 3 UNITS

3 hours lecture

Exploration of world mythologies through broader consideration of their place within the humanities. Students will examine a variety of myths, legends, folklore, and fairy tales, as well as relevant themes, symbols, archetypes, etc.

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

INTERDISCIPLINARY STUDIES (IS)

198 SUPERVISED TUTORING 0 UNIT
TBA hours
This course uses a variety of educational tools to assist students with various learning needs. The course may be used to strengthen prerequisite skills prior to enrolling in a specific course, or to receive supplemental assistance while enrolled in another course. This course may be taken with different content. **No fee/no credit/noncredit course.**

MATHEMATICS (MATH)

020 FOUNDATIONS FOR QUANTITATIVE REASONING 1 UNIT
Corequisite: MATH 120
1 hour lecture
This support course focuses on the skills and concepts needed for success in Quantitative Reasoning (QR). This course is for students concurrently enrolled in Math 120. Students will receive extra support in arithmetic, algebra, geometry, problem solving, technology, and study skills. **Pass/No Pass only. Non-degree applicable.**

060 FOUNDATIONS FOR ELEMENTARY STATISTICS 2 UNITS
Prerequisite: Appropriate placement
Co-requisite: MATH 160 or PSY 215
2 hours lecture
This support course focuses on the skills and concepts needed for success in transfer-level statistics. This course is for students concurrently enrolled in statistics at Cuyamaca College. Students will receive extra support in arithmetic, algebra, problem solving, technology, and study skills. **Pass/No Pass only. Non-degree applicable.**

076 FOUNDATIONS FOR PRECALCULUS 2 UNITS
Prerequisite: Appropriate placement
Co-requisite: MATH 176
2 hours lecture
Support for this course focuses on the skills and concepts needed for success in PreCalculus. This course is for students concurrently enrolled in PreCalculus (Math 176) at Cuyamaca College. Students will receive extra support in algebra, geometry, problem solving, technology, and study skills. **Pass/No Pass only. Non-degree applicable.**

078 FOUNDATIONS FOR CALCULUS FOR BUSINESS SOCIAL & BEHAVIORAL SCIENCES 2 UNITS
Prerequisite: Appropriate placement
Co-requisite: MATH 178
2 hours lecture
Support for this course focuses on the skills and concepts needed for success in Calculus for Business, Social & Behavioral Sciences (Math 178). This course is for students concurrently enrolled in Math 178 at Cuyamaca College. Students will receive extra support in algebra, geometry, problem solving, technology, and study skills. **Pass/No Pass only. Non-degree applicable.**

110 INTERMEDIATE ALGEBRA FOR BUSINESS, MATH, SCIENCE AND ENGINEERING MAJORS 5 UNITS
Prerequisite: Appropriate placement
5 hours lecture
The second of a two-course sequence in algebra. This course completes some topics from the first course, such as factoring and operations on rational and radical expressions, and includes the addition of new topics such as absolute value equations, exponential and logarithmic expressions and equations, conic sections, and an introduction to matrices and sequences and series. The concept of functions is developed including composition and inverses. Quadratic functions are covered in depth. Computational techniques developed in beginning algebra are prerequisite skills for this course. This course is 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. Graphing calculators are required for this course.
AA/AS GE

120 QUANTITATIVE REASONING 3 UNITS
Prerequisite: Appropriate mathematics placement
3 hours lecture
The students will survey the historical development of mathematics and apply topics such as logic, geometry, probability, statistics, problem solving, sequences and patterns, numeration systems, and personal finance to develop quantitative reasoning skills. 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

121 QUANTITTIVE REASONING FOR CAREER EDUCATION 3 UNITS
3 hours lecture
A mathematics course designed to develop the computational skills needed in many Career Education (CE) programs. Topics include geometry, measurement, number sense, estimation, basic statistics, trigonometric functions, and critical thinking skills.
AA/AS GE, CSU

125 STRUCTURE AND CONCEPTS OF ELEMENTARY MATHEMATICS I 3 UNITS
C-ID MATH 120
Prerequisite: "C" grade or higher or "Pass" in MATH 110 or equivalent
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
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

160 ELEMENTARY STATISTICS 4 UNITS
C-ID MATH 110
Prerequisite: "C" grade or higher in Math 110 or appropriate mathematics placement
4 hours lecture
The use of probability techniques, hypothesis testing, and predictive techniques to facilitate decision-making. Topics include descriptive statistics; probability and sampling distributions; statistical inference; correlation and linear regression; analysis of variance, chi-square and t-tests; and application of technology for statistical analysis including the interpretation of the relevance of the statistical findings. Applications using data from disciplines including business, social sciences, psychology, life science, health science, and education.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

170 ANALYTIC TRIGONOMETRY 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in MATH 110 or equivalent
3 hours lecture
Theoretical approach to the study of the trigonometric functions with emphasis on circular functions, trigonometric identities, trigonometric equations, graphical methods, vectors and applications, complex numbers, and solving triangles with applications. *Successful completion of MATH 170 and 175 is equivalent to the successful completion of MATH 176. Maximum of 7 units can be earned for successfully completing any combination of MATH 170, 175, 176.*
AA/AS GE, CSU, CSU GE

175 COLLEGE ALGEBRA 4 UNITS
C-ID MATH 151
Prerequisite: "C" grade or higher or "Pass" in MATH 110 or equivalent
4 hours lecture
College level course in algebra for majors in science, technology, engineering, and mathematics: polynomial, rational, radical, exponential, absolute value, and logarithmic functions; systems of equations; theory of polynomial equations; and analytic geometry. *Successful completion of MATH 170 and 175 is equivalent to the successful completion of MATH 176. 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 110 or equivalent
6 hours lecture
Preparation for calculus: polynomial, absolute value, radical, rational, exponential, logarithmic, and trigonometric functions and their graphs; analytic geometry, polar coordinates. *Successful completion of MATH 176 is equivalent to the successful completion of MATH 170 and 175. 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
C-ID MATH 140
Prerequisite: "C" grade or higher or "Pass" in MATH 110 or equivalent
4 hours lecture
Presents a study of the techniques of calculus with emphasis placed on the application of these concepts to business and management related problems. The applications of derivatives and integrals of functions including polynomials, rational, exponential and logarithmic functions

are studied. *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

C-ID MATH 210, 900S (with MATH 280)

Prerequisite: "C" grade or higher or "Pass" in MATH 170 and 175, or MATH 176 or equivalent

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 math, science, and engineering students with a solid introduction to the theory and techniques of analysis.

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

245 DISCRETE MATHEMATICS 3 UNITS

C-ID MATH 160

Prerequisite: "C" grade or higher or "Pass" in MATH 280 or equivalent

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

C-ID MATH 220, 900S (with MATH 180)

Prerequisite: "C" grade or higher or "Pass" in MATH 180 or equivalent

4 hours lecture

A second course in differential and integral calculus of a single variable: integration; techniques of integration; infinite sequences and series; polar and parametric equations; applications of integration. Primarily for science, technology, engineering and math majors.

