

Course Descriptions

plaque and oral disease control program; brushing flossing and the use of adjunctive aids; dietary counseling.

DEN AST 013 Practice Management (2)

Advisory: ENGLISH 28.

Students will develop skills necessary to undertake front office responsibilities to include: purchasing, inventory and cost control of office supplies; accounts payable and receivable procedures; insurance billing procedures, HIPPA; treatment planning and case presentation; scheduling of appointments; resume and interviewing skills.

DEN AST 015 Advanced Chairside Assisting (5)

Advanced skills needed to assist in complex dental procedures and in the dental office laboratory. Includes advanced chair side techniques and laboratory procedures; endodontics, oral surgery, orthodontics, pediatric dentistry, restorative, periodontics and prosthodontics. Two-hour lecture, three-hour laboratory, preclinic or clinic.

DENTAL HYGIENE

(DEN HY)

NOTE: Dental Hygiene courses are open to enrolled Dental Hygiene Majors only. Upper division courses can be found in the "Bachelor's Degree" section of this catalog.

DEN HY 090 Special Projects in Dental Hygiene (2) NDA (P/NP)

This course allows Dental Hygiene students and graduates to pursue Special Projects in Dental Hygiene on a contract basis under the direction of a supervising instructor.

DEN HY 092 Special Projects in Dental Hygiene (6) NDA (P/NP)

This course allows Dental Hygiene students and graduates to pursue Special Projects in Dental Hygiene on a contract basis under the direction of a supervising instructor.

DEN HY 096 Special Projects in Dental Hygiene - Laboratory (.5) NDA (P/NP)

This course allows Dental Hygiene students and graduates to pursue Special Projects in Dental Hygiene on a contract basis under the direction of a supervising instructor.

DEN HY 097 Special Projects in Dental Hygiene (1) NDA (P/NP)

This course allows Dental Hygiene students and graduates to pursue Special Projects in Dental Hygiene on a contract basis under the direction of a supervising instructor.

EARTH SCIENCE

(EARTH)

(Also see Environmental Science, Geography, and Oceanography.)

EARTH 001 Earth Science (3) UC/CSU

Earth Science 001 is a 3-unit course that provides a broad-based, integrated introduction to the geosciences. The course content includes a survey of geology, geography, oceanography, meteorology, and astronomy. This course is designed to fulfill a natural science requirement.

EARTH 002 Earth Science Laboratory (1) UC/CSU

Prerequisite or corequisite: EARTH 001

Earth Science 2 is a laboratory course designed to examine many of the basic principles of geology, meteorology, oceanography, and astronomy. It gives students hands-on experience with Earth materials, skills to gather scientific data, and critical thinking to solve problems.

ECONOMICS

(ECON)

ECON 001 Principles of Economics I (3) UC/CSU

Prerequisite: MATH 115.

This course is an introduction to the field of microeconomics, which focuses on the behavior of individual economic agents including consumers, business firms, and the government when confronted with scarcity. The course also examines contemporary social issues such as income distribution and poverty as well as global issues such as outsourcing and protectionism. Topics include supply and demand, elasticity, forms of business organizations, theory of production and cost, pricing and output decision in various market structures, market failure and the role of government, labor management relations, and international trade.

ECON 002 Principles of Economics II (3) UC/CSU

Prerequisite: MATH 115.

Note: ECON 001 is not a prerequisite for ECON 002.

This course is an introduction to the field of macroeconomics. Topics to be analyzed include an analysis of the behavior of the national economy as a whole, together with such issues as the determination of gross domestic product, the unemployment rate, the inflation rate, interest rates, and the long-term economic growth rate. In addition, global issues such as the role of the exchange rate and the balance of trade are analyzed.

ECON 10 Economic History of the United States (3) UC/CSU

Emphasizes the causes of growth in the American economy and how the economy today continues to be influenced by events from the past. Considers the causes of the American Revolution: how changes in institutions and British attitudes contributed to the revolution. Analyzes how Southern plantation agriculture, slavery, and westward expansion culminate in the Civil War. Traces the increasing role of government in the economy starting with the Industrial Revolution, the price controls of World War I, the Great Depression, and the New Deal. Speculates on the future of the U.S. economy.

