BIOLOGY (BIOL)

BIOL 004A General Principles and Cell Biology 5 Units
Biology 004A is a lecture lab course and the first of a two-term sequence for students interested in a career in the sciences, teaching, medicine, or biochemistry. Students explore scientific method, biochemistry, cell structure and function, bioenergetics, cell reproduction, Mendelian inheritance, molecular genetics, biotechnology, evolution of the genome, and some biochemical laboratory techniques for proteins and DNA. Field trips may be required. (C-ID BIOL 190)
Lecture Hours: 3 Lab Hours: 6 Repeatable: No Grading: L
Prerequisite: MATH 013 and ENGL 092 and CHEM 001A; all with C or better
Advisory Level: Read: 3 Write: 3 Math: None
CSU GE: B2, B3 IGETC: 5B, 5C District GE: B2, B3

BIOL 004B Biodiversity and Organismal Biology 5 Units
Biology 004B is the second course in a two-term sequence for students preparing for careers in the sciences, including the health sciences, biochemistry, research, and teaching. Students will study the basic biology and diversity of unicellular and multicellular organisms by emphasizing evolutionary theory, Earth history, phylogeny, form and function/adaptation, physiology, and ecology of life on Earth. Field studies may be required. (C-ID BIOL 140)
Lecture Hours: 3 Lab Hours: 6 Repeatable: No Grading: L
Prerequisite: BIOL 004A with C or better
Advisory Level: Read: 4 Write: 4 Math: 3
Transfer Status: CSU/UC Degree Applicable: AA/AS
CSU GE: B2, B3 IGETC: 5B, 5C District GE: B2, B3

BIOL 020 Human Biology 4 Units
Students will be introduced to the principles of human biology covering all systems of the body including structure and function, diseases, and application of biotechnology. This course is intended for students in non-science majors to meet general education (life science) with a laboratory requirement.
Lecture Hours: 3 Lab Hours: 3 Repeatable: No Grading: L
Advisory Level: Read: 3 Write: 3 Math: 2
Transfer Status: CSU/UC Degree Applicable: AA/AS
CSU GE: B2, B3 IGETC: 5B, 5C District GE: B2, B3

BIOL 021 General Biology 4 Units
Students will study the general principles and basic concepts of biology. The course includes the characterization of and classification of living systems, the cell, metabolism, development, genetics, evolution, ecology, dissection, and human health and reproduction. This is an introductory course for non-science majors. This course is not designed for biology or related pre-professional majors, except as a prerequisite for other biology courses.
Lecture Hours: 3 Lab Hours: 3 Repeatable: No Grading: L
Advisory Level: Read: 4 Write: 4 Math: 2
Transfer Status: CSU/UC Degree Applicable: AA/AS
CSU GE: B2, B3 IGETC: 5B, 5C District GE: B2, B3

BIOL 041 Human Heredity 3 Units
Students will study the importance of human heredity in our lives, emphasizing the rapidly changing areas of human heredity and specific genetic disorders. The course includes the role of genetics in medicine, agriculture, and recombinant DNA Technology, and will explore the role and importance of genetic counselors and the genetic tests for disorders. This course is designed for non-science majors.
Lecture Hours: 3 Lab Hours: None Repeatable: No Grading: L
Advisory Level: Read: 3 Write: 3 Math: 2
Transfer Status: CSU/UC Degree Applicable: AA/AS
CSU GE: B2 IGETC: 5B District GE: B2

BIOL 061 Human Heredity 3 Units
Students will study the importance of human heredity in our lives, emphasizing the rapidly changing areas of human heredity and specific genetic disorders. The course includes the role of genetics in medicine, agriculture, and recombinant DNA Technology, and will explore the role and importance of genetic counselors and the genetic tests for disorders. This course is designed for non-science majors.
Lecture Hours: 3 Lab Hours: None Repeatable: No Grading: L
Advisory Level: Read: 3 Write: 3 Math: 2
Transfer Status: CSU/UC Degree Applicable: AA/AS
CSU GE: B2 IGETC: 5B District GE: B2

BIOL 062 Plants and Human Welfare 3 Units
Students are introduced to the world of plants and their ecological importance to humans. Topics include the impact of plants on development of civilizations; the need for conservation; and the role of plants in the total environment. Class meetings may be held at alternative off campus sites.
Lecture Hours: 3 Lab Hours: None Repeatable: No Grading: L
Advisory Level: Read: 3 Write: 3 Math: 2
Transfer Status: CSU/UC Degree Applicable: AA/AS
CSU GE: B2 IGETC: 5B District GE: B2

BIOL 063 Ecology 3 Units
Students will study organisms, matter, and energy and their relationships to natural cycles, succession, and conservation. They will analyze environmental crises in the world today using ecological principles. This is a general Biology science course designed for students not majoring in Biology.
Lecture Hours: 3 Lab Hours: None Repeatable: No Grading: L
Advisory Level: Read: 4 Write: 4 Math: 2
Transfer Status: CSU/UC Degree Applicable: AA/AS
CSU GE: B2 IGETC: 5B District GE: B2

BIOL 064 Marine Biology 4 Units
Students will investigate animals, plants, microorganisms, plankton, and human impact on marine ecosystems. In addition, physical factors of the sea, human oceanic history, technology, and uses of the sea will be considered. Mariculture, energy production, and fisheries biology are also addressed. Students will also study special topics on tropical habitats, shark biology, whaling operations, and local marine habitats. Field trips will be required to locations such as San Francisco Bay and Monterey Bay.
Lecture Hours: 3 Lab Hours: 3 Repeatable: No Grading: L
Advisory Level: Read: 3 Write: 3 Math: 3
Transfer Status: CSU/UC Degree Applicable: AA/AS
CSU GE: B2, B3 IGETC: 5B, 5C District GE: B2, B3

BIOL 071 Human Anatomy 5 Units
Students will study the structure of the human body: identifying its parts and systems, understanding interrelationships between the parts and systems, and making clinical applications. Laboratory activity includes the study of models, dissection of a human cadaver and other selected mammalian organs, and use of the microscope. This course is required for four-year nursing and pre-professional majors such as Occupational Therapy, Physical Therapy, Respiratory Therapy, and Chiropractic. (C-ID BIOL 110B)
Lecture Hours: 3 Lab Hours: 6 Repeatable: No Grading: L
Prerequisite: BIOL 021 with C or better
Advisory Level: Read: 3 Write: 3 Math: 3
Transfer Status: CSU/UC Degree Applicable: AA/AS
CSU GE: B2, B3 IGETC: 5B, 5C District GE: B2, B3
Biology (BIOL)

BIOL 072  Human Physiology  5 Units
Students will explore the different body systems (e.g. nervous, endocrine, muscular, urinary, respiratory, cardiovascular, reproductive) along with cellular physiology and metabolism. Students will also learn to use physiology to help diagnose and treat disease, along with answering questions like: "If you pull someone's heart out of their chest, why does the heart keep beating? Why is 0.9% NaCl often the IV of choice in hospitals? Why is it dangerous to drink too much water too fast? Why do you feel dizzy when you stand up?" This course is required for four-year nursing and pre-professional majors in the health science field. (C-ID BIOL 120B)
Lecture Hours: 3  Lab Hours: 6  Repeatable: No  Grading: L
Prerequisite: BIOL 071 and (CHEM 001A or CHEM 015 or CHEM 032A) and MATH 013; all with C or better
Advisory Level: Read: 3 Write: 3 Math: None
Transfer Status: CSU/UC  Degree Applicable: AA/AS
CSU GE: B2, B3  IGETC: 5B, 5C  District GE: B2, B3

BIOL 074  General Microbiology  5 Units
Students are introduced to the structure and activities of microorganisms, including bacteria, viruses, protozoa, fungi, helminths, and algae. Students will study the principles of microbial control, metabolism, environmental microorganism genetics, genetic engineering, disease, modes of infection, and immunity. Emphasis is on aseptic laboratory technique and the application of microbiology to human welfare.
Lecture Hours: 3  Lab Hours: 6  Repeatable: No  Grading: L
Prerequisite: (CHEM 001A or CHEM 015 or CHEM 032A) and (BIOL 071 or BIOL 072); all with C or better
Advisory Level: Read: 3 Write: 3 Math: 3
Transfer Status: CSU/UC  Degree Applicable: AA/AS
CSU GE: B2, B3  IGETC: None, 5B, 5C  District GE: B2, B3

BIOL 098  Directed Study in Biology  0.5-9 Units
Individual or small groups of students who would benefit from Independent Study under the direction of faculty members in specific or related disciplines may develop individualized learning contracts designed to enhance their individual instructional programs. The students and the faculty member in consultation with the Division Dean will determine appropriate learning objectives and activities as well as the number of units to be earned. Instructions and the Learning Contract forms are available in the Division office. Repeatable to a maximum of 9 units across all disciplines.
Lecture Hours: None  Lab Hours: 1.81  Repeatable: Yes  Grading: O
Prerequisite: BIOL 021 or BIOL 004A with C or better
Advisory Level: Read: 3 Write: 3 Math: None
Transfer Status: CSU  Degree Applicable: AA/AS
CSU GE: None  IGETC: None  District GE: None