

BIOLOGY (BIO)

BIO 1003 | Principles of Animal Biology: GT-SC2

Lecture Credit: 3

Introduces the student to the study of animals from the cellular level to the interactions of the organism within its environment, and their ecological contributions. This course includes principles of evolution, animal ecology, animal architecture, taxonomy, and phylogeny. It also includes the study of animal diversity, emphasizing the characteristics and classifications of animal phyla and major classes. This course is one of the Statewide Guaranteed Transfer courses. GT-SC2

Prerequisite: College Readiness in English and Quantitative Literacy Math

BIO 1005 | Science of Biology with Lab: GT-SC1

Lecture Credit: 3 Lab Credit: 1

Examines the basis of biology in the modern world and surveys the current knowledge and conceptual framework of the discipline. Explores biology as a science - a process of gaining new knowledge - as is the impact of biological science on society. Includes laboratory experiences. Designed for non-science majors. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1

Prerequisite: College Readiness in English and Quantitative Literacy Math

BIO 1006 | Basic Anatomy and Physiology

Lecture Credit: 4

Focuses on basic knowledge of body structures and function, and provides a foundation for understanding deviations from normal and disease conditions. This course is designed for individuals interested in health care and is directly applicable to the practical nursing program, paramedic program and the medical office technology program.

Prerequisite: College Readiness in English and Quantitative Literacy Math

BIO 1010 | Biology Foundations: Prep for Anatomy & Physiology and Microbiology

Lecture Credit: 2

Introduces foundational concepts for Human Anatomy and Physiology as well as Microbiology including macromolecules and cell structures, functions, and processes. This is a non-laboratory course.

BIO 1016 | Introduction to Human Disease: GT-SC2

Lecture Credit: 3

Focused analysis of the causes and mechanics of human illness and death will be presented for each of the major human body systems. Selected diseases will be studied in greater detail including etiology, pathogenesis, epidemiology, sociology, and therapy. This course is one of the Statewide Guaranteed Transfer courses. GT-SC2

BIO 1075 | Special Topics

Provides students with a vehicle to pursue in depth exploration of special topics of interest.

Note: Special topics courses range from 0-12 credits and vary in learning type. Please see your program chair for more information about your options.

BIO 1111 | GenBio I: Molecular&Cellular Biology w/Lab: GT-SC1

Lecture Credit: 4 Lab Credit: 1

Examines the fundamental molecular, cellular and genetic principles characterizing plants and animals. Includes cell structure and function, and the metabolic processes of respiration, and photosynthesis, as well as cell reproduction and basic concepts of heredity. The course includes laboratory experience. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1

Prerequisite: College Readiness in English and Quantitative Literacy Math

BIO 1112 | Gen College Biology II with Lab: GT-SC1

Lecture Credit: 4 Lab Credit: 1

Continues Biology I. Includes ecology, evolution, classification, structure, and function in plants and animals. Examines the fundamental principles of ecology, evolution, classification, structure, and function in plants and animals. This course includes a laboratory experience. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1

Prerequisite: BIO 1111 with a grade of C or better and College Readiness in English and College Readiness in Quantitative Literacy Math (CCD.edu/CollegeReady)

BIO 2101 | Human Anatomy & Physiology with Lab I: GT-SC1

Lecture Credit: 3 Lab Credit: 1

Focuses on an integrated study of the human body including the histology, anatomy, and physiology of each system. Examines molecular, cellular, and tissue levels of organization plus integuments, skeletal, articulations, muscular, nervous, and endocrine systems. Includes a mandatory hands-on laboratory experience covering experimentation, microscopy, observations, and dissection. This is the first semester of a two-semester sequence. This course is one of the Statewide Guaranteed Transfer Courses. GT-SC1

Prerequisite: BIO 1111 or BIO 1010 with a grade of C or better

BIO 2102 | Human Anatomy & Physiology II with Lab: GT-SC1

Lecture Credit: 3 Lab Credit: 1

Focuses on the integrated study of the human body and the histology, anatomy, and physiology of the following systems and topics: cardiovascular, hematology, lymphatic and immune, urinary, fluid and electrolyte control, digestive, nutrition, respiratory, reproductive, and development. Includes a mandatory hands-on laboratory experience involving experimentation, microscopy, observations, and dissection. This is the second semester of a two-semester sequence. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1