ECON 11 Economics of Globalization (3) UC/CSU

This course examines the phenomenon of globalization using economic analysis to explore controversial themes of the globalization debate such as off shoring, sweatshops, environmental standards, intellectual property protection, cultural diversity, economic development, and immigration.

EDUCATION (EDUC)

EDUC 001 Introduction to Teaching (3) UC/CSU

Advisory: ENGLISH 101.

This course introduces students to the field of professional education and the concepts and issues that are related to K - 12 education. Topics of this course include a basic understanding of a teacher's role and challenges in society, contemporary education issues within historical, social, philosophical, legal, and political contexts, impact of government policies on schools and children, and the various perspectives on curriculum and instruction. The course content includes the California Standards of Teaching Professionals (CSTP) and Teaching Performance Expectations (TPE). This course requires a minimum of 45 hours of observation/participation in a public multicultural school.

ENGINEERING, ELECTRICAL TECHNOLOGY (EET)

EET 123 Introduction to Arduino (2) CSU

In this course, students gain new skills in programming and electronics engineering. Arduino is a groundbreaking, open-source electronics prototyping platform based on flexible, easy-to-use hardware and software. The Arduino board can read sensors, control motors and lights, and upload your hand-built code that interacts with the real world. Students learn the Arduino programming language, which is based on C/C++.

ENGINEERING, GENERAL (ENG GEN)

ENG GEN 101 Introduction to Science, Engineering and Technology (2) UC/CSU

This course introduces the major engineering disciplines, engineering decision-making and ethics, and factors for success in academic and professional settings. It provides general knowledge of engineering design, communications, problem solving, fundamental physical concepts, and computational engineering tools. Presents the relationship of engineering to materials, the environment, and mathematics. Speakers, field trips and classroom activities expose students to the many ways engineering affects our lives and the variety of roles of engineers in society.

ENG GEN 120 Introduction to Programming Concepts and Methodologies for Engineers (4)

Prerequisite: MATH 260.

Students will learn the fundamental concepts of procedure-oriented programming, associated abstraction mechanisms and design processes, interface of software with the physical world, use of sensors, and application of numerical techniques.

ENG GEN 122 Programming and Problem-Solving in MATLAB (3) CSU

Prerequisite: MATH 261

This course utilizes the MATLAB environment to provide students with a working knowledge of computer-based problem-solving methods relevant to science and engineering. It introduces the fundamentals of procedural and object-oriented programming, numerical analysis, and data structures. Examples and assignments in the course are drawn from practical applications in engineering, physics, and mathematics.

ENG GEN 131 Statics (3) UC/CSU

Prerequisites: PHYSICS 037 and MATH 262

This is a first course in engineering mechanics. Students will learn about two and three dimensional analysis of force systems on particles and rigid bodies in equilibrium. Topics also include static analysis of trusses and beams, and determination of center of gravity, centroids, friction, and moments of inertia of area and mass.

ENG GEN 150 Materials Science and Engineering (4) CSU

Prerequisites: CHEMISTRY 101 and PHYSICS 037

This course presents the internal structures and resulting behaviors of materials used in engineering applications, including metals, ceramics, polymers, composites, and semiconductors. The emphasis is upon developing the ability both to select appropriate materials to meet engineering design criteria and to understand the effects of heat, stress, imperfections, and chemical environments upon material properties and performance. Laboratories provide

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opportunities to directly observe the structures and behaviors discussed in the course, to operate testing equipment, to analyze experimental data, and to prepare reports.

ENG GEN 185 Directed Study – Engineering, General (1) UC/CSU

Students pursue directed study in General Engineering on a contract basis under the direction of a supervising instructor.

ENG GEN 220 Electrical Circuits I (4) UC/CSU

Prerequisites: MATH 263 and PHYSICS 038

Corequisite: MATH 275

This course covers electric circuit analysis in time and frequency domains, transient, and steady state solutions. Topics include linear circuit analysis techniques, Kirchhoff's Laws, Network Theorems, mesh and nodal analysis, OP amps and amplifiers, Thevenin/Norton equivalents circuits, natural-forced-complete response of RLC circuits, AC circuits, phasors, three phase power, and frequency response and resonance. The laboratory includes experimental verification of the laws of AC and DC circuits, Kirchhoff's laws, and Thevenin's theorem using instruments such as multimeter, oscilloscopes, and signal generators.

