

COURSES

BIOLOGICAL SCIENCES COURSES

BIO 001A General Biology: Cells (3.0 Lecture/2.0 Lab) 5.0 UNITS

Prerequisite: CHM 001A or CHM 001AH Prerequisite: MAT 000C or High School Algebra II, or equivalent Prerequisite: BIO 010 or BIO 011 ; Advisory: CHM 001B or CHM 001BH This course is a comprehensive introduction to cell and molecular biology, and is designed for students pursuing degrees in biology or professional programs such as medicine or pharmacy. Topics addressed in lecture and lab include biochemistry, the structure and function of prokaryotic and eukaryotic cells, cellular metabolism, prokaryotic and eukaryotic gene expression and regulation, and selected topics in human physiology. C-ID # BIOL 130S, BIOL 135S.

BIO 001AH General Biology: Cells-Honors (3.0 Lecture/2.0 Lab) 5.0 UNITS

Prerequisite: CHM 001A or CHM 001AH Prerequisite: MAT 000C or High School Algebra II, or equivalent. Prerequisite: BIO 010 or BIO 011 Anti-Requisite: BIO 001A Advisory: CHM 001B or CHM 001BH This honors course is a comprehensive introduction to cell and molecular biology, and is designed for students intending to transfer to majors in the biological sciences as well as for those seeking to enter professional programs such as medicine or pharmacy. Students may not receive credit for both BIO 001A and BIO 001AH. Enrollment in the Honors Transfer Project is required. C-ID # BIOL 130S, BIOL 135S.

BIO 001B General Biology: Organisms (3.0 Lecture/2.0 Lab) 5.0 UNITS

Prerequisite: BIO 001A or BIO 001AH This course examines the unity and diversity of multicellular life, ecological and evolutionary principles, and form/function relationships in plants and animals. The course is designed for students majoring in the biological sciences or seeking entry to professional programs such as Medicine, Pharmacy, and Dentistry. C-ID # BIOL 130S, BIOL 135S.

BIO 004 Microbiology (3.0 Lecture/2.0 Lab) 5.0 UNITS

Prerequisite: BIO 011 and CHM 030A OR Prerequisite: CHM 001A or CHM 001AH and BIO 011 OR Prerequisite: BIO 011 and CHM 060 OR Prerequisite: CHM 001A or CHM 001AH and BIO 001A or BIO 001AH OR Prerequisite: CHM 030A and BIO 001A or BIO 001AH OR Prerequisite: CHM 060 and BIO 001A or BIO 001AH OR Prerequisite: BIO 010 and BIO 010L and CHM 001A or CHM 001AH OR Prerequisite: BIO 010 and BIO 010L and CHM 030A OR Prerequisite: BIO 010 and BIO 010L and CHM 060 OR Prerequisite: BIO 022 and CHM 001A or CHM 001AH OR Prerequisite: BIO 022 and CHM 030A OR Prerequisite: BIO 022 and CHM 060 This course is intended for nursing and other health-science majors. Lecture topics include the morphology and physiology of the major groups of microorganisms, microbial genetics, mechanisms of infection and disease, and the human immune response to infection. Laboratory activities focus on the culture and identification of bacteria of medical importance.

BIO 010 Introduction to Biology (3.0 Lecture) 3.0 UNITS

BIO 010 is an introductory course in biology designed for the non-biological sciences major. Topics include cell structure and function, energy exchange and life processes, taxonomy, ecology, heredity, diversification and evolution. This lecture course may be taken with or without BIOSC 010L, Introduction to Biology Lab.

BIO 010L Introduction to Biology Lab (1.0 Lab) 1.0 UNIT

Corequisite: BIO 010 or Prerequisite: BIO 010 This is an introductory general biology laboratory course designed for non-science majors. It reinforces biological principles presented in BIO 010 using laboratory and field exercises.

