

BIOLOGY (BIOL)

BIOL G100 4 Units (54 lecture hours; 54 lab hours)

Introduction to Biology

Grading Mode: Standard Letter

Transfer Credit: CSU; UC: Credit Limitations: No credit for BIOL G100 if taken after BIOL G180.

This course emphasizes basic concepts of biology for non-science majors. Unifying concepts to be covered include: cell biology, animal and plant physiology, genetics, evolution, and ecology. Graded.

BIOL G101 3 Units (54 lecture hours)

The Biology of Food and Cooking

Grading Mode: Standard Letter

Transfer Credit: CSU; UC.

This course is a lecture-only course covering the foundational biological concepts with an emphasis on the biochemistry of common food macromolecules, the consequences of cooking techniques on these macromolecules, carbohydrate metabolism, and the impacts of genetic engineering and modern agriculture on ecosystems and food security. In this class we will use in-class demonstrations, small group activities, and "kitchen experiments" (out-of-class assignments) to learn the scientific method and practice critical thinking skills. Graded.

BIOL G104 3 Units (54 lecture hours)

Marine Life

Grading Mode: Standard Letter

Transfer Credit: CSU; UC.

This course examines the marine environment, interaction of species, populations and communities, including geology of ocean basins, physical and chemical characteristics of the ocean basins. A survey of marine plants and animals through invertebrates, fish, reptiles, birds and mammals. The renewable and nonrenewable resources from the ocean realm. The influence of humans on the health of the environment. Current issues including the concepts of global warming, types of pollution and the consequences thereof, greenhouse effects, and fisheries management. Graded.

BIOL G104L 1 Unit (54 lab hours)

Marine Life Laboratory

Prerequisite(s): BIOL G104 or concurrent enrollment.

Grading Mode: Standard Letter

Transfer Credit: CSU; UC.

This course explores the basic principles of the life sciences taking its examples from the sea. The ecological relationship between humans and the sea is emphasized. This course is designed for non-science majors and is recommended to meet the general education breadth requirements, or the natural science requirement with BIOL G104. Graded.

BIOL G110 3 Units (36 lecture hours; 54 lab hours)

Ecology and Field Biology

Grading Mode: Standard Letter

Transfer Credit: CSU; UC.

This course is an introduction to the science of the environment with an emphasis on the natural environment, ecological processes, and the roles that humans assume as they change the environment and ecology of the areas from which resources are taken. Topics include ecological principles, biodiversity, climate change, renewable and non-renewable energy, water resources, pollution, and the role of science in finding sustainable solutions. This course includes field trips in Southern California. Graded.

BIOL G120 3 Units (36 lecture hours; 54 lab hours)

Health and Disease

Grading Mode: Standard Letter

Transfer Credit: CSU; UC.

This course is an introduction to the study of human anatomy and physiology with a comprehensive study of diseases which affect humans. Diseases will be studied from historical and contemporary points of view, with particular references to causes, means of transmission, and normal and abnormal functioning of the body. Graded.

BIOL G160 3 Units (54 lecture hours)

Physiology and Disease Mechanisms

Advisory: BIOL G225.

Grading Mode: Standard Letter

Transfer Credit: CSU.

This course will discuss and utilize the principles of physiology to analyze the symptoms and signs of disease. Emphasis is given to cardiovascular, respiratory, and renal diseases although all body systems are discussed. Intended for students in or aspiring to various health professions including nursing. Graded.

BIOL G180 5 Units (72 lecture hours; 54 lab hours)

Cell and Molecular Biology

Prerequisite(s): Course taught at the level of intermediate algebra or appropriate math placement and CHEM G180 or CHEM G185 or CHEM G220 or CHEM G225.

Advisory: ENGL G090 or ENGL G099.

Grading Mode: Standard Letter

Transfer Credit: CSU; UC.

Formerly: Principles of Biology. This course is designed as the first in a three-course sequence for students desiring to major in biology. The topics to be covered in this course are among those which serve to unify the science of biology. Included in these concepts are: prokaryotic and eukaryotic cell structure, function and homeostasis, cell reproduction and metabolism, cell communication, classical and molecular genetics, molecular biology, biotechnology, and evolution. Graded. **C-ID:** BIOL 190, BIOL 135S.

BIOL G182**4 Units (36 lecture hours; 108 lab hours)****Zoology****Prerequisite(s):** Course taught at the level of intermediate algebra or appropriate math placement.**Advisory:** BIOL G180.**Grading Mode:** Standard Letter**Transfer Credit:** CSU; UC.

Formerly: BIOL G185 – Principles of Zoology. This course provides students with a broad foundation of kingdom Animalia and animal-like protists. It focuses on ecological, evolutionary, anatomical and physiological relationships among major animal taxa. Topics include embryology, body plans, life strategies, general characteristics, reproductive modes, and life cycles of each of the major animal phyla. This course provides a solid background in animal science for those students preparing to transfer to a four-year institution or professional school (dental, pharmacy, or optometrist schools, for example). The laboratory portion of this course emphasizes hands-on learning using dissection, models, slides, charts, living specimens and non-living specimens. Students will gain experience in using compound light microscopes and dissecting microscopes to study protists, animal tissues, and body plans of appropriately sized animals. Graded. **C-ID:** BIOL 150.

BIOL G183**4 Units (54 lecture hours; 54 lab hours)****Botany****Prerequisite(s):** Course taught at the level of intermediate algebra or appropriate math placement.**Advisory:** BIOL G180.**Grading Mode:** Standard Letter**Transfer Credit:** CSU; UC.