ENG GEN 225 Digital Circuit Analysis (4) CSU

Prerequisites: MATH 263, PHYSICS 038

Corequisite: MATH 275

This course is an introduction to digital circuit analysis. Topics covered include the following: Number systems, computer arithmetic, and binary codes; binary logic, Boolean algebra, and logic gates; combinational circuits, analysis and design, including adders, MUX's, decodes, etc.; and sequential circuits analysis and design. In the lab students design, implement, and debug a combinational circuit; and perform implementation of combinational circuits using logic gates and programmable logic devices and design sequential logic circuits using gates, ROMs, and PALs. Students in the laboratory use FPGA board to program and experience the behavior of circuits.

ENG GEN 285 Directed Study – Engineering, General (2) CSU

Students pursue directed study in General Engineering on a contract basis under the direction of a supervising instructor.

ENG GEN 385 Directed Study – Engineering, General (3) CSU

Students pursue directed study in General Engineering on a contract basis under the direction of a supervising instructor.

ENGINEERING GRAPHICS & DESIGN (EGD TEK)

EGD TEK 101 Engineering Graphics (3)

This course covers the principles of engineering drawings in visually communicating engineering designs and an introduction to computer-aided design (CAD). Topics include

the development of visualization skills; orthographic projections; mechanical dimensioning and tolerancing practices; and the engineering design process. Assignments develop sketching and 2-D and 3-D CAD skills. The use of CAD software is an integral part of the course.

ENGLISH

(ENGLISH)

ENGLISH 020A College Reading Skills A (3) NDA

This reading/writing course will enable students to apply active reading strategies that develop vocabulary and encourage critical analysis of texts. Students are required to write accurate, well-organized summaries of texts, use their own knowledge and experience to help them write meaningfully about what they read, and display a basic knowledge of standard rhetorical principles and elements of various texts.

ENGLISH 028 Intermediate Reading and Composition (3)

Prerequisite: Completion of ENGLISH 021 with a grade of "C" or better, or appropriate placement level demonstrated through the English assessment process.

ENGLISH 028 is a course in written composition and critical thinking. It is a prerequisite to ENGLISH 101 and prepares students for success in ENGLISH 101. The course emphasizes academic writing based primarily on critical reading. Students learn how to support a thesis credibly by citing at least three different kinds of sources. The course requires the writing of a minimum of 4000 words in compositions and essays.

ENGLISH 072 ENGLISH BRIDGE (1) NDA

Advisory Corequisite: ENGLISH 101.

English 72 is a complement to English 101 and meets two hours per week. Students receive additional support to improve their analytical and composition skills necessary to meet English 101 standards. Emphasis is on the completion of written assignments and essays, library and research papers assigned in the concurrent English 101 course. Assistance is provided on pre-writing, drafting, and revising strategies, grammar and mechanics, critical thinking, and understanding reading-to-write strategies.

ENGLISH 094 Intensive Grammar Review (3) (NDA)

An intensive review of standard English grammar, usage, and sentence structure for students who want extra help before taking ENGLISH 028 or 101. Grammar improvement is acquired through a combination of in-context writing assignments and drill exercises.

ENGLISH 100 ACCELERATED PREP: COLLEGE WRITING (3) (NDA)

This class prepares students for academic reading, critical thinking, and writing expected in transfer and associate-degree classes. Students plan, draft, revise, and edit compositions based on college-level readings that cover topics that challenge students' thinking and provide an

intellectual background for the assignments. This course prepares students for ENGLISH 101.

ENGLISH 101 College Reading and Composition I (3) UC/CSU

Prerequisite: Placement through Multiple Measures, or a grade of C or better in ENGLISH 028 or 100, or E. S. L. 008.
Recommended: ENGLISH 072.

This is a college-level freshman composition course which focuses on expository writing and argumentation and requires the writing of a minimum of 6000 words in essays and a research paper. Students study a variety of texts written at the college level, including literature, that reflect current academic concerns relating to issues of language, ethnicity, class, gender, identity, psychology, and cultural studies. The course is intended for students who plan to transfer to a four-year college or university.

