

# BIOLOGY (BIO)

## BIO 0950 – Anatomy & Physiology Companion Course

**Credit Hour: 1.00 Total Contact Hour: 1.00 Lecture Hour: 1.00**

Supports college level anatomy and physiology and taken in conjunction with BIO 1110, Anatomy and Physiology I. This course reviews prerequisite skills and concepts for topics in BIO 1110.

**Offered:** Summer, Fall, Spring

**Corequisites:** BIO 1110.

## BIO 1000 – Basic Human Structure and Function

**Credit Hours: 3.00 Total Contact Hours: 3.00 Lecture Hours: 3.00**

Provides a basic understanding of the terms and concepts related to normal structure and function of the human body. The anatomy and physiology of each body system is studied and the basis for pathophysiologic changes with common health problems is integrated. This course does not have a laboratory component. The 'C' grade policy applies for a student in a health program.

**Offered:** Summer, Fall, Spring

**Transfer:** TM.

## BIO 1110 – Anatomy and Physiology I

**Credit Hours: 4.00 Total Contact Hours: 5.00 Lecture Hours: 3.00 Lab Hours: 2.00**

Studies the structure and function of the human body as an integral whole. The course begins with a brief study of inorganic chemistry, organic chemistry, and histology, then examines the following body systems: integumentary, skeletal, muscular and nervous. Laboratories include dissections, physiology experiments, and model demonstrations. 'C' grade policy applies for a student in a health program.

**Offered:** Summer, Fall, Spring

**Transfer:** TM

**Prerequisites:** Placement or BIO-0900

**Corequisites:** BIO 0950.

## BIO 1120 – Anatomy and Physiology II

**Credit Hours: 4.00 Total Contact Hours: 5.00 Lecture Hours: 3.00 Lab Hours: 2.00**

Builds upon BIO 1110 by continuing the examination of human anatomy and physiology with the following body systems: endocrine, cardiovascular, lymphatic/ immune, respiratory, urinary, digestive, and reproductive. Includes additional topics of fluid and electrolyte balance, and metabolism. Laboratories include dissections, physiology experiments, and model demonstrations. 'C' grade policy applies for students in a health program.

**Offered:** Summer, Fall, Spring

**Transfer:** TM

**Prerequisites:** BIO 1110 with a 'C' or better.

## BIO 1210 – Biology I

**Credit Hours: 4.00 Total Contact Hours: 5.00 Lecture Hours: 3.00 Lab Hours: 2.00**

Studies the chemical and cellular basis of life. The course will investigate a variety of topics within the fields of Biochemistry and Cell Biology such as the properties of water, macromolecules, cellular structure, cellular respiration, and the cell cycle. Laboratories will include microscopy, dissections, manipulation of variables, and working with models.

**Offered:** Fall

**Transfer:** TAG, TM

**Prerequisites:** CHM 0960 with a 'C' or better, any college level course in biology or chemistry, or placement.

## BIO 1220 – Biology II

**Credit Hours: 4.00 Total Contact Hours: 5.00 Lecture Hours: 3.00 Lab Hours: 2.00**

Studies the evolutionary, ecological, and organismal aspects of life. The course will investigate a variety of topics within the fields of Evolutionary Biology, Ecology, Botany, and Zoology such as the theory of evolution and its evidence, evolutionary processes, energy transfer within an ecosystem, and the reproductive cycles of plants and animals. Laboratories will include microscopy, dissections, manipulation of variables, and working with models.

**Offered:** Spring

**Transfer:** TAG, TM

**Prerequisites:** CHM 0960 with a 'C' or better, any college level course in biology or chemistry, or placement.

## BIO 1310 – Environmental Science I

**Credit Hours: 3.00 Total Contact Hours: 3.00 Lecture Hours: 3.00**

Introduces current human-caused environmental problems such as air, water and soil pollution, wastes, chemicals and energy resources. Provides an introduction to science, the scientific method, basic biological and ecological concepts and applies these to current environmental issues. Students will investigate how different ecosystems function and respond to changes in various biological, chemical, and geological processes. Both historical and recent examples will be examined to illustrate how human activities impact natural systems and vice versa.

**Offered:** Spring.

## BIO 1320 – Environmental Science II

**Credit Hours: 3.00 Total Contact Hours: 3.00 Lecture Hours: 3.00**

Introduces human caused environmental problems such as climate change, environmental health and toxicology, and threats to biodiversity. The course introduces environmental ethics, sustainable agriculture, conservation biology, and sustainable development. Both historical and recent examples are examined to illustrate the value of ecosystem services, soil conservation, habitat protection, risk management, and sustainability. Students will investigate sustainable solutions applicable to current human-caused environmental issues.

**Offered:** Fall.

## BIO 1400 – Microbiology

**Credit Hours: 4.00 Total Contact Hours: 5.00 Lecture Hours: 3.00 Lab Hours: 2.00**

Provides an overview of microbiology to Health and General Education students. Topics of study include: morphology, growth, reproduction, control of and diseases caused by bacteria, viruses, fungi, and protozoa. Laboratories emphasize bacterial and microbiological techniques. 'C' Grade Policy applies for a student in a health program.

**Offered:** Summer, Fall, Spring

**Transfer:** TM

**Prerequisites:** BIO 1000 or BIO 1120 or BIO 1210.

## BIO 1990 – Biology Independent Study

**Credit Hours: 0.00 Total Contact Hours: 0.00**

Enables Independent Study in the Biological Sciences.

**Offered:** Fall.

### **BIO 2121 – Introduction to Human Genetics**

**Credit Hours: 4.00 Total Contact Hours: 5.00 Lecture Hours: 3.00 Lab Hours: 2.00**

Introduces genetics fundamentals, focusing on human genetics. Students will learn genetics history, terminology and analysis; including pedigrees, karyotypes, DNA profiling, and recombinant DNA techniques. Laboratories apply genetic analysis techniques. Designed as an elective for Associate of Science and Associate of Arts degrees.

**Offered:** Fall

**Transfer:** TM.

**Prerequisites:** (BIO 1110 and BIO 1120) or BIO 1210.

### **BIO 2820 – Associate of Science Capstone**

**Credit Hour: 1.00 Total Contact Hour: 1.00 Lecture Hour: 1.00**

Integrates reading from an instructor-chosen, science-related text with additional readings from other sources. The capstone project requires an oral presentation and related paper focusing upon a specific ethical issue, presenting the student's viewpoint while reasonably discussing opposing views. Should be taken during the term of scheduled graduation.

**Offered:** Spring

**Prerequisites:** COM 1110

**Corequisites:** COM 2400.