BIO 001AH  GENERAL BIOLOGY:  CELLS – HONORS  5.0 UNITS
Total Lecture: 54 hours, Total Lab: 108 hours
Advisory:  CHM 001B
Prerequisite:  CHM 001A and BIO 010 or BIO 111, and MAT 000C, MAT 000CM, high school algebra 2 with a C or better, or equivalent.
Acceptable for Credit:  California State University
This honors 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, and prokaryotic and eukaryotic gene expression and regulation. Students may not receive credit for both BIO 001A and BIO 001AH. Enrollment in the Honors Transfer Project is required. This course may be offered via distance learning. Grade only. CSUGE: B2, B3

BIO 001B  GENERAL BIOLOGY: ORGANISMS  5.0 UNITS
Total Lecture: 54 hours, Total Lab: 108 hours
Prerequisite:  BIO 001A or BIO 001AH
Acceptable for Credit:  University of California, California State University
BIO 001B is an introduction to organisms and higher levels of biological organization. It 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. This course may be offered via distance learning. Grade only. C-ID # BIOL 130S, BIOL 135S. CSUGE: B2, B3; IGETC: 5B, 5C.

BIO 004  MICROBIOLOGY  5.0 UNITS
Total Lecture: 54 hours, Total Lab: 108 hours
Prerequisite:  CHM 001A or CHM 060 or CHM 030A or CHM 030B and BIO 010 and BIO 010L or BIO 011 or BIO 022 or BIO 041 or BIO 043 or BIO 048.
Acceptable for Credit:  University of California, California State University
This survey course in microbiology is intended for nursing and other health-science majors. Lecture topics include the morphology and physiology of the major groups of microorganisms, bacterial and viral genetics, mechanisms of infection and disease, and the human immune response to infection. Laboratory activities focus on techniques employed in the culture and identification of bacteria of medical importance. This course may be offered via distance learning. Grade only. CSUGE: B2, B3; IGETC: 5B, 5C.

BIO 010  INTRODUCTION TO BIOLOGY  3.0 UNITS
Total Lecture: 54 hours
Acceptable for Credit:  University of California, California State University
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 BIO 010L, Introduction to Biology Lab. This course may also be offered via distance learning. Pass/No Pass Option. CSUGE: B2; IGETC: 5B.

BIO 010L  INTRODUCTION TO BIOLOGY LAB  1.0 UNIT
Total Lab: 54 hours
Prerequisite or Corequisite:  BIO 010
Acceptable for Credit:  University of California, California State University
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. Pass/No Pass Option. CSUGE: B3; IGETC: 5C.

BIO 011  HUMAN BIOLOGY  4.0 UNITS
Total Lecture: 54 hours, Total Lab: 54 hours
Acceptable for Credit:  University of California, California State University
This course is an introduction to biology, with an emphasis on human beings. The principles and concepts of biology are covered, including the scientific method, cells, genetics, evolution, ecology and basic anatomy and physiology of humans. This course may also be offered via distance learning. Pass/No Pass Option. CSUGE: B2, B3; IGETC: 5B, 5C.

BIO 012  EMERGING INFECTIOUS DISEASES  3.0 UNITS
Total Lecture: 54 hours
Acceptable for Credit:  University of California, California State University
This course is an introduction to infectious diseases and the microbes that cause them. Recent outbreaks of human diseases are explored, as well as interrelationships between infectious disease agents, human biology, and the environment. Clinical approaches and surveillance methods to detect, investigate, and monitor emerging pathogens and bioterrorism agents are discussed. This course may be offered via distance learning. Pass/No Pass Option. CSUGE: B2; IGETC: 5B.

BIO 014  INTRODUCTORY NEUROSCIENCE  3.0 UNITS
Total Lecture: 54 hours
Acceptable for Credit:  University of California, California State University
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. This course may be offered via distance learning. Pass/No Pass Option. CSUGE: B2; IGETC: 5B.

BIO 014H  INTRODUCTORY NEUROSCIENCE HONORS  3.000UNITS
Total Lecture: 54 hours
Advisory:  ENG 001AX 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. Pass/No Pass Option.

BIO 016  MARINE BIOLOGY  4.0 UNITS
Total Lecture: 54 hours, Total Lab: 54 hours
Acceptable for Credit:  University of California, California State University
Marine Biology is an introduction to ocean environments and marine life. General ecological principles, biodiversity and marine conservation issues are emphasized. Human activities that modify ocean ecosystems are examined. Discussions include overviews of characteristics and the inhabitants of a variety of marine ecosystems, such as: rocky and sandy shores, estuaries, kelp forests, coral reefs, continental shelves, the open ocean and the deep sea. This field-intensive course has seven required field trips in the San Francisco and Monterey bays, allowing students to investigate ocean life in our local marine environments. This four-unit science course with lab is open to students of all majors. Materials Fee. Pass/No Pass Option. CSUGE: B2, B3; IGETC: 5B, 5C.