ENGLISH 102 College Reading and Composition II (3) UC/CSU

Prerequisite: ENGLISH 101 with a grade of "C" or better.
ENGLISH 102 focuses on developing student appreciation of a variety of literary genres from diverse writers in different eras. Students learn how to identify standard elements of story in texts and to use appropriate literary terminology to interpret texts and defend their textual interpretations.

ENGLISH 103 Composition and Critical Thinking (3) UC/CSU

Prerequisite: ENGLISH 101 with a grade of "C" or better.
This course, which meets the transfer critical thinking requirement, is designed to develop critical thinking, reading, and writing skills beyond the level achieved in ENGLISH 101. Based on college-level readings, the course will focus on the development of logical reasoning and analytical and argumentative writing skills with a minimum of 10000 words of student writing submitted over the semester.

ENGLISH 127 Creative Writing (3) UC/CSU

Prerequisite: ENGLISH 101 with a grade of "C" or better.
This course is an introduction to writing poetry, creative non-fiction, and fiction. Students learn different ways to employ the elements of story in their own original literary works by discussing the works of respected writers. Assignments consist of practicing writing in various genres, peer reviews, writing logs, screen writing and journals.

ENGLISH 185 Directed Study (1) CSU

This is a course in writing in, and about, but not limited to, the natural and physical sciences. Students will study documents such as abstracts, research proposals, and journal articles, will analyze the development of disciplinary writing practices, and will study non-fiction science writing for general audiences.

ENGLISH 203 World Literature I (3) UC/CSU

Prerequisite: ENGLISH 101 with a grade of "C" or better.
This course surveys world literature from around the world, including Europe, the Middle East, Asia, and other areas, from

antiquity to the seventeenth century. Students read English translations of these great works and write critical papers.

ENGLISH 204 World Literature II (3) UC/CSU

Prerequisite: ENGLISH 101 with a grade of "C" or better.
This course surveys world literature from around the world, including Europe, the Middle East, Africa, Asia, and other areas, from the seventeenth century to the present. Students read English translations of these great works and write critical papers.

ENGLISH 205 English Literature I (3) UC/CSU

Prerequisite: ENGLISH 101 with a grade of "C" or better.
This survey of English literature begins with works from the Middle Ages, proceeds to poetry and plays from the Renaissance, and continues to the decline of neoclassicism in the eighteenth century, with special emphasis on major writers and works. Students will write critical papers.

ENGLISH 206 English Literature II (3) UC/CSU

Prerequisite: ENGLISH 101 with a grade of "C" or better.
This survey of English literature includes writing from the Romantic Era (e.g., Blake, Wordsworth, Keats, and Mary Shelley), the Victorian Age (e.g., Tennyson, Browning, and Wilde), and the Modern Period (e.g., Yeats, Woolf, Eliot, and Joyce). Students will write critical papers.

ENGLISH 209 CALIFORNIA LITERATURE (3) UC/CSU

This course surveys representative literature by California authors and/or about the state of California, beginning with California Indians' oral literature and including notable fiction, poetry, short stories, drama, and films. Topics covered include the relation of this literature to the state's history and an overview of the development of a recognizable state literature.

ENGLISH 215 Shakespeare I (3) UC/CSU

Prerequisite: ENGLISH 101 with a grade of "C" or better.
A study of the poems and plays selected from the works of Shakespeare. The course covers many of the elements found in Shakespeare's work, such as structure, character, conflict, setting, style, theme, the supra-supernatural, and symbolic meaning. The selection of plays will include at least two each from his tragedies, histories, and comedies. Students will study Elizabethan and Jacobean life in relation to Shakespeare's works.

ENGLISH 219 Literature of American Ethnic Groups (3) UC/CSU

Prerequisite: ENGLISH 101 with a grade of "C" or better.
This course considers noteworthy fiction and other literature arising from the traditions and contemporary problems of several ethnic groups, each of which offers a unique contribution to American life.

