BIOLOGY (BIO)

BIO 105 Concepts in Biology 4 Semester Hours

This course, intended for the liberal arts student, provides an introduction to concepts in biology. Topics include cellular biology (structure and function, cellular respiration, photosynthesis), genetics (Mendelian, population, molecular), evolution (natural selection, adaptation, microevolution), and ecology (population, community, ecosystem). A student may not enroll in this course if he/she previously received credit for BIO 110 or BIO 120. Three hours of lecture and two hours of lab. Offered every fall and spring. This course meets General Education Distribution Area II.B.

BIO 110 General Biology: Ecology and Evolutionary Biology 4 Semester Hours

This course introduces students to the unifying principles of biology. Topics include ecology, Mendelian and population genetics, evolution, animal behavior. Three hours of lecture and two hours of lab. Offered every fall and spring. This course meets General Education Distribution Area II.B

BIO 120 General Biology: Cellular and Molecular Biology 4 Semester Hours

Students in this course learