Biological Sciences

BIOL 100 INTRODUCTION TO THE LIFE SCIENCES

Study of the nature of the physical and chemical aspects of life, the concepts of cellular biology, life as it exists on earth today, plant and animal interrelationships and interdependencies, and the role of humans in the world of living things. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

Units: 3

Hours/semester: 48-54 Lecture; 96-108 Homework

Recommended: Eligibility for ENGL 100.

AA/AS Degree Requirements: Area B2

Transfer Credit: CSU (CSU GE Area B2), UC* (IGETC Area 5B)

BIOL 110 PRINCIPLES OF BIOLOGY

This introductory course addresses the biological perspective and scientific method, the chemical and cellular bases of life, cellular transport and energetics, reproduction, heredity, classification of organisms and their evolution, plant and animal physiology, and ecology. *Letter Grade Only. Degree Credit.*

Units: 4

Hours/semester: 48-54 Lecture; 48-54 Lab; 96-108 Homework

Recommended: Eligibility for ENGL 100.

AA/AS Degree Requirements: Area B2, B3

Transfer Credit: CSU (CSU GE Area B2, B3), UC (IGETC Area 5B, 5C)

BIOL 130 HUMAN BIOLOGY

Study of biological principles using the human body as a model. Topics are structure and function of major organ systems and some common disorders. Heredity, evolution, and human ecological roles are also discussed. *Letter Grade Only. Degree Credit.*

Units: 3

Hours/semester: 48-54 Lecture; 96-108 Homework

AA/AS Degree Requirements: Area B2

Transfer Credit: CSU (CSU GE Area B2), UC (IGETC Area 5B)

BIOL 132 HUMAN BIOLOGY LABORATORY

Laboratory exercises concerning mammalian anatomy and physiology and using the scientific method to analyze and interpret data and then draw appropriate conclusions. This course is a supplement to BIOL 130 Human Biology. *Letter Grade Only. Degree Credit.*

Units: 1

Hours/semester: 48-54 Lab

Prerequisites: Completion of, or concurrent enrollment in BIOL 130

AA/AS Degree Requirements: Area B3 - only if BIOL 130 is successfully completed prior to or concurrently with BIOL 132

Transfer Credit: CSU (CSU GE Area B3 - only if BIOL 130 is successfully completed prior to or concurrently with BIOL 132), UC (IGETC Area 5C*)

BIOL 133 EMERGING INFECTIOUS DISEASES

This course discusses pathogenic bacteria, viruses, and fungi that cause modern plagues such as AIDS, Ebola, and COVID. It also explores how antimicrobial drug resistance, environmental and human population changes, and global warming contribute to the development of both novel and re-emergent infectious diseases. Real-time outbreaks are studied from the perspective of an epidemiologist. *Letter Grade Only. Degree Credit.*

Units: 3

Hours/semester: 48-54 Lecture; 96-108 Homework

BIOL 225 BIOLOGY OF ORGANISMS

Designed for biology majors, this course focuses on principles of evolutionary theory, classification of organisms, and their phylogenetic relationships. Emphasis is on physiology and structures of representative plants and animals. Topics include development, behavioral biology, ecology, and population genetics. *Letter Grade Only. Degree Credit.*

Units: 5

Hours/semester: 48-54 Lecture; 96-108 Lab; 96-108 Homework

Prerequisites: Successful completion of Intermediate Algebra or equivalent, or placement by other measures as applicable.

Recommended: Eligibility for ENGL 100.

AA/AS Degree Requirements: Area B2, B3; Math Competency

Transfer Credit: CSU (CSU GE Area B2, B3), UC (IGETC Area 5B, 5C)

C-ID: BIOL 140; BIOL 135 S (both BIOL 225 + 230)

BIOL 230 CELL AND MOLECULAR BIOLOGY

This course is designed for biology majors and is an introduction to life functions at the cellular and molecular levels. Students learn about cellular structure and the macromolecular architecture of the cell, the functional processes of cellular energetics, metabolic regulation, photochemical activities, reproduction, molecular and Mendelian genetics, regulation of gene expression, and methods of recombinant DNA technology. *Letter Grade Only. Degree Credit.*

Units: 5

Hours/semester: 48-54 Lecture; 96-108 Lab; 96-108 Homework

Prerequisites: CHEM 210 and BIOL 210, or 215 (offered at Skyline College), or 220 (offered at College of San Mateo), or 225.