ENGLISH 234 African American Literature I (3) UC/CSU

Prerequisite: ENGLISH 101 with a grade of "C" or better.
ENGLISH 234 surveys the literature of major North American writers of African descent, whose works explore the social, political, and philosophical problems of the antebellum and

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postbellum periods, through the various genres of literature, including the oral tradition, poetry, short fiction, autobiography, drama, and the novel, to name a few. The course examines the African antecedents of African American literature, as well as its relationship to the major currents in American literature and literature throughout the African Diaspora, within their proper socio-historical and political contexts. Special attention will be devoted to traditional literary analysis and interpretation of primary texts by major authors and the various schools of literary criticism.

ENGLISH 239 Women in Literature (3) UC/CSU

Prerequisite: ENGLISH 101 with a grade of "C" or better.

ENGLISH 239 provides both a global and historical survey of the various genres of women's literature, including, but not limited to, oratory, poetry, short fiction, drama, the novel, and autobiography, from antiquity to the present. Students are expected to write critical essays and a research paper that examine the predominate themes in path breaking literature by and about women, as well as the various archetypes, images, roles, and statuses of women. Special attention will be devoted to traditional literary analysis and interpretation of primary texts through the lens of the various schools of literary criticism.

ENGLISH 420 Research, Design and Methodology (3) CSU

Prerequisite: ENGLISH 103 with a grade of "C" or better, and admission to the baccalaureate degree program in Dental Hygiene.

This advanced course prepares students to develop a research project as well as evaluate scientific evidence-based literature. Research design components and methodology will be discussed, as well as evaluation of scientific evidence-based literature and a capstone project. This is an upper division course, under the SB850 pilot project and only open to students in the baccalaureate degree program.

ENGLISH AS A SECOND LANGUAGE (E.S.L.)

E.S.L. 005A College ESL V: Writing/Grammar (6) UC/CSU

Prerequisite: E.S.L.004A, or appropriate level placement level demonstrated through the assessment process.

This is a high-intermediate course in academic English for multilingual students. It emphasizes the development of academic writing, reading, and grammar. Course work emphasizes intensive reading and includes paragraph, short essay, and summary writing. UC Transfer Credit Limit: A maximum of 8 units from E.S.L.005A and 006A.

E.S.L. 005B College ESL V: Reading/Vocabulary (3) NDA

Advisory: E.S.L.005A

This is a high-intermediate course in English as a Second Language for nonnative speakers of English. It emphasizes the development of skills leading to vocabulary expansion and college-level reading proficiency.

E.S.L. 006A College ESL VI: Writing/Grammar (6) UC/CSU

Prerequisite: E.S.L. 005A with a grade of "C" or better, or appropriate placement level demonstrated through the assessment process.

This is an advanced course in academic English for multilingual students. It emphasizes the continuing development of academic writing, reading, and grammar. Course work emphasizes intensive, collaborative reading and includes essay writing, summary writing and academic vocabulary development. Students learn written composition, grammar, and critical reading skills to advance them in their college work. The emphasis is on writing based primarily on critical reading and interpretation/analysis. Students will be introduced to appropriate citation and basic bibliographic conventions in their writing. Advanced grammar skills and mechanics are emphasized. Prerequisite: Completion of E.S.L. 005A with a grade of 'C' or better, or appropriate placement level demonstrated through the assessment process. UC Transfer Credit Limit: A maximum of 8 units from E.S.L. 005A and 006A.

E.S.L. 008 Advanced ESL Composition (6) UC/CSU

Prerequisite: Completion of E.S.L. 006A with a grade of 'C' or better, or appropriate placement level demonstrated through the assessment process.

This is a course in written composition, grammar, and critical reading skills tailored for the English-as-a-second language student. It is a prerequisite for ENGLISH 101. The emphasis is on writing based primarily on critical reading and interpretation/analysis. Students will be required to use MLA and/or APA citation and bibliographic conventions in their research. Advanced grammar skills and mechanics are emphasized throughout each lesson. Required: Eight to ten writing assignments, including at least four essays of 600-800 words, and one research paper.

ENVIRONMENTAL DESIGN (ENV)

ENV 101 Foundations of Design I (3) UC/CSU

An introduction to the processes of basic design through studio projects addressing the relationship between idea, structure, and form. Design projects are assigned which involve the study of various ordering systems and the creation of 3 dimensional objects that manifest the principles and structures of those systems. Students will begin to understand and work with basic architectural formal language.

