

AVIATEK 023 Inspection and Evaluation (4) CSU

Corequisite: Must be taken concurrently with AVIATEK 024. Instruction is offered in conducting 100-hour inspections. General airframe and powerplant subjects for the Airframe and/or Powerplant License are reviewed. Emphasis is placed on preparation for Federal Aviation Administration written examinations. Note: **Students must have a minimum 2.0 GPA in Aviation Maintenance Technology prior to enrolling in AVIATEK 023 and 024.**

AVIATEK 024 Inspection and Evaluation Laboratory (2) CSU

Corequisite: Must be taken concurrently with AVIATEK 023. Instruction and practice is offered in conducting a 100-hour inspection on an airframe and powerplant, using the appropriate reference material and correct procedures to determine airworthiness of an airframe or powerplant. Students perform general practical airframe and powerplant projects. Note: **Students must have a minimum 2.0 GPA in Aviation Maintenance Technology prior to enrolling in AVIATEK 023 and AVIATEK 024.**

AVIATEK 075 Introduction to Unmanned Aircraft Systems (4)

Corequisite: Must be taken concurrently with AVIATEK 076. This course covers the study of architecture history from the Renaissance to our current times, the development of place and function as it is influenced by the geographical, climatic, religious, social, economic and historical forces. This course analyzes the difference between world architecture history and western architecture history, including the characteristics of Latin America, Islamic and Asia. The history of architecture is seeing through a perspective of how the built environment has responded to nature forces and resources; air, water, air and land. In addition, each period identifies technological innovation that characterized the historical roots in numerous civilizations.

AVIATEK 076 Introduction to Unmanned Aircraft Systems Lab (2)

Corequisite: Must be taken concurrently with AVIATEK 075. This is a hands-on laboratory accompanying AVIATEK 075: Introduction to Unmanned Aircraft Systems (UAS). Students will practice proper procedures for flying a variety of UAS according to 14 CFR Part 107 in order to master essential flight characteristics.

BIOLOGY (BIOLOGY)

(Also see Anatomy, Environmental Science, Microbiology, and Physiology.)

BIOLOGY 003 Introduction to Biology (4) UC/CSU (Same as BIOLOGY 003A and 003B combined)

This course is designed for non-biology majors and emphasizes the basic principles in biology and the fundamental characteristics of organisms. Topics covered in lecture and in lab include the scientific method, basic biological molecules, cell structure and function, energy acquisition, reproduction, gene expression, genetics, evolution, and ecology. This course fulfills the general education (GE) requirement for a biological science course with laboratory. When offered, a hybrid class section offers an on-line lecture combined with on-campus lab.

BIOLOGY 003A Introduction to Biology - Lecture (3) UC/CSU

Recommended: ENGLISH 028 and MATH 105. May be taken concurrently with this course.

This course emphasizes the basic principles in biology and the fundamental characteristics of organisms. Topics covered include the scientific method, basic biological molecules, cell structure and function, energy acquisition, reproduction, gene expression, control of gene expression, evolution, and ecology. BIOLOGY 003A and 003B combined is the same as BIOLOGY 003.

BIOLOGY 003B Introduction to Biology - Laboratory (1) UC/CSU

Prerequisite: BIOLOGY 003A. May be taken concurrently with this course.

Recommended: ENGLISH 028 and MATH 105. May be taken concurrently with this course.

This laboratory course will enable students to practice the scientific method and to observe biological structures and processes covered in BIOLOGY 3A. This course, in combination with BIOLOGY 3A, fulfills the laboratory science general education requirement. This course is designed for non-biology majors. BIOLOGY 003A and 003B combined is the same as BIOLOGY 003.

BIOLOGY 006 General Biology I (5) UC/CSU

The principles of molecular biology, cell structure and function, bioenergetics, genetics and development are studied in this course. Together, BIOLOGY 006 and 007 satisfy requirements of lower-division biology for biological science majors, along with pre-medical, pre-dental, and pre-pharmacy majors. Note: Many four year institutions recommend the completion of both Biology 6 and BIOLOGY 007 as a core program.

BIOLOGY 007 General Biology II (5) UC/CSU

Prerequisite: BIOLOGY 003 or BIOLOGY 003A and 003B, and MATH 125

Recommended: BIOLOGY 006

This course covers the principles of organ and organ system physiology in plants and animals, ecology and the course of evolution. A survey of the various plant and animal groups is included. Note: Many four-year institutions recommend the completion of both BIOLOGY 006 and 007 as a core program.