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

281 MULTIVARIABLE CALCULUS 4 UNITS

C-ID MATH 230

Prerequisite: "C" grade or higher or "Pass" in MATH 280 or equivalent

4 hours lecture

The third of a three-course sequence in calculus. Topics include vector valued functions, calculus of functions of more than one variable, partial derivatives, multiple integration, Green's Theorem, Stokes' Theorem, and divergence theorem.

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

284 LINEAR ALGEBRA 3 UNITS

C-ID MATH 250, 910S (with MATH 285)

Prerequisite: "C" grade or higher or "Pass" in MATH 280 or equivalent

3 hours lecture

This course develops the techniques and theory needed to solve and classify systems of linear equations. Solution techniques include row operations, Gaussian elimination, and matrix algebra. Investigates the properties of vectors in two and three dimensions, leading to the notion of an abstract vector space. Vector space and matrix theory are presented including topics such as inner products, norms, orthogonality, eigenvalues, eigenspaces, and linear transformations. Selected applications of linear algebra are included.

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

285 DIFFERENTIAL EQUATIONS 3 UNITS

C-ID MATH 240, 910S (with MATH 284)

Prerequisite:"C" grade or higher or "Pass" in MATH 280 or equivalent

3 hours lecture

This course is an introduction to ordinary differential equations including both quantitative and qualitative methods as well as applications from a variety of disciplines. Introduces the theoretical aspects of differential equations, including establishing when solution(s) exist, and techniques for obtaining solutions, including series solutions, singular points, Laplace transforms and linear systems.

CSU, CSU GE, IGETC, UC

MUSIC (MUS)

Courses Related in Content (see pages 35-36)

001 MUSIC FUNDAMENTALS 4 UNITS

C-ID MUS 110

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

052 CONCERT BAND FOR THE ADULT LEARNER 0 UNITS

Prerequisite: "C" grade or higher or "Pass" in MUS 253 or equivalent

3 hours laboratory

This course is designed for mature students who are interested in improving existing skills or developing a higher degree of expertise in the performance of instrumental music. **This is a no-fee/no-credit course.**

058 CHOIR FOR THE ADULT LEARNER 0 UNITS

Prerequisite: "C" grade or higher or "Pass" in MUS 259 or equivalent

3 hours laboratory

This course is designed for mature students who are interested in improving existing skills or developing a higher degree of expertise in the performance of choral music. **This is a no-fee/no-credit course.**

090 PREPARATORY PERFORMANCE STUDIES I .5 UNIT

1.5 hours laboratory

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.**

091 PREPARATORY PERFORMANCE STUDIES II .5 UNIT

1.5 hours laboratory

Continued 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

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

C-ID MUS 120, 125

3 hours lecture, 3 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

3 hours lecture, 3 hours laboratory

Continuation of MUS 105 including both written and aural aspects of music theory. Four-part writing, 7th chords, cadences and non-chord tones. Rhythmic and melodic dictation and harmonic ear training. Sight singing. Analysis of Bach chorales and binary and ternary forms.

CSU, UC

108 ROCK, POP AND SOUL ENSEMBLE 1 UNIT

Prerequisite: Audition

3 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

109 ROCK, POP AND SOUL ENSEMBLE 1 UNIT

Prerequisite: Audition

3 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

C-ID MUS 100

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

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

115 HISTORY OF ROCK MUSIC 3 UNITS

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

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
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
4 hours lecture
Study of basic music theory including notation, rhythms, 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
75 hours paid or 60 hours unpaid work experience 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. *Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 unpaid hours per unit earned. May be taken for a maximum of 12 units.*
CSU

120 INTRODUCTION TO MUSIC TECHNOLOGY 3 UNITS
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 MUSIC INDUSTRY SEMINAR 1 UNIT
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

122 MUSIC INDUSTRY SEMINAR 1 UNIT
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

123 HISTORY OF HIP-HOP CULTURE 3 UNITS
3 hours lecture
This is a survey course that will examine the origins and rise of Hip-Hop as an artistic form and global cultural phenomenon. It is designed for students who wish to examine and explore Hip-Hop culture, while developing background knowledge of Hip-Hop history from the early 1970's South Bronx to its national and international role today. The connections between rap music and the other elements of Hip-Hop culture will be explored and students will be challenged to think critically about rap music and its place in society. Controversial subjects such as censorship, racism, sexism, and racial politics in America will be discussed as they relate to the subject matter.
AA/AS GE, CSU, CSU GE

126 CLASS GUITAR I 2 UNITS
2 hours lecture
Beginning course in guitar for non-music majors. Fundamentals of music as related to the guitar including 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
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

132 CLASS PIANO I 3 UNITS
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
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 CHAMBER SINGERS 1 UNIT
Prerequisite: Audition
3 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

137 CHAMBER SINGERS 1 UNIT
Prerequisite: Audition
3 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 CONCERT BAND 1 UNIT
C-ID MUS 180
Prerequisite: Audition
3 hours laboratory
Study of representative concert band compositions in a wide variety of styles at regular rehearsals and public performances.
CSU, UC

153 CONCERT BAND 1 UNIT
Prerequisite: Audition
3 hours laboratory
Study of representative concert band compositions in a wide variety of styles at regular rehearsals and public performances.
CSU, UC

156 JAZZ ENSEMBLE 1 UNIT
C-ID MUS 180
Prerequisite: Audition
3 hours laboratory
Study of representative jazz ensemble compositions in a wide variety of styles at regular rehearsals and public performances.
CSU, UC

157 JAZZ ENSEMBLE 1 UNIT
C-ID MUS 180
Prerequisite: Audition
3 hours laboratory
Study of representative jazz ensemble compositions in a wide variety of styles at regular rehearsals and public performances.
CSU, UC

158 CHORUS 1 UNIT
C-ID MUS 180
Prerequisite: Audition
3 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

159 CHORUS 1 UNIT
C-ID MUS 180
Prerequisite: Audition
3 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
75 hours paid or 60 hours unpaid work experience 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. *Occupational cooperative work experience may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 unpaid hours per unit earned. May be taken for a maximum of 12 units.*
CSU

170 CLASS VOICE 2 UNITS
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

171 CLASS VOICE 2 UNITS
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: "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 PERFORMANCE STUDIES .5 UNIT
C-ID MUS 160
Prerequisite: Audition
1.5 hours laboratory
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

191 PERFORMANCE STUDIES .5 UNIT
C-ID MUS 160
Prerequisite: Audition
1.5 hours laboratory
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