ENV 102 Foundations of Design II (3) UC/CSU

Env 102 is a continuation of Env 101. An introduction to the processes of basic architectural design through studio projects addressing the relationship between idea, structure, function, and form. Design projects are assigned that involve concepts such as hierarchy, transition and connection as they relate to simple spatial constructs. The development of a clear

relationship between architectural form language and spatial idea is stressed.

ENVIRONMENTAL SCIENCE

(ENV SCI)

(Also see Earth Science.)

ENV SCI 001 Introduction to Environmental Science (3) UC/CSU

Environmental Science is an introductory course which discusses the effects of humans on their physical environment. Topics include air pollution, water pollution, energy & mineral resources, and climate change.

ENV SCI 002 The Human Environment: Biological Processes (3) UC/CSU

Advisory: ENGLISH 28 and MATH 105.

This is a course in basic ecology and the effects of humans on their environment which fulfills a non-laboratory life science requirement. Topics include ecological structure and function, population dynamics, use of natural resources, energy, pollution and man's impact on the survival of plant and animal species.

ENV SCI 024 Global Climate Change (3) CSU

Climate change is an important and controversial topic. This course covers how the climate system operates today, records of Earth's ancient climate and environments, evidence for modern climate change, and potential impacts to environments and societies based on current predictions.

FAMILY AND CONSUMER STUDIES

(FAM &CS)

FAM &C 021 Nutrition (3) UC/CSU

This course provides a basic understanding of nutrition. It deals with the six classes of nutrients and their dietary requirements. It discusses the effect diet has on achieving a healthy lifestyle, and how to avoid obesity and nutritionally-related illnesses.

FILM PRODUCTION

(FLM PRD)

FLM PRD 100 Intro to Motion Picture and TV Production Crafts (3) CSU

This lecture-based course provides a broad overview of the entertainment industry including how the world of movies, television and new media is structured and the major processes in content production. The course has a career

focus, exploring the entertainment industry's specialized trades sectors - such as stagecraft, set dressing, carpentry, grip, apprentice editing, camera loading, costume manufacturing, make-up, lighting, set painting, sound, and digital production (visual effects, gaming, virtual reality and animation). Students will learn terminology and protocols used on motion picture and television sets, and practice the kind of professionalism employers expect of them in an industry job. Additionally, students will be exposed to industry resources, unions, guilds, libraries, web sites and publications relevant to employment in the industry, and practice 'life skills' which will help them manage life both on set and off. This is the introductory course for any student pursuing a certificate of achievement in Film Production and TV Crafts.

FLM PRD 101 Production Skills (3) CSU

Prerequisite: FLM PRD 100 with a grade of "C" or better.

The purpose of this class is to provide students with a hands-on overview of the responsibilities of an entry-level crew member in the major craft and technician departments in the motion picture, television and stage industry including camera, grip, set dressing, costume, set lighting, set painting, sound, editing, digital production, and stagecraft. The class will introduce you to the basic skills, tools, terminology, safety protocols and work habits specific to each department. This knowledge will allow you to make an informed decision as to whether you would like to pursue further studies in a particular craft. Participants must be able to lift a minimum of 50 lbs.

FLM PRD 101A Production Skills A (4)

Prerequisite: FLM PRD 100 with a grade of "C" or better.

Enrollment may be limited due to health and safety considerations, as well as the constraints of regional planning or legal requirements imposed by statutes, regulations or contracts. Enrollment may also be limited to students meeting prerequisites and co-requisites and established pursuant to Title 5, sections 55200 and Board Rule 8605.

This intermediate hands-on class focuses on development of the entry-level skills required to gain employment in the entertainment industry's craft and technician departments. You will work with an industry professional from one or more of the craft departments to explore skills, tools, terminology, techniques, safety protocols and work habits as they are practiced on the job. Participants must be able to lift a minimum of 50 lbs.

FLM PRD 101B Production Skills B (4)

Prerequisite: FLM PRD 100 with a grade of "C" or better.

Enrollment may be limited due to health and safety considerations, as well as the constraints of regional planning or legal requirements imposed by statutes, regulations or contracts. Enrollment may also be limited to students meeting prerequisites and co-requisites and established pursuant to Title 5, sections 55200 and Board Rule 8605.

This advanced hands-on class focuses on development of the entry-level skills required to gain employment in the