UC Transfer Credit Limit: No transfer credit will be given for BIOLOGY 003A or 003B if taken after BIOLOGY 006 or 007.

Course Descriptions

BIOLOGY 010 Natural History I (4) UC/CSU

Students examine biological principles including evolution, adaptation and scientific methods using the local environment. Includes the role of climate in the distribution of plant and animal species and a systematic survey of the common local plants, aquatic and terrestrial invertebrates, birds, and mammals.

BIOLOGY 110 General Biology –Genetic Analysis and Biotechnology (4) UC/CSU

Prerequisites: BIOLOGY 006, and CHEM 101

This course is designed for Life Science majors as a continuance of their general biology studies. This course provides a comprehensive introduction to molecular genetics, genomics and genetic analysis, whereby students examine topics such as the molecular biology of DNA and RNA, chromosome analysis, population genetics and genomes. This course also provides a comprehensive introduction to the science of biotechnology by providing the theory of current laboratory procedures, together and hands-on laboratory experience.

BIOLOGY 185 Directed Study – Biology (1) CSU

Methodology of Science-An introductory course in the methodology of science. Topics include discussions on the following: Critical thinking, framing the question and constructing the hypothesis, the experimental plan and prospectus, the role of statistics in gathering of data, data analysis, conducting the study, graphical presentation of data, scientific journal style in writing the report, and the presentation of findings in seminar.

BIOLOGY 208 Pharmacology (2) CSU

Prerequisites: CHEM 051 or 060

Recommended: ANATOMY 001

This course presents the basic principles of pharmacology including the pharmacodynamics, pharmacokinetics, adverse reactions, and contra-indications of selected drug groups. Emphasis will be placed on those drug groups especially relevant to dental practice including analgesics, sedatives, local anesthetics, nitrous oxide, anti-infectives, antibiotics, and anti-viral drugs. In addition, the most common classes of drugs the dental patient is taking in the management of common diseases and disorders will be covered, including autonomic drugs, cardiovascular drugs, antihistamines, anti-inflammatory drugs, and anti-neoplastic drugs.

BIOLOGY 285 Directed Study – Biology (2) CSU

Recommended: BIOLOGY 185

Microecology of Small Desert Mammals-This course is about the population demographics and diversity of two different Mojave Desert microhabitats (Sandy Creosote Scrub and Rocky Buttes). Students will learn about desert geology, geography, biology and desert mammal energetics, foraging strategies, and behavior. Students will learn the use of various field study techniques (binoculars, live-traps, game cameras, biolume tags, and radiotelemetry) and how to safely capture, handle, identify, and sex small mammals. Data recorded will

be analyzed and the two microhabitats compared. Anatomical, behavioral, and foraging differences of the various species will be discussed to explain species habitat selection choices. Using a generalized scientific journal format, the student will submit a written report of findings and present such findings to the class.

BIOLOGY 408 Pharmacology (3)

Prerequisites: DEN HY 327, 351, 352, 354, 356, 357, 388

Corequisites: DEN HY 451

This course is designed to classify and study therapeutic agents commonly encountered when treating medically compromised patients. Students learn chemical and physical properties, therapeutic effects, and methods of administration, dosage, contraindications and side effects of these agents. Emphasis will be placed on those drug groups especially relevant to dental practice including analgesics, sedatives, local anesthetics, nitrous oxide, anti-infective, antibiotics, and anti-viral drugs. In addition, the most common classes of drugs the dental patient is taking in the management of common diseases and disorders will be covered, including autonomic drugs, cardiovascular drugs, antihistamines, anti-inflammatory drugs, and anti-neoplastic drugs.

BIOTECHNOLOGY

(BIOTECH)

BIOTECH 001 Fundamentals of Biotechnology (3) CSU

Recommended: MATH 125, 227

This class offers an introduction to the fundamentals of biotechnology. Students will be given theoretical instruction in many concepts important to working in a biotechnology lab. This class is suggested for students exploring career options in biology or biotechnology or for those already employed and wishing to improve their skills.

BIOTECH 002 Biotechnology I (3) CSU

This course expands concepts introduced in Biotech 001. Students will be given theoretical instruction and hands-on experience in many of the basic skills used in biotechnology labs, including the preparation of solutions and buffers, pipetting techniques, microscopy and cell counting, spectroscopy, centrifugation techniques and the proper measurement of pH, mass and volume. Students will learn and practice proper aseptic techniques in their preparation of solutions, buffers and culture media. The proper validation and maintenance of lab equipment will be explained. Instruction on good laboratory practice (GLP), good clinical practice (GCP) and good manufacturing practice (GMP) will be given. Students will learn how to write standard operating procedures (SOPs) and how to maintain a laboratory notebook. This class is suggested for students exploring career options in biology or biotechnology or for those already employed and wishing to improve their skills.