AA/AS Degree Requirements: Area B2, B3

Transfer Credit: CSU (CSU GE Area B2, B3), UC (IGETC Area 5B, 5C)

C-ID: BIOL 190; BIOL 135 S (both BIOL 225 + 230)

BIOL 240 GENERAL MICROBIOLOGY

This course introduces microorganisms in nature: their cellular and molecular structure and functions, metabolisms, genetics, gene regulation, and techniques and procedures used by microbiologists. Emphasis is on microbes that play important roles in human daily life, especially those that cause disease and impact the environment. Laboratory emphasizes isolation, cultivation, and identification of bacteria. *Letter Grade Only. Degree Credit.*

Units: 4

Hours/semester: 48-54 Lecture; 48-54 Lab; 96-108 Homework

Prerequisites: BIOL 110 or BIOL 130 and BIOL 132 or BIOL 210 or 215 (offered at Skyline College), or 220 (offered at College of San Mateo) or BIOL 225 or BIOL 230 or BIOL 250 or BIOL 260 and CHEM 192 or CHEM 210 or CHEM 410 or equivalent (any college level biology course with a lab and any college level chemistry course with a lab).

AA/AS Degree Requirements: Area B2, B3

Transfer Credit: CSU (CSU GE Area B2, B3), UC (IGETC Area 5B, 5C)

BIOL 250 HUMAN ANATOMY

Students learn the macroscopic and microscopic structure of the human body organ systems through lecture and laboratory study of models and prosected human cadavers. This course is intended for students in kinesiology, nursing, radiologic technology, respiratory therapy, surgical technology, and other allied health majors. This course is an elective for pre-dental, pre-medical and pre-veterinary students. *Letter Grade Only. Degree Credit.*

Units: 4

Hours/semester: 48-54 Lecture; 48-54 Lab; 96-108 Homework

Prerequisites: BIOL 100 or BIOL 101 (offered at Skyline) or BIOL 110 or BIOL 130

AA/AS Degree Requirements: Area B2, B3

Transfer Credit: CSU (CSU GE Area B2, B3), UC (IGETC Area 5B, 5C)

C-ID: BIOL 110 B

BIOL 260 HUMAN PHYSIOLOGY

Students learn through lecture and laboratory experiences how human organ systems integrate functions to maintain homeostasis and to regulate change and growth processes. This course is intended for students in kinesiology, nursing, radiologic technology, respiratory therapy, and for those in related fields such as psychology. This course is an elective for pre-dental and pre-medical students. *Letter Grade Only. Degree Credit.*

Units: 5

Hours/semester: 48-54 Lecture; 96-108 Lab; 96-108 Homework

Prerequisites: BIOL 250 and CHEM 192 or CHEM 210 or CHEM 410

AA/AS Degree Requirements: Area B2, B3

Transfer Credit: CSU (CSU GE Area B2, B3), UC (IGETC Area 5B, 5C)

C-ID: BIOL 120 B

BIOL 310 NUTRITION

Comprehensive introduction to scientific principles of nutrition and the interrelationships of metabolism; nutrient functions, structure and food sources; health consequences of nutrient excesses, deficiencies and diet related chronic diseases. Emphasis is placed on evaluating the nutrient content of foods, applying information to personal diet, and using reference tools. *Letter Grade Only. Degree Credit.*

Units: 3

Hours/semester: 48-54 Lecture; 96-108 Homework

AA/AS Degree Requirements: Area E1

Transfer Credit: CSU (CSU GE Area E1), UC

C-ID: NUTR 110

BIOL 695 INDEPENDENT STUDY

Designed for students who are interested in furthering their knowledge via self-paced, individualized instruction provided in selected areas or directed study to be arranged with instructor and approved by the division dean using the Independent Study Form. Varying modes of instruction can be used -- laboratory, research, skill development, etc. For each unit earned, students are required to devote three hours per week throughout the semester. Students may take only one Independent Study course within a given discipline. *Grade Option (Letter Grade or Pass/No Pass). Degree Credit.*

Units: 0.5 - 3

Hours/semester: 24-162 Lab

Transfer Credit: CSU