BIO 011 Human Biology (3.0 Lecture/1.0 Lab) 4.0 UNITS

This course is an introduction to biology concepts and principles, using humans as a model. BIOSC 011 satisfies the same general education requirement as BIOSC 010.

BIO 012 Emerging Infectious Diseases (3.0 Lecture) 3.0 UNITS

In this introductory biology course, learn how infectious agents cause disease, and what factors are leading to the emergence of new diseases such as mad cow, SARS, and drug-resistant tuberculosis.

BIO 014 Introductory Neuroscience (3.0 Lecture) 3.0 UNITS

This course is an introduction to the organization and functions of the nervous system. The physiology of the brain and senses are discussed. Emotions, sleep, language, attention, memory, and a survey of nervous system disorders are explored.

BIO 014H Introductory Neuroscience - Honors (3.0 Lecture) 3.0 UNITS

Advisory: ENG 001A and REA 054 OR Advisory: ENG 001AX and REA 054 This honors course is an introduction to the organization and functions of the nervous system. The physiology of the brain and senses are discussed. Emotions, sleep, language, attention, memory and a survey of nervous system disorders are explored.

BIO 016 Marine Biology (3.0 Lecture/1.0 Lab) 4.0 UNITS

This four unit course introduces students of all disciplines to ocean ecology and marine life. Topics are explored through classroom learning and seven required field trips to local marine habitats and research facilities in the San Francisco and Monterey Bays. Some field trips may extend beyond regularly scheduled class meeting time. Students arrange their own transportation to the field sites.

BIO 017 Genetics and Society (3.0 Lecture) 3.0 UNITS

This course is a broad survey of genetics, with a focus on the societal impacts of topics in genetics such as human genetic disease, biotechnology, reproductive technologies, and evolution. This course is a broad survey of genetics, with a focus on the societal impacts of topics in genetics such as human genetic disease, biotechnology, reproductive technologies, and evolution. It is designed for the general education student.

BIO 017H Genetics and Society - Honors (3.0 Lecture) 3.0 UNITS

This course is a broad survey of genetics, with a focus on the societal impacts of topics in genetics such as human genetic disease, biotechnology, reproductive technologies, and evolution. The honors component involves an in-depth analysis of specific topics, using current information from research journals. Students cannot get credit for both BIOSC 017 and BIOSC 017H. This section requires enrollment in the Honors Transfer Project. More information can be found at <http://honors.missioncollege.edu>.

BIO 018 The Biology of Cancer (3.0 Lecture) 3.0 UNITS

This course introduces the basic principles underlying the development and treatment of cancer. Normal cell biology processes are contrasted with the genetic and cellular changes that lead to the development of cancer. Current topics in scientific and clinical research on cancer biology will be explored. Pass/No Pass Option.

BIO 018H The Biology of Cancer - Honors (3.0 Lecture) 3.0 UNITS

This honors course introduces the basic principles underlying the development and treatment of cancer. Normal cell biology processes are contrasted with the genetic and cellular changes that lead to the development of cancer. Current topics in scientific and clinical research on cancer biology will be explored. This is the honors version of BIO 018. Students cannot get credit for both BIO 018 and BIO 018H. Enrollment in the Honors Program is required. Pass/No Pass Option. More information can be found at <http://honors.missioncollege.edu>

BIO 019 Oceans: Life in the Sea (3.0 Lecture) 3.0 UNITS

This non-majors course surveys the biological principles of marine science. It provides an overview of the ocean environment, diversity of marine life, basic ecological principles and types of marine ecosystems. The relationship between humans and the ocean is emphasized, focusing on conservation biology and sustainability.

BIO 022 Anatomy & Physiology for Allied Health Workers (3.0 Lecture/1.0 Lab) 4.0 UNITS

Advisory: MAT 903 or High School Algebra I, or equivalent. This course is an overview of the normal structure and function of the human body and is designed to provide a foundation for the study of disease and dysfunction in the clinical setting. Laboratory work includes dissection of preserved materials. BIO-022 is designed to meet the state board requirements for the vocational nursing and psychiatric technician programs.