BIOTECH 003 Biotechnology II (4) CSU

Prerequisites: BIOTECH 002

This course expands on the concepts and techniques introduced in Biotech 001 and Biotech 002. Students will be introduced to modern biology techniques for the analysis of nucleic acids and proteins. Students will be taught how to analyze DNA and RNA using techniques such as gel electrophoresis, restriction digests, PCR, sequencing, northern blotting and microarrays. Analysis of proteins will also be covered, including Western blotting, immunohistochemistry, immunofluorescence, ELISA analysis, spectrophotometric quantitation and isolation through chromatography.

BIOTECH 102 Cell Culture (4)

Prerequisites: BIOTECH 001

This course provides an introduction to techniques for culturing cells, including media preparation, sterile technique, freezing, thawing, subculturing, and maintaining cells. Theory includes the selection of media, maintaining sterile conditions, and preventing contamination. Practical experience includes the proper use and care of equipment for culturing cells. Stem cell technology is also examined.

BUSINESS

(BUS)

(Also see Accounting, Business, Computer Applications and Information, Technology, Finance, Law, Management, Marketing, and Real Estate.)

BUS 001 Introduction to Business (3) UC/CSU

This course is a survey of the fundamental aspects of all phases of business including entrepreneurship alternatives, management/ leadership, marketing, financial management and institutions, investing through the securities market, and challenges facing global markets. Note: Students who are Business majors, or who are considering a change to this major, are advised to take this course as a foundation. It is a survey of the fundamental aspects of all phases of business.

BUS 005 Business Law I (3) UC/CSU

This course covers the essentials of the law of contracts: agency, employment, personal property, bailment, sales, and real property in their application to everyday problems pertaining to business and to the individual. Elementary safeguards regarding sales and sales contracts are covered. UC Transfer Credit Limit: A maximum of one course from LAW 001, LAW 002, BUS 005.

BUS 012 Entrepreneurial Finance (3) CSU

Entrepreneurial Finance examines the elements of entrepreneurial finance, focusing on technology based startup ventures and the early stages of company development. The course addresses key questions, which challenge all entrepreneurs: how much money can and should be raised;

when the money should be raised, and from whom; what is a reasonable valuation of the company; and, how should funding, employment contracts and exit decisions be structured. It aims to prepare students for these decisions, both as entrepreneurs and venture capitalists.

BUS 031 Business English (3) CSU

This course offers an intensive review of the techniques and mechanics of English: grammar, sentence structure, business vocabulary, capitalization, punctuation, various business letter styles, proofreaders' symbols, and web-site reference tools as specifically applied to the field of business. Note: Required of all Business and CAOT majors.

BUS 032 Business Communications (3) CSU

This course covers the principles and techniques of effective business writing which includes the development of the ability to analyze, organize and compose various types of written and oral business communications. Emphasis is placed on writing clear, concise and persuasive letters, memos and reports, and the psychology of business letter composition and communications.

BUS 038 Business Computations (3) CSU

This course provides a comprehensive study of business mathematics and reviews basic mathematics such as decimals, fractions, and percentages. It also covers the topics of bank services, payroll, the mathematics of buying and selling, interest and loans, taxes, cash and trade discounts, depreciation and other business computations. This course is intended for students interested in pursuing careers in business.

BUS 041 Negotiation Tactics (3) CSU

This course introduces students to the theory and practice of negotiation, focusing on empowering them with useful tactics, closing techniques, and effective planning. This course will present a set of conceptual frameworks that analyze future negotiation situations, and focus on effective preparation. Through planning, analysis, and participation in negotiation simulations, students will have the opportunity to exercise powers of communication and persuasion and to experiment with a variety of negotiation tactics and strategies.

BUS 042 Advanced Negotiations (3) CSU

Prerequisite: BUS 041

This course builds on the foundation provided by 'Negotiation Tactics', and introduce students to a greater number of advanced negotiation tactics, closing techniques, non-verbal communication practices, negotiation planning, creative problem solving, through a number of role playing opportunities, more detailed game scenarios and reporting.

BUS 185 Directed Study - Business (1) CSU

This course allows students to pursue directed study in Business Administration on a contract basis under the direction of a supervising instructor.

Course Descriptions

BUS 285 Directed Study - Business (2) CSU

This course allows students to pursue directed study in Business Administration on a contract basis under the direction of a supervising instructor.