205 MUSIC THEORY AND PRACTICE III 4 UNITS
C-ID MUS 140, 145
Prerequisite: "C" grade or higher or "Pass" in MUS 106 or equivalent
3 hours lecture, 3 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
C-ID MUS 150, 155
Prerequisite: "C" grade or higher or "Pass" in MUS 205 or equivalent
3 hours lecture, 3 hours laboratory
Continuation of MUS 205. Harmony of the Post-Romantic and 20th century styles. Expanded tonality. Use of church modes, pentatonic, synthetic and dodecaphonic scales. Parallelism, pandiatonicism, twelve-tone technique, aleatory music and electronic music. Study of the 18th century two-part counterpoint. Ear-training and sight singing.
CSU, UC

208 ROCK, POP AND SOUL ENSEMBLE 1 UNIT
Prerequisite: Audition
3 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

209 TROCK, POP AND SOUL ENSEMBLE 1 UNIT
Prerequisite: Audition
3 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

221 MUSIC INDUSTRY SEMINAR 1 UNIT
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

222 MUSIC INDUSTRY SEMINAR 1 UNIT
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

226 CLASS GUITAR III 2 UNITS
Prerequisite: "C" grade or higher or "Pass" in MUS 127 or equivalent
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
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
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
3 hours lecture
Continuation of MUS 232. Keyboard harmony and deceptive cadence. Reading an open score. Ensemble playing and accompaniment. Piano literature from the 18th through the 20th centuries.
CSU, UC

236 CHAMBER SINGERS 1 UNIT
Prerequisite: Audition
3 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

237 CHAMBER SINGERS 1 UNIT
Prerequisite: Audition
3 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

252 CONCERT BAND 1 UNIT
C-ID MUS 180
Prerequisite: Audition
3 hours laboratory
Study of representative concert band compositions in a wide variety of styles at regular rehearsals and public performances.
CSU, UC

253 CONCERT BAND 1 UNIT
C-ID MUS 180
Prerequisite: Audition
3 hours laboratory
Study of representative concert band compositions in a wide variety of styles at regular rehearsals and public performances.
CSU, UC

256 JAZZ ENSEMBLE 1 UNIT
Prerequisite: Audition
3 hours laboratory
Study of representative jazz ensemble compositions in a wide variety of styles at regular rehearsals and public performances.
CSU, UC

257 JAZZ ENSEMBLE 1 UNIT
Prerequisite: Audition
3 hours laboratory
Study of representative jazz ensemble compositions in a wide variety of styles at regular rehearsals and public performances.
CSU, UC

258 CHORUS 1 UNIT
C-ID MUS 180
Prerequisite: Audition
3 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

259 CHORUS 1 UNIT
C-ID MUS 180
Prerequisite: Audition
3 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

270 CLASS VOICE 2 UNITS
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

271 CLASS VOICE 2 UNITS
Recommended Preparation: Ability to read music
2 hours lecture
Designed to help the student learn to use the voice correctly. Principles of vocal placement, posture, balance, breath control and vocal tone are emphasized through individual performances.
CSU, UC

290 PERFORMANCE STUDIES .5 UNIT
C-ID MUS 160
Prerequisite: Audition
1.5 hours laboratory
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

291 PERFORMANCE STUDIES .5 UNIT
C-ID MUS 160
Prerequisite: Audition
1.5 hours laboratory
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

NATIVE AMERICAN LANGUAGES (NAKY)

120 KUMEYAAY I 4 UNITS
4 hours lecture
Introduction to the Kumeyaay language and the culture of its speakers. Facilitates the practical application of the language in everyday oral communication at the beginning 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 4 UNITS
Prerequisite: "C" grade or higher or "Pass" in NAKY 120 or equivalent
4 hours lecture
Continuation of NAKY 120. Students will continue to develop oral skills based on practical everyday situations and contexts.
AA/AS GE, CSU, CSU GE, IGETC, UC

220 KUMEYAAY III 4 UNITS
Prerequisite: "C" grade or higher or "Pass" in NAKY 121 or equivalent
4 hours lecture
Continuation of NAKY 121. Students will develop increasingly advanced oral, listening and speaking skills in the Kumeyaay language.
AA/AS GE, CSU, CSU GE, IGETC, UC

NUTRITION (NUTR)

155 INTRODUCTION TO NUTRITION 3 UNITS
(Formerly HED 155)
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. Not open to students with credit in HED 155.
AA/AS GE, CSU, CSU GE, UC

158 NUTRITION FOR FITNESS AND SPORTS 3 UNITS
(Formerly HED 158)
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. Not open to students with credit in HED 158.
CSU, CSU GE

255 SCIENCE OF NUTRITION 3 UNITS
(Formerly HED 255)
C-ID NUTR 110
Prerequisite: "C" grade or higher or "Pass" in BIO 130, 131 and CHEM 115 or 120 or equivalent
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. Not open to students with credit in HED 255.
CSU, CSU GE, UC

OCEANOGRAPHY (OCEA)

112 INTRODUCTION TO OCEANOGRAPHY 3 UNITS
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
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

ORNAMENTAL HORTICULTURE (OH)

****UC credit limit: all CADD courses, ENGR 119, ENGR 129, OH 200, OH 201 combined: maximum credit, one course***

102 XERISCAPE: WATER CONSERVATION IN THE LANDSCAPE 2 UNITS
2 hours lecture
Water management principles and practices as applied 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

105 EDIBLES IN URBAN LANDSCAPES 1.5 UNITS
1.5 hours lecture
Covers the basics of cultivating edible plants in small scale urban settings, including annual and perennial vegetables as well as shrubs and trees that produce edible fruit. San Diego's climate allows for the production of many tropical and sub-tropical edibles as well as deciduous trees that require some winter chill. Topics include suitable crops, planting techniques, irrigation, fertilizers, maintenance, pests and diseases, and harvest and storage requirements.
CSU

114 FLORAL DESIGN I 3 UNITS
2 hours lecture, 3 hours laboratory
Theory and practice of basic geometric floral design, identification of flowers and foliages, and practical skills necessary for employment in the floral industry. Fresh, 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
2 hours lecture, 3 hours laboratory
Theory and practice of parallel, vegetative, and contemporary line designs for the retail floral industry. Students will use fresh flowers, silks, dried flowers, foliages, organic and inorganic materials for creating floral designs with an emphasis on European influence and trends.
CSU

117 WEDDING DESIGN I 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in OH 114 or equivalent
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
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

120 FUNDAMENTALS OF ORNAMENTAL HORTICULTURE 3 UNITS
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
C-ID AG-EH 116L
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 and working with various structures, tools and equipment common to plant propagation.
CSU, UC