Formerly: BIOL G190 – General Botany. This course is designed to satisfy the major requirements for an Associate or Baccalaureate degree in the Biological Sciences. BIOL G183 complements BIOL G180 and G182 as the third of three in a sequence of survey courses. Topics include: fundamentals of chemistry and biochemistry; cytology, with an emphasis on plant cytology; fundamentals of biological energy: catalysis, cellular respiration and photosynthesis; Mendelian and molecular genetics; ethnobotany; evolution and speciation; plant, population, and community ecology; systematics and taxonomy, with light surveys of (taxonomic) Kingdoms Archaeobacteria, Eubacteria, Fungi, and Protista - emphasis is on Kingdom Plantae: plant histology, anatomy, physiology, morphology and diversity; and principles of plant culture (cultivation). Graded. **C-ID:** BIOL 155.

BIOL G186**5 Units (54 lecture hours; 108 lab hours)****Diversity of Organisms****Prerequisite(s):** BIOL G180 and MATH G115 or MATH G120.**Grading Mode:** Standard Letter**Transfer Credit:** CSU; UC.

This course is a survey of extant living organisms including physiological and anatomical adaptations of organisms in response to their environment. Each kingdom is examined, with an emphasis on evolution and ecology of organisms found in kingdoms Plantae and Animalia. Included in this survey is an introduction to scientific methodology including student-centered experimental design, execution, and subsequent analysis of data. Graded. **C-ID:** BIOL 140, BIOL 135S.

BIOL G200**3 Units (54 lecture hours)****Pharmacology - Medications and Drugs****Prerequisite(s):** BIOL G221 or BIOL G225.**Grading Mode:** Standard Letter**Transfer Credit:** CSU.

This course covers the classification of medications and basic principles of pharmacology from legislation and pharmacokinetics through receptor theory, pharmacodynamics and pharmacotherapeutics. Medications will be grouped by body systems and treatment options will be related to the pathophysiological state of the patient. Drug groups are discussed rather than individual medications, with emphasis on autonomic, central nervous system, and cardiovascular agents. Drugs affecting all body systems will be discussed. Graded.

BIOL G205**1,2 Units (54, 108 lab hours)****Biology Laboratory Learning Skills****Prerequisite(s):** Instructor permission.**Grading Mode:** Standard Letter**Transfer Credit:** CSU.

This is a course in which students will help peers in lab sections of Biology classes. After successfully completing a lab course, students will assist lab instructors by monitoring lab safety, clarifying lab skills and techniques, and explaining experiments that are presented. Students will prepare and present one or more oral and/or written presentations of topics not covered in lecture. This course is recommended for students interested in teaching science. Graded.

BIOL G210 5 Units (54 lecture hours; 108 lab hours)**General Microbiology****Prerequisite(s):** BIOL G100 or BIOL G180 or BIOL G220 or BIOL G225.**Advisory:** Eligible for college level English and Math.**Grading Mode:** Standard Letter**Transfer Credit:** CSU; UC.

This course discusses major concepts of general microbiology, including prokaryotic and eukaryotic cell types, structural organization of cells, cellular metabolism, regulation of metabolism, genetics, host-parasite relationships, microorganisms in human health and disease, immunology and serology, recombinant DNA technology, growth of microbial cells, and controlling growth by chemical and physical means. Bacteria, fungi, algae, protozoa, and viruses are studied. Laboratory skills include microscopy, staining techniques cultivation techniques, and aseptic techniques. Graded.

BIOL G219 1 Unit (18 lecture hours)**Human Anatomy Discussion****Co-requisite(s):** BIOL G220.**Grading Mode:** Pass/No Pass**Transfer Credit:** CSU; UC.

This discussion course affords students enrolled in BIOL G220, Human Anatomy, the opportunity to develop background information, problem solving, extend discussion and exchange ideas concerning human structure. Discussion focuses on anatomical components and other key topics covered in BIOL G220 as well as background information not generally covered in lecture. Designed to help students succeed in their study of human anatomy. Pass/No Pass.

BIOL G220 4 Units (36 lecture hours; 108 lab hours)**Human Anatomy****Prerequisite(s):** BIOL G100 or BIOL G180 or BIOL G221 and ENGL G090 or ENGL G099 or English Placement Test and course taught at the level of intermediate algebra or appropriate math placement.**Grading Mode:** Standard Letter**Transfer Credit:** CSU; UC.

Formerly: BIOL G170. A course in basic human anatomy, covering the major body systems and including topics of both gross and microstructure of the organ systems. Designed for paramedical biology majors (nursing, x-ray technicians, physician's assistant, chiropractic, dental hygiene, pharmacy) and physical education majors. Will not satisfy transfer requirements for Biological Science majors. Graded. **C-ID:** BIOL 110B.

BIOL G221 4 Units (54 lecture hours; 54 lab hours)**Introduction to Anatomy and Physiology****Grading Mode:** Standard Letter**Transfer Credit:** CSU; UC: Credit Limitations: No credit for BIOL G221 if taken after BIOL G220 or BIOL G225.

Formerly: BIOL G155. This course describes and relates the elements of human structure and function. Topics explored are the body system, cell structure and function, the maintenance of physiological balance and equilibrium (e.g., fluid and electrolytes, blood pressure, acid-base levels), and the physiology of nutrition and exercise. Designed for nonscience majors. Graded.

BIOL G225 4 Units (54 lecture hours; 54 lab hours)**Human Physiology****Prerequisite(s):** BIOL G220 or BIOL G221.**Advisory:** Eligible for college level English and Math.**Grading Mode:** Standard Letter**Transfer Credit:** CSU; UC.

This course is an introduction to the physiological function of the basic systems of the human body. Designed for paramedical biology majors (nursing, x-ray technicians, dental hygiene, physical therapy, etc.) and physical education majors. Will not satisfy transfer requirements for biology majors. Graded. **C-ID:** BIOL 120B.