BUS 385 Directed Study - Business (3) CSU

This course allows students to pursue directed study in Business Administration on a contract basis under the direction of a supervising instructor.

CHEMISTRY

(CHEM)

CHEM 051 Fundamentals of Chemistry I (5) UC/CSU

Recommended: One year of high school algebra, or MATH 115.

This course is a descriptive course in inorganic and organic chemistry. Topics include the metric system of measurement; chemical symbols, formulas and nomenclature systems; chemical equations; physical properties including density, solubility and states of matter; chemical properties; acids, bases, buffers and pH; basic principles of equilibrium and an introduction to radioactivity. Organic topics focus on functional group identification including hydrocarbons, organic halides, alcohols, ketones, acids, esters, amines, carbohydrates, lipids and proteins. This course is designed for Nursing and other Allied Health majors, students in environmentally hazardous materials, elementary education or liberal arts who do not intend to take CHEM 101.

UC Transfer Credit Limit: A maximum of one course from CHEM 051 or 060. No credit for CHEM 051 or 060 if taken after CHEM 101.

CHEM 056 Chemistry for Non-chemistry Majors (4) CSU

This course presents inorganic and biochemical chemistry for non-science majors; students learn about basic chemical principles and how they relate to current environmental issues that shape society, both globally and locally. As they gain a scientific understanding of some challenges that face humanity, such as climate change, our growing energy demands, and future health needs, students analyze how problems and solutions are impacted by human activity. Students perform experiments where they learn common laboratory techniques, including safe handling of chemicals and proper use of laboratory equipment to gain hands-on experience with how humans affect the chemistry of the Earth's natural systems.

CHEM 060 Introduction to General Chemistry (5) UC/CSU (Formerly CHEM 010)

Prerequisites: One year of high school algebra or Math 115 or equivalent.

This course presents the elementary principles of general chemistry, including nomenclature, stoichiometry, chemical compositions, problem solving etc. It is designed to prepare students whose previous chemistry background is inadequate to take CHEM 101. This course is also recommended to

students who have taken high school chemistry more than two years ago. UC Transfer Credit Limit: A student can transfer only CHEM 051 or CHEM 060. No credit is given for CHEM 051 and 060 if taken after CHEM 101.

CHEM 066 Organic and Biochemistry for Allied Health (5) UC/CSU

This course covers the organic and biochemical principles found in physiology and metabolic processes. Topics include organic and biochemistry with emphasis on the role of chemistry in health and disease, as well as molecular diseases and metabolic abnormalities.

CHEM 101 General Chemistry I (5) UC/CSU

(Formerly CHEM 001)

Prerequisites: (1) High school chemistry or CHEM 060 with a grade of "C" or better; (2) A minimum of two years of high school mathematics or MATH 125 or equivalent.

This is a basic course emphasizing principles and theories. It includes discussions of chemical stoichiometry, atomic and molecular structure and the periodic table, gases, liquids, solids, solutions, oxidation reduction, acids and bases, and an introduction to chemical thermodynamics. The laboratory emphasizes basic laboratory skills, chemical principles, and quantitative relationships. UC Transfer Credit Limit: No credit for CHEM 051 or 060 if taken after CHEM 101.

CHEM 102 General Chemistry II (5) UC/CSU

(Formerly CHEM 002)

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

This course is a continuation of CHEM 101, with an introduction to chemical kinetics, chemical equilibrium with emphasis on aqueous equilibria, electrochemistry, nuclear chemistry, organic chemistry, and descriptive inorganic chemistry. The laboratory includes both quantitative experiments and qualitative analysis. Note: No UC credit for CHEM 051 or 060 if taken after CHEM 101.

CHEM 185 Directed Study – Chemistry (1) CSU

This course allows students to pursue directed study in selective chemistry topics under the contractual obligation of being independent scholars. Students perform both literature and laboratory research.

CHEM 211 Organic Chemistry for Science Majors I (5) UC/CSU

(Formerly CHEM 014)

Prerequisite: CHEM 102 with a grade of "C" or better.

Students learn about bonding, molecular structure, stereochemistry and nomenclature of organic compounds, the chemistry of functional groups with emphasis on reactions and reaction mechanisms. In the laboratory, students learn the essential skills of synthesis, purification, extraction, and identification of organic compounds, as well as the use and application of state-of-the-art analytical instruments such as GC, FT-IR, NMR, etc. Chemistry 211 is required as one of the premed, pre dental, pre pharmacy etc. courses.