Prerequisite: BIO 2101 with a grade of C or better

BIO 2104 | Microbiology with Lab: GT-SC1

Lecture Credit: 3 Lab Credit: 1

Designed for health science majors. Examines microorganisms with an emphasis on their structure, development, physiology, classification, and identification. The laboratory experience includes culturing, identifying, and controlling microorganisms with an emphasis on their role in infectious disease. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1

Prerequisite: BIO 1111 or BIO 1010 with a grade of C or better

BIO 2116 | Pathophysiology

Lecture Credit: 4

Focuses on the alterations in physiological, cellular, and biochemical processes, the associated homeostatic responses, and the manifestations of disease. Prior knowledge of cellular biology, anatomy, and physiology is essential for the study of pathophysiology.

Prerequisite: BIO 2101 and BIO 2102 with a grade of C or better

Corequisite: BIO 2102

BIO 2120 | General Zoology with Lab: GT-SC1

Lecture Credit: 4 Lab Credit: 1

Focuses on the study of invertebrate and vertebrate animals and examines structure, evolutionary development, ecology, classification, physiology, reproduction, and zoogeography. A survey of zoological diversity emphasizing the characteristics, zoological contributions, and classification of animal phyla and major classes, this course requires hands-on laboratory and field experience. This course is designed for biology majors. This course is one of the Statewide Guaranteed Transfer courses. GT-SC1

Prerequisite: BIO 1112 with a grade of C or better

BIO 2122 | General College Ecology

Lecture Credit: 3 Lab Credit: 1

Studies the interrelationships between organisms and their environment. Covers composition and function of aquatic and terrestrial ecosystems, population biology, pollution and the effects of man on ecosystems. Includes laboratory and field experiences.

Prerequisite: BIO 1112 with a grade of C or better

BIO 2124 | Genetics

Lecture Credit: 3 Lab Credit: 1

Studies the fundamental laws of heredity and their application to living organisms. Covers the basics of genetics. Focuses on the laws of Mendel, linkage, mutation concept, molecular genetics, and the Hardy-Weinberg law. Includes a laboratory experience. This course is approved as part of the Colorado Statewide Guaranteed transfer curriculum: GT:SC1.

Prerequisite: BIO 1111 with a grade of C or better

BIO 2165 | Techniques in Cell Culture and Protein Production

Lecture Credit: 3 Lab Credit: 1

Focuses on the methods commonly used in biotech manufacturing facilities. Includes eukaryotic cell culture, prokaryotic fermentation, and protein production and purification. Requires hands-on laboratory experience.

BIO 2169 | Nucleic Acid Techniques and Molecular Cloning

Lecture Credit: 1 Lab Credit: 3

Introduces Recombinant DNA technology as used in Biomedical Research. Covers basic information on the structure and function of DNA as a genetic material before students are guided through a research project involving the isolation and sequence analysis of a gene. Students perform hands-on laboratory techniques on non-infectious material to include PCR, gel electrophoresis, molecular cloning, and automated DNA sequencing.

BIO 2175 | Special Topics

Covers a specific topic within biology, as determined by the instructor. Reflects the special expertise of the faculty and/or the special needs of the students.

Note: Special topics courses range from 0-12 credits and vary in learning type. Please see your program chair for more information about your options.

BIO 2185 | Independent Study

Independent Study Credit: 0 - 12

Allows students to pursue a specific project within biology. The student and instructor determine the topic, outline of work and method of evaluation.

BIO 2228 | Field Biology: (Rio Mora, New Mexico)

Lecture Credit: 1 Lab Credit: 3

Focuses on the identification of organisms and the examination of ecological concepts and principles. The course involves in-depth field study of natural environments lasting at least seven days and requires hands-on laboratory and field experience including extensive hiking.