130 PLANT PEST CONTROL 3 UNITS
C-ID AG-EH 120XT
2 hours lecture, 3 hours laboratory
Identification and control of insects, mites, spiders, snails, weeds and diseases that affect ornamental plants with an emphasis on their phylogenetic relationships, habits, habitats and important characteristics affecting the health of ornamental plants. Control methods will stress the relationships with predators and integrated pest management. The course will include study material for the Qualified Applicator Certificate and License.
CSU

140 SOILS 3 UNITS
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

150 LANDSCAPE ARCHITECTURE I 3 UNITS
2 hours lecture, 3 hours laboratory
The course focuses on principles of landscape architecture for public and residential projects with an emphasis on the creation of usable, pleasant outdoor spaces. Topics include strategies to create cohesive site and planting plans using industry drafting standards. The lab emphasizes hands-on design and drafting exercises.
CSU

151 LANDSCAPE ARCHITECTURE II 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in OH 150 or equivalent
2 hours lecture, 3 hours laboratory
Principles of landscape architecture for public and residential projects with an emphasis on the creation of usable, pleasant outdoor spaces. Focuses on cohesive set of construction drawings (site plan, planting plan, grading plan, lighting plan, and basic construction details) using industry drafting standards. The lab emphasizes hands-on design exercises and drafting of landscape projects using hand graphics and computer-generated drawings.
CSU

170 PLANT MATERIALS: TREES AND SHRUBS 3 UNITS
3 hours lecture
Identification, cultural requirements, and landscape uses of ornamental trees and shrubs common to the California landscape.
CSU, UC

174 TURF AND GROUND COVER MANAGEMENT 3 UNITS
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 pest and disease problems and their control.
CSU

180 PLANT MATERIALS: ANNUALS AND PERENNIALS 3 UNITS
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, UC

200 INTRODUCTION TO COMPUTER-AIDED LANDSCAPE DESIGN 3 UNITS
2 hours lecture, 3 hours laboratory
Introduction to computer-aided landscape design using AutoCAD software. Creation of site plans, landscape plans, sprinkler plans, contour maps and landscape estimates. Elevation and perspective drawings are also created. *Also listed as CADD 200. Not open to students with credit in CADD 200.*
*CSU, *UC credit limit*

201 ADVANCED COMPUTER-AIDED LANDSCAPE DESIGN 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CADD/OH 200 or equivalent
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. *Also listed as CADD 201. Not open to students with credit in CADD 201.*
*CSU, *UC credit limit*

220 LANDSCAPE CONSTRUCTION: CONCRETE AND MASONRY 3 UNITS
C-ID AG-EH 132X
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
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; basic materials and methods for construction of decks, overhead structures, wooden fences and gates; code and design requirements for irrigation, drainage and landscape structures.
CSU

222 JAPANESE GARDEN DESIGN AND CONSTRUCTION 1 UNIT
.5 hour lecture, 1.5 hours laboratory
An introduction to Japanese garden design concepts and construction methods. The course will cover the historical development of Japanese gardens and, based on the 11th century garden design book *Sakuteiki,* design concepts and construction of garden elements such as stone compositions, streams, ponds, waterfalls, Zen-influenced stone gardens (dry landscape garden), water-basins, introduction to traditional pruning and other basic design, construction and maintenance techniques.

225 LANDSCAPE CONTRACTING 3 UNITS
3 hours lecture
Covers the practices in applying standard techniques in landscape construction and estimating for landscape trades. Reviews the rules, regulations and licensing laws governing landscape contractors set forth by the State of California. Includes an exploration of the field of landscape contracting and business practices associated with the landscape industry.
CSU

235 PRINCIPLES OF LANDSCAPE IRRIGATION 4 UNITS
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
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
2 hours lecture, 3 hours laboratory
Study of greenhouse plant production. Emphasis on the programming of greenhouse crops common to Southern California. The course will cover equipment, structures, environmental control, estimation of crop production requirements, and production and sales of common greenhouse crops.
CSU

250 LANDSCAPE WATER MANAGEMENT **2 UNITS**
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**
Recommended Preparation: "C" grade or higher or "Pass" in OH 120, 170 or equivalent
2 hours lecture
Principles and practices of sustainable landscape design, construction and maintenance. The course provides a basic understanding of the holistic function of the landscape in the context of sustainability. Using a comprehensive systems approach, learn to investigate, analyze, and apply sustainable environmental practices to a project site. Practice communicating ideas, research, and solutions, creatively and confidently via oral presentations.
CSU, UC

260 ARBORICULTURE **3 UNITS**
2 hours lecture, 3 hours laboratory
Introductory course in the study and practice of arboriculture: the knowledge and care of individual trees living in populated areas. The course will familiarize students with the principles and practices of selecting, establishing, and maintaining trees, including tree biology, planting, pruning, diagnosis and preventative care, hazard evaluation, safe work practices, and tree valuation methods. The course can be used to prepare for the International Society of Arboriculture Certification Exam, and can provide Continuing Education units for those already certified.
CSU, UC

263 URBAN FORESTRY **1 UNIT**
1 hour lecture, .5 hour laboratory
Introduces students to the theory and practice of conducting detailed tree inventories, management of public trees, tree evaluation for hazard assessment and risk reduction programs, legal aspects of trees, and appraisal of value methods for trees. Students will also learn site evaluation, benefits of tree volunteer organizations, priority action plans, and emergency response plans.
CSU

264 SAFE WORK PRACTICES IN TREE CLIMBING AND ARBORICULTURE **1 UNIT**
.5 hour lecture, 1.5 hours laboratory
Study and training in the current accepted arboricultural practices in tree climbing and tree work with a chainsaw. Course content includes safety standards and procedures for: personal protective equipment, climbing equipment identification and preparation, pre-climb tree inspection, proper use of climbing equipment, safe operation and maintenance of chainsaws. The course can be used to help with preparation for the International Society of Arboriculture Certified Tree Worker Climber Specialist Exam, and can provide Continuing Education units for those already certified.
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
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

266 SCIENCE IN PRACTICE FOR ARBORICULTURE **1 UNIT**
1 hour lecture
An overview of the scientific concepts of arboriculture, especially as applied to the knowledge required of an International Society of Arboriculture Certified Arborist. Individuals who attain this certification are expected to apply current scientific knowledge and best management practices to the evaluation and care of trees.
CSU

275 DIAGNOSING HORTICULTURAL PROBLEMS **3 UNITS**
Recommended Preparation: "C" grade or higher or "Pass" in OH 120, 130, 170 or equivalent
2 hours lecture, 3 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

290 COOPERATIVE WORK EXPERIENCE EDUCATION **1-4 UNITS**
75 hours paid or 60 hours unpaid work experience 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. *Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 unpaid hours per unit earned. May be taken for a maximum of 12 units.*
CSU

PARALEGAL STUDIES (PARA)

100 INTRODUCTION TO PARALEGAL STUDIES **3 UNITS**
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
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 including e-discovery and trial practice.
CSU