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BIO 025 Environmental Biology (3.0 Lecture) 3.0 UNITS

This course is designed for student of all disciplines to introduce a wide range of contemporary biological topics that will affect their lives; e.g., population growth and control, environmental problems, genetic manipulation, nutrition, energy issues, etc.

BIO 030 Tropical Ecology (3.0 Lecture) 3.0 UNITS

The amazing diversity of life in the tropics is the subject of this introductory level class. Students explore rainforest inhabitants and their relationships, and learn about their value and conservation. This lecture course may be taken with or without BIOSC 030L, Tropical Ecology Lab.

BIO 030L Tropical Ecology Field Studies (1.0 Lab) 1.0 UNIT

In this introductory level class, students carry out research methods that ecologists use to observe and investigate tropical ecosystems. This lab course may be taken with or without BIOSC 030, Tropical Ecology.

BIO 031L Tropical Ecology Field Studies (1.0 Lab) 1.0 UNIT

Anti-Requisite: BIO 030L In this introductory level laboratory class, students carry out research methods that ecologists use to observe and investigate tropical ecosystems. This course includes a field trip to Costa Rica. Students who take this course are not required to complete BIO 30, the lecture course in Tropical Ecology.

BIO 032 California Plants and Animals (3.0 Lecture/1.0 Lab) 4.0 UNITS

This field course explores the ecology of California flora and fauna through studies of plants and animals in terrestrial and aquatic ecosystems within the San Francisco Bay region.

BIO 047 Human Anatomy (3.0 Lecture/2.0 Lab) 4.0 UNITS

Advisory: Prerequisite: (BIO 001A or BIO 001AH) or BIO 011 or BIO 022 or (BIO 010 and BIO 010L) This course is an in-depth study of the microscopic and gross anatomical structure of the human body, including some corresponding pathology. It is designed to meet the prerequisite for programs in nursing, physical therapy, kinesiology, occupational therapy, etc. Laboratory work includes: examination of models, histological specimens, and animal specimens. Grade only

BIO 048 Human Physiology (3.0 Lecture/2.0 Lab) 5.0 UNITS

Advisory: MAT 000C or High School Algebra II, or equivalent. Prerequisite: BIO 047 and Prerequisite: CHM 001A or CHM 001AH OR Prerequisite: BIO 047 and Prerequisite: CHM 030A OR Prerequisite: BIO 047 and Prerequisite: CHM 060 This course provides students with a basic understanding of the physiological mechanisms underlying body function in order to provide a foundation for more in-depth study and practical application. With an emphasis on cause and effect, details of the chemical and cellular basis for the workings of the nervous, muscular, cardiovascular, respiratory, renal and digestive systems are emphasized. Laboratory investigations of physiological processes familiarize students with scientific analysis and research techniques. C-ID # BIOL 120B.

BIO 048H Human Physiology - Honors (3.0 Lecture/2.0 Lab) 5.0 UNITS

Advisory: MAT 000C or High School Algebra II, or equivalent. Prerequisite: BIO 047 and Prerequisite: CHM 001A or CHM 001AH OR Prerequisite: BIO 047 and Prerequisite: CHM 030A OR Prerequisite: BIO 047 and Prerequisite: CHM 060 This honors course provides students with a basic understanding of the physiological mechanisms underlying body function in preparation for more in-depth study and clinical application. The chemical and cellular basis for the workings of the nervous, muscular, cardiovascular, respiratory, renal and digestive systems are emphasized. Laboratory investigations of physiological processes familiarize students with scientific analysis and research techniques. The honors component involves an in-depth analysis of specific topics, using current information from research journals. Students cannot get credit for both BIOSC 048 and BIOSC 048H. Enrollment in the Honors Transfer Project is required. C-ID # BIOL 120B.