BIO 017  GENETICS AND SOCIETY  3.0 UNITS
Total Lecture: 54 hours
Acceptable for Credit:  University of California, California State University
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. This course may be offered via distance learning. Pass/No Pass Option. CSUGE: B2; IGETC: 5B.
ALL DEGREE APPLICABLE COURSES CARRY AN ADVISORY OF ELIGIBILITY FOR ENG 001A OR ENG 001AX AND REA 054

**BIO 017H GENETICS AND SOCIETY - HONORS 3.0 UNITS**

Total Lecture: 54 hours  
Acceptable for credit: University of California, California State University  
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 BIO 017 and BIO 017H. Enrollment in the Honors Transfer Project is required. This course may be offered via distance learning. Pass/No Pass Option. CSUGE: B2; IGETC: 5B.

**BIO 019 OCEANS: LIFE IN THE SEA 3.0 UNITS**

Total Lecture: 54 hours  
Acceptable for credit: University of California, California State University  
This non-majors course surveys the biological principles of marine science. It provides an overview of the ocean environment and examines the diversity of marine life, basic ecological principles and major marine ecosystems. The relationship between humans and the ocean is emphasized, with a focus on conservation biology and sustainability. Pass/No Pass Option. CSUGE: B2; IGETC: 5B.

**BIO 022 ANATOMY AND PHYSIOLOGY FOR ALLIED HEALTH WORKERS 4.0 UNITS**

Total Lecture: 54 hours, Total Lab: 54 hours  
Advisory: MAT 903  
Acceptable for credit: California State University  
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. Grade only. CSUGE: B2, B3.

**BIO 025 ENVIRONMENTAL BIOLOGY 3.0 UNITS**

Total Lecture: 54 hours  
Acceptable for credit: University of California, California State University  
This course provides a scientific examination of the ecological interrelationships between humans and the environment. By understanding general ecological principles and major ecosystems on earth, we can evaluate how the human population impacts our planet by its growth and resource use, and what the implications are for ecosystems, biodiversity, as well as human health and welfare. Topics include: human population growth, food and water supplies, pollution, global climate change, energy use and sustainable development. Grade only. CSUGE: B2, E; IGETC: 5B.

**BIO 030 TROPICAL ECOLOGY 3.0 UNITS**

Total Lecture: 54 hours  
Acceptable for credit: University of California, California State University  
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 BIO 030L, Tropical Ecology Lab. This course may be offered via distance learning. Pass/No Pass Option. CSUGE: B2.

**BIO 030L TROPICAL ECOLOGY FIELD STUDIES 1.0 UNIT**

Total Arranged Lab: 54 hours  
Acceptable for credit: University of California, California State University  
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 BIO 030, Tropical Ecology. Pass/No Pass Option.

**BIO 032 CALIFORNIA PLANTS AND ANIMALS 4.0 UNITS**

Total Lecture: 54 hours, Total Lab: 54 hours  
Acceptable for credit: University of California, California State University  
This field course explores the ecology of California flora and fauna through the study of plants and animals in terrestrial and aquatic ecosystems, with a primary focus on the San Francisco Bay region. The role of abiotic and biotic factors in communities is emphasized. Students examine the natural history of common plants and animals in different ecosystems, as well as their adaptations to the environment. Native American uses of flora and fauna are discussed. Laboratory and field investigations are conducted using the scientific method and environmental sampling techniques. Selected regional conservation issues and endangered species are discussed. Recommended for non-science majors to fulfill laboratory science requirement (4-units). Pass/No Pass Option. CSUGE: B2, B3; IGETC: 5B, 5C.

**BIO 047 HUMAN ANATOMY 5.0 UNITS**

Total Lecture: 54 hours, Total Lab: 108 hours  
Advisory: Concurrent enrollment in BIO 047S is recommended for all students. Prerequisite: BIO 011 or BIO 022  
Acceptable for credit: University of California, California State University  
This course is an in-depth study of the microscopic and gross anatomical structure of the human body, including corresponding pathology. It is designed to meet the Prerequisite: for programs in nursing, physical therapy, human performance, occupational therapy, etc. Laboratory work includes, for example, examination of models, histological specimens, animal material, and human cadavers. Grade only. C-ID # BIOL 110B. CSUGE: B2, B3; IGETC: 5B, 5C.

**BIO 048 HUMAN PHYSIOLOGY 5.0 UNITS**

Total Lecture: 54 hours, Total Lab: 108 hours  
Prerequisite: BIO 047 and CHM 060 or CHM 001A or CHM 001AH or CHM 030A  
Advisory MAT 000C or MAT 000CM  
Acceptable for credit: University of California, California State University  
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. Grade only. C-ID # BIOL 120B. CSUGE: B2; IGETC: 5B.

**BIO 048H HUMAN PHYSIOLOGY - HONORS 5.0 UNITS**

Total Lecture: 54 hours, Total Lab: 108 hours  
Advisory: MAT 000C or MAT 000CM  
Prerequisite: BIO 047 and CHM 060 or CHM 001A or CHM 001AH or CHM 030A  
Acceptable for credit: University of California, California State University  
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. Grade only. C-ID # BIOL 120B. CSUGE: B2, B3; IGETC: 5B, 5C.