120 INTRODUCTION TO ADMINISTRATIVE LAW **2 UNITS**
2 hours lecture
This course is intended to be an introduction to Administrative Law and the role of the paralegal in various administrative agencies. Statutory law, case law, and administrative rules will be utilized to develop, for the student, an understanding of the role and authority of administrative agencies. Students completing this course will have the foundation to advance into the areas of Social Security, Worker's Compensation, and Labor and Employment Law.
CSU

121 SOCIAL SECURITY DISABILITY LAW **1 UNIT**
1 hour lecture
This course is intended to be an introduction to Social Security Disability Law and the role of Paralegals in the Social Security Administration. Statutory law, case law and Social Security rules will be utilized to develop an understanding of the role and authority of the Social Security Administration. Students will also be able to assist applicants with the processing of their disability applications and claims. Students completing this course will have the foundation to advance into other specialty areas of Administrative Law.
CSU

125 BUSINESS ORGANIZATIONS **1 UNIT**
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
3 hours lecture
Includes in-depth legal research, writing research reports and subject matter reports on legal issues, case briefings, and citations using the uniform system of citation The Bluebook.
CSU

132 COMPUTER ASSISTED LEGAL RESEARCH (CALR) **3 UNITS**
Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent
3 hours lecture
The study of computer software programs designed specifically for use in law offices and legal environments, including but not limited to specific applications such as calendaring, and time and billing programs. The course focuses on legal research using electronic sources.
CSU

135 BANKRUPTCY LAW **3 UNITS**
Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent
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 INTRODUCTION TO CRIMINAL LAW AND PROCEDURES 1 UNIT
1 hour lecture
The California Penal Code and Rules of Criminal Procedure will be the foundation of this preliminary-examination of the substantive and procedural laws in a criminal case. Students will be exposed to the basics of the criminal justice system from the elements of offenses through post-conviction remedies. The drafting of documents associated with criminal matters will be included.
CSU

145 ESTATE PLANNING 2 UNITS
Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent
2 hours lecture
Recommended Preparation: Familiarity with Canvas learning platform, basic computing, rudimentary understanding of contracts and property law.
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

146 PROBATE AND ADMINISTRATION OF ESTATES 1 UNIT
Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent
1 hour lecture
Overview of Probate and Administration of Estates, including the law of wills, estates and estate administration including testate and intestate estates, and the law of descent and distribution will be discussed as well as conservatorships.
CSU

150 FAMILY LAW (DIVORCE, SEPARATION, NULLITY, AND PATERNITY) 2 UNITS
Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent
2 hours lecture
Recommended Preparation: Familiarity with Canvas learning platform, basic computing.
Family law matters such as legal separation, dissolution of marriage, nullity and paternity are included. The law in California regulating such matters and the drafting of appropriate documents will be emphasized.
CSU

151 FAMILY LAW (CUSTODY, VISITATION, SUPPORT) 1 UNIT
Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent
Recommended Preparation: PARA 150
1 hour lecture
This course will cover Family Law matters such as child custody and visitation, child and spousal support are included. California law regulating these matters and the drafting of appropriate documents will be emphasized.
CSU

160 PERSONAL INJURY 1 UNIT
Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent
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

170 WORKERS' COMPENSATION 1 UNIT
Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent
1 hour lecture
Overview of California's Workers' 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

175 ELECTRONIC DISCOVERY: PRACTICE AND PROCEDURE 1 UNIT
Recommended Preparation: PARA 100 or PARA 110
1 hour lecture
This course explores the developing issues, rules and practices involving the application of e-discovery in litigation and general practice. Students will learn about the evolution of electronic discovery, its current use, and how the rules of civil procedure, evidence and case law affect this aspect of litigation. This course will deal with matters a paralegal and the legal team should consider when handling Electronically Stored Information (ESI) prior to and during the litigation process as well as managing the cost of production and processing. Students will study the ethics issues implicit in e-discovery.
CSU

199 SPECIAL STUDIES OR PROJECTS IN PARALEGAL STUDIES 1-3 UNITS
48-54 hours (1 unit), 96-108 hours (2 units), 144-162 hours (3 units)
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 repeated with different content for a maximum of 9 units.*
(see page 40, 199 Courses-Special Studies)

250 INTERNSHIP 1-4 UNITS
Prerequisite: "C" grade or higher or "Pass" in PARA 100 or equivalent
75 hours paid or 60 hours unpaid work experience per unit
Practical work experience in a cooperating law office or corporate legal department. *Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 nonpaid hours per unit earned. May be taken for a maximum of nine units in Paralegal.*
CSU

PERSONAL DEVELOPMENT–SUCCESS SERVICES (PDSS)

080 EDUCATIONAL ASSESSMENT AND PRESCRIPTIVE PLANNING .5 UNIT
.5 hour lecture
Designed to assess, identify and diagnose learning strengths and weaknesses for the purpose of identifying specific learning disabilities. Guidelines mandated by the California Community Colleges Chancellor's Office. *Learning Disabilities Eligibility and Service Model*, will be utilized to determine eligibility for Learning Disabilities Services. 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 qualified and certificated Disabled Students Programs and Services (DSPS) Specialist. **Pass/No Pass only. Non-degree applicable.**

081 SELF-ADVOCACY 1 UNIT
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
1 hour lecture, 1 hour laboratory
Individualized course of study for students with disabilities. Designed to acquaint students with basic assistive technology and techniques that may improve their ability to participate in general activities, programs and classes offered by the college and improve their potential for success in college. *May be taken for a maximum of 4 times.* **Pass/No Pass only. Non-degree applicable.**

087 ADAPTED COMPUTER STUDIES 1 UNIT
1 hour lecture, 1 hour laboratory
Individualized course of study for students with disabilities. Provides in-depth, individualized instruction in assistive technology and techniques to maximize independent use of assistive and mainstream computer hardware/software. This course is intended to improve students' ability to participate in general activities, programs and classes offered by the college and improve their potential for success in college-level courses. *May be taken for a maximum of 4 units.* **Pass/No Pass only. Non-degree applicable.**

090 LEARNING STRATEGIES PRACTICUM 1 UNIT
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. May be taken for a maximum of 4 units. **Pass/No Pass only. Non-degree applicable.**

092 MATH STRATEGIES FOR STUDENTS WITH DISABILITIES 1 UNIT
1 hour lecture
Instruction in strategies to improve success in developmental math courses for students with disabilities. Included in the course are test taking strategies, techniques to deal with math anxiety, textbook reading skills, ways to improve note taking and memory, and effective homework practices. Students will identify various aspects of their learning styles and use the information to develop study strategies that are appropriate for a math course. Students with disabilities enrolled in Math 110 would benefit from this course. **Pass/No Pass only. Non-degree applicable.**

096 COGNITIVE COMMUNICATION SKILLS AND STRATEGIES 1 UNIT
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.**

PHILOSOPHY (PHIL)

110 A GENERAL INTRODUCTION TO PHILOSOPHY 3 UNITS
C-ID PHIL 100
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 3 UNITS
C-ID PHIL 130
3 hours lecture
Survey of ancient philosophy with emphasis on the development of philosophy from the Pre-Socratics through Plato and Aristotle, to the medieval period.
AA/AS GE, CSU, CSU GE, IGETC, UC

117 HISTORY OF PHILOSOPHY II: MODERN AND CONTEMPORARY 3 UNITS
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
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
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
C-ID PHIL 120
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

141 BIOETHICS 3 UNITS
3 hours lecture
In this orientation to biomedical ethics, students will explore ethical dilemmas common in the medical field including but not limited to organ transplantation, use of human beings and animals in research, genetic and reproductive technologies, abortion, euthanasia, and delivering healthcare. By considering how concepts such as justice, autonomy, caring, truth-telling, and resource allocation figure into such ethical dilemmas, the student will become familiar with how ethical detion making takes place in the medical field.
AA/AS GE, CSU, UC

160 AMERICAN PHILOSOPHY 3 UNITS
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
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

PHYSICS (PHYC)

110 INTRODUCTORY PHYSICS 4 UNITS
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

130 FUNDAMENTALS OF PHYSICS 4 UNITS
C-ID PHYS 105, C-ID PHYS 100S(with PHYC 131)
Prerequisite: "C" grade or higher or "Pass" or concurrent enrollment in MATH 180 or equivalent
3 hours lecture, 3 hours laboratory
A mathematical and philosophical introduction to basic physical phenomena including force, linear and rotational motion, momentum, work and energy, simple harmonic motion and wave behavior, heat and thermodynamics using calculum, trigonometry and algebra-based problem solving. 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
C-ID PHYS 110, C-ID PHYS 100S(with PHYC 130)
Prerequisite: "C" grade or higher or "Pass" in PHYC 130 or equivalent
3 hours lecture, 3 hours laboratory
A mathematical and philosophical introduction to basic physical phenomena including electricity, magnetism, optics and modern physics using calculus, trigonometry and algebra-based problem solving. 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
C-ID PHYS 205, C-ID PHYS 200S (with PHYC 200 & 210)
Prerequisite: "C" grade or higher or "Pass" in MATH 280 or equivalent or concurrent enrollment
4 hours lecture, 3 hours laboratory
This course covers linear and rotational kinematics and dynamics, equilibrium, work, energy, momentum, gravitation, simple harmonic motion, thermal properties of matter, and thermodynamics. This course is the first of a three semester sequence intended for students majoring in physical sciences and engineering.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

200 ELECTRICITY AND MAGNETISM 5 UNITS
C-ID PHYS 210, 200S (with PHYC 190 & 210)
Prerequisite: "C" grade or higher or "Pass" in PHYC 190 or equivalent; "C" grade or higher or "Pass" in MATH 280 or equivalent
Recommended Preparation: Concurrent enrollment in MATH 281
4 hours lecture, 3 hours laboratory
Course focus is on the electric and magnetic behavior of matter. The primary emphasis is on Maxwell's Equations and their applications. This course is part of a three semester sequence intended for students majoring in physical sciences and engineering.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

201 MECHANICS AND WAVES 5 UNITS
C-ID PHYS 205, C-ID PHYS 200S (with PHYC 202, 203)
Prerequisite: "C" grade or higher or "Pass" in MATH 180 or equivalent
4 hours lecture, 3 hours laboratory
This is the first course of a three-semester, calculus level sequence of physics courses designed for engineering, physics, mathematics, and science majors. The course assumes no previous physics study, but makes extensive use of algebra, trigonometry, geometry, and calculus. Topics include linear and rotational kinematics and dynamics, energy and energy conservation, linear and angular momentum and their conservation laws, fluid dynamics, and gravitation, and wave motion.
AA/AS GE, CSU, CSU GE, IGETC, UC

202 ELECTRICITY, MAGNETISM, AND HEAT 5 UNITS
C-ID PHYS 210, C-ID PHYS 200S (with PHYC 201, 203)
Prerequisite: "C" grade or higher or "Pass" in PHYSICS 201 or equivalent; and "C" grade or higher or "Pass" or concurrent enrollment in MATH 280 or equivalent
4 hours lecture, 3 hours laboratory
This is the second course of a three-semester, calculus level sequence of physics courses designed for engineering, physics, mathematics, and science students. The topics of heat, electricity, and magnetism are introduced at the beginning level with reliance upon students' ability to apply topics introduced in Physics 201. The laboratory provides emphasis on measurements using gas laws and of electric and magnetic fields, DC and AC circuits, and oscilloscope techniques.
AA/AS GE, CSU, CSU GE, IGETC, UC

203 LIGHT, OPTICS, AND MODERN PHYSICS 5 UNITS
C-ID PHYS 215, C-ID PHYS 200S (with PHYC 201, 202)
Prerequisite: "C" grade or higher or "Pass" in PHYSICS 202 or equivalent; and "C" grade or higher or "Pass" or concurrent enrollment in MATH 281 or equivalent
4 hours lecture, 3 hours laboratory
This is the third course of a three-semester, calculus level sequence of physics courses designed for engineering, physics, mathematics, and science students. The topics of optics, quantum mechanics, special relativity, and atomic and nuclear physics are introduced at the beginning level with reliance upon ability to apply topics introduced in Physics 201 and Physics 202. The laboratory provides experiments in optics, interference and diffraction, and nuclear physics.
AA/AS GE, CSU, CSU GE, IGETC, UC

210 WAVE MOTION AND MODERN PHYSICS 5 UNITS
C-ID PHYS 215, 200S (with PHYC 190 & 200)
Prerequisite: "C" grade or higher or "Pass" in PHYC 190 or equivalent; "C" grade or higher or "Pass" in MATH 281 or equivalent or concurrent enrollment
4 hours lecture, 3 hours laboratory
Course focuses on 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. This course is part of a three semester sequence intended for students majoring in physical sciences and engineering.
AA/AS GE, CSU, CSU GE, IGETC, UC credit limit

POLITICAL SCIENCE (POSC)

120 INTRODUCTION TO POLITICS AND POLITICAL ANALYSIS 3 UNITS
C-ID POLS 150
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
C-ID POLS 110
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
C-ID POLS 130
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
C-ID POLS 140
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
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, IGETC, UC

165 INTRODUCTION TO THE POLITICS OF RACE AND GENDER 3 UNITS
3 hours lecture
This course is an introduction to the politics of race and gender. The course offers an overview of the identity, status, and power of Women, Native Americans, African Americans, Latina/o Americans, and Asian Americans from an intersectionality perspective. *Also listed as ETHN 165. Not open to students with credit in ETHN 165.*
AA/AS GE, CSU, CSU GE

166 INTRODUCTION TO NATIVE AMERICAN POLITICS AND POLICY 3 UNITS
3 hours lecture
This course introduces students to Native American politics and policy from the treaty making process that formed the foundation of contemporary tribal sovereignty to legal cases and precedents that impact Native American lands and people. The course will also explore how Native people have both petitioned for access into the American polity and actively resisted assimilation. Emphasis will be given to twelve recognized Kumeyaay tribal governments in the United States and four recognized Kumeyaay/Kumiai tribal governments in Baja California, Mexico. *Also listed as ETHN 166. Not open to students with credit in ETHN 166.*
AA/AS GE, CSU

170 INTRODUCTION TO POLITICAL SCIENCE RESEARCH METHODS 3 UNITS
C-ID POLS 160
3 hours lecture
This course focuses on the scientific study of politics, research ethics, theory construction and hypothesis generation, research design, conceptualization, operationalization, and measurement of political concepts, and data collection and management of political data. Qualitative and quantitative empirical analyses will be introduced, including interpreting results of regression models for binary, ordinal, categorical, and count outcomes.
AA/AS GE, CSU, CSU GE, IGETC, UC

180 INTRODUCTION TO PUBLIC POLICY 3 UNITS
3 hours lecture
This course focuses on public policy, including the policy process: problem identification, policy analysis, strategy and policy development, policy enactment, and policy implementation. The course will examine the application of these concepts to policy areas, such as children, families, and communities, criminal justice, democracy and voting rights, economic and budgetary, education and literacy, energy and environment, health and human services, immigrant rights, infrastructure and transportation, mobility and opportunity, science and technology, and water.
AA/AS GE, 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.

PSYCHOLOGY (PSY)

120 INTRODUCTORY PSYCHOLOGY 3 UNITS
C-ID PSY 110
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
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
C-ID PSY 130
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
C-ID PSY 170
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. *Also listed as SOC 138. Not open to students with credit in SOC 138.*
AA/AS GE, CSU, CSU GE, IGETC, UC

140 PHYSIOLOGICAL PSYCHOLOGY 3 UNITS
C-ID PSY 150
Prerequisite: "C" grade or higher or "Pass" in PSY 120 or equivalent
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

150 DEVELOPMENTAL PSYCHOLOGY 3 UNITS
C-ID PSY 180
Prerequisite: "C" grade or higher or "Pass" in PSY 120 or equivalent
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. *Not open to students with credit in PSY 165.*
AA/AS GE, CSU, CSU GE, IGETC, UC

170 ABNORMAL PSYCHOLOGY 3 UNITS
C-ID PSY 120
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

201 ACADEMIC AND CAREER OPPORTUNITIES IN PSYCHOLOGY 1 UNIT
Prerequisite: "C" grade or higher in PSY 120 or equivalent
1 hour lecture
The study of career options in the field of Psychology. Emphasis is placed on the needs of Psychology majors identifying career-related strengths and interests while providing information on post-baccalaureate options in psychology and related fields, and identification of career-related strengths and interest. Recommended after completion of thirty (30) units. **Pass/No Pass only.**
CSU

205 RESEARCH METHODS IN PSYCHOLOGY 3 UNITS
C-ID PSY 200
Prerequisite: "C" grade or higher or "Pass" in PSY 120, and 215 or Math 160 or equivalent
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.
CSU, UC

211 COGNITIVE PSYCHOLOGY 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in PSY 120 or equivalent
3 hours lecture
A general introduction to the principles of cognition. This course examines theoretical and research approaches to the study of cognitive neuroscience, perception, attention, memory, knowledge, visual imagery, language acquisition and development, problem solving and decision making.
AA/AS GE, CSU, CSU GE, IGETC, UC

215 STATISTICS FOR THE BEHAVIORAL SCIENCES 4 UNITS
C-ID SOCI 125
Prerequisite: "C" grade or higher or "Pass" in MATH 110 or appropriate mathematics assessment
3.5 hours lecture, 1.5 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
3 hours lecture
Examination of the basic principles and research in animal and human learning.
AA/AS GE, CSU, CSU GE, IGETC, UC

REAL ESTATE (RE)

190 REAL ESTATE PRINCIPLES 3 UNITS
3 hours lecture
Real Estate Principles is a fundamental real estate course covering the basic laws and principles of California real estate. It provides the student with understanding, background and the terminology necessary for advanced study in further specialized real estate courses. This course will benefit both the consumer and career-minded individual. It is designed to be of assistance to those preparing for the real estate license examination.
CSU

191 REAL ESTATE PRACTICE 3 UNITS
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
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
3 hours lecture
Study of the law governing real property, its sale, lease, hypothecation or other conveyance. Instruments utilized in conveyance or lease of such property will be examined.
CSU

194 REAL ESTATE APPRAISAL 3 UNITS
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
3 hours lecture
Study of the economic factors which determine the market and location of real property investments.
CSU

201 REAL ESTATE PROPERTY MANAGEMENT 3 UNITS
3 hours lecture
Study of property management and problem areas associated with operating income-producing property.
CSU

204 REAL ESTATE OFFICE ADMINISTRATION 3 UNITS
Recommended Preparation: Completion of Real Estate Principles
3 hours lecture
This course is a study of the administration, supervision and management of a real estate brokerage office. Students will be exposed to the principles underpinning the management of a real estate brokerage office as well as participate in various job shadowing experiences..
CSU

250 REAL ESTATE INTERNSHIP 1-4 UNITS
75 hours paid or 60 hours unpaid work experience per unit
Practical work experience in the real estate industry. *Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned. May be taken for a maximum of twelve units in Real Estate.*
CSU

RELIGIOUS STUDIES (RELG)

120 WORLD RELIGIONS 3 UNITS
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
3 hours lecture
The study of religions based on scriptures selected from Eastern and Western religions.
AA/AS GE, CSU, CSU GE, IGETC, UC

160 INTRODUCTION TO THE HEBREW BIBLE: THE FIRST TESTAMENT 3 UNITS
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

170 INTRODUCTION TO CHRISTIANITY **3 UNITS**
3 hours lecture
This course will provide an introduction to the Christian religion, with a focus on the history of its development. Its scriptures, rituals, and beliefs will be examined, as well as important persons, groups, and events which have developed among the Roman, Orthodox, and Protestant communities of Christianity.
AA/AS GE, CSU, CSU GE, IGETC, UC

SCIENCE (SCI)

100 SUCCESS IN SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (STEM) **3 UNITS**
3 hours lecture
You can be a scientist! Begin building your scientific identity as a Science, Technology, Engineering and Mathematics (STEM) professional, developing the specific knowledge, thinking and learning skills and strategies, and habits of mind necessary to have a successful career in STEM. Working individually and in teams, students will learn and use skills and strategies to investigate and solve scientific scenarios, practicing the ways that scientific thinking is used to solve problems, and develop the critical thinking ability necessary to be successful in future STEM courses. The skills and knowledge you will gain in this course will be demonstrated through the production of scientific presentations and an e-portfolio that will show your new knowledge, skills and abilities.
CSU

SOCIAL WORK (SW)

110 SOCIAL WORK FIELDS OF SERVICE **3 UNITS**
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, homophobism 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.
CSU

120 INTRODUCTION TO SOCIAL WORK **3 UNITS**
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

SOCIOLOGY (SOC)

114 INTRODUCTION TO RACE & ETHNICITY **3 UNITS**
C-ID SOCI 150
3 hours lecture
An introduction to the sociological analysis of ethnicity, race, and immigration in the United States. Topics include the history of racialized and minoritized groups in the United States, patterns of interaction between racial and ethnic groups, colonialism, immigration, identity formation, prejudice, discrimination, ethnocentrism, racism, institutional racism, social movements for civil rights, liberation and decolonization, and the intersection of race and ethnicity with other forms of difference. *Also listed as ETHN 114. Not open to students with credit in ETHN 114.*
AA/AS GE, CSU, CSU GE, IGETC, UC

120 INTRODUCTORY SOCIOLOGY **3 UNITS**
C-ID SOCI 110
3 hours lecture
Introductory study of the major concepts, theoretical approaches, and methods of sociology. Topics include social structure, culture, social control, deviance, social stratification, globalization, ethnic and race relations, gender, sexuality, social institutions, social interaction, socialization and social change. Course objectives include the ability to apply sociological ideas to everyday life.
AA/AS GE, CSU, CSU GE, IGETC, UC

125 MARRIAGE, FAMILY AND ALTERNATIVE LIFESTYLES **3 UNITS**
C-ID SOCI 130
3 hours lecture
An introduction to the sociological analysis of families, marriages and intimate relationships. Family life and intimate relationships in contemporary American society are examined from the perspectives of different ethnic and racial groups with a focus on the intersectionality of race, class, gender and sexuality. Emphasis is placed on the analysis of the family's relationship to economic structures, political institutions and belief systems in different socio-cultural and historical contexts. Topics include: history of the family, family diversity and inequality, socialization, sexuality, child and intimate partner violence and abuse, courtship, interracial friendships and romantic relationships, singlehood, marriage, communication patterns, parenting, adoption, divorce, remarriage, step-families, widowhood, aging, and the future of the family.
AA/AS GE, CSU, CSU GE, IGETC, UC

130 CONTEMPORARY SOCIAL PROBLEMS **3 UNITS**
C-ID SOCI 115
3 hours lecture
Identification and analysis of contemporary social problems including the role of power and ideology in the definition of social problems, their causes and consequences, evaluations of proposed solutions, and methods of intervention. Additional topics will vary.
AA/AS GE, CSU, CSU GE, IGETC, UC

138 SOCIAL PSYCHOLOGY **3 UNITS**
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. *Also listed as PSY 138. Not open to students with credit in PSY 138.*
AA/AS GE, CSU, CSU GE

140 SEX AND GENDER ACROSS CULTURES **3 UNITS**
C-ID SOCI 140
3 hours lecture
An introduction to the sociological analysis of sex, gender, and sexual orientation in a variety of socio-economic and cultural contexts. The course examines the impact sex, gender, and sexual orientation have on the lives of men and women from different cultures in the areas of work, ethnicity, kinship, sexuality, politics, religion, health, arts, sports and communication. Gender and sexual relations in the contemporary USA are examined from the perspectives of different ethnic and racial groups.
AA/AS GE, CSU, CSU GE, IGETC, UC

150 LATINX SOCIOLOGY **3 UNITS**
3 hours lecture
This course is an in-depth sociological examination of Latinx/Hispanic communities in the United States. Topics include family structure, gender roles and sexuality; religion; economics; racialization, racism; intersectionality, social movements; U.S./Mexico border issues and immigration policy; and education. Emphasis is placed on social interactions, politics of identity formation, and social processes impacting the status of U.S. Latinx/Hispanics. This course is intended for sociology majors or any student interested in the social sciences. *Also listed as ETHN 150. Not open to students with credit in ETHN 150.*
AA/AS GE, CSU, CSU GE

SPANISH (SPAN)

120 SPANISH I **5 UNITS**
C-ID SPAN 100
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

121 SPANISH II **5 UNITS**
C-ID SPAN 110
Prerequisite: "C" grade or higher or "Pass" in SPAN 120 or two years of high school Spanish or equivalent
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

141 SPANISH AND LATIN AMERICAN CULTURES **3 UNITS**
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**
3 hours lecture
General overview of the characteristics and cultures of Hispanic civilizations as reflected in literature, philosophy, architecture, and the arts of Spain and Latin American countries. This course may have an emphasis on a selected Hispanic country or countries.
AA/AS GE, CSU, CSU GE, UC

220 SPANISH III 5 UNITS
C-ID SPAN 200
Prerequisite: "C" grade or higher or "Pass" in SPAN 121 or three years of high school Spanish or equivalent
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
C-ID SPAN 210
Prerequisite: "C" grade or higher or "Pass" in SPAN 220 or four years of high school Spanish or equivalent
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 220 or 221 or three years of high school Spanish or equivalent
3 hours lecture
Develop oral, reading, writing and listening skills with an emphasis on oral proficiency.
AA/AS GE, CSU, CSU GE, IGETC, 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
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

SURVEYING (SURV)

127 SURVEY DRAFTING TECHNOLOGY 3 UNITS
Prerequisite: "C" grade or higher or "Pass" in CADD 120 or equivalent
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. ***Also listed as CADD 127. Not open to students with credit in CADD 127.***
CSU

218 PLANE SURVEYING 4 UNITS
Prerequisite: "C" grade or higher or "Pass" in MATH 170 or 176, or equivalent or concurrent enrollment
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 ENGR 218. Not open to students with credit in 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
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
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.).
CSU, UC

THEATRE ARTS (THTR)

110 INTRODUCTION TO THE THEATRE 3 UNITS
C-ID THTR 111
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 the theatre arts as a reflection of 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

WATER/WASTEWATER TECHNOLOGY (WWTR)

See Center for Water Studies

WORK EXPERIENCE (WEX)

110 GENERAL COOPERATIVE WORK EXPERIENCE EDUCATION 1-3 UNITS
75 hours paid or 60 hours non-paid 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. *Occupational cooperative work experience credit may accrue at the rate of one to eight units per semester for a total of sixteen units, and students must work 75 paid hours or 60 non-paid hours per unit earned. May be taken for a maximum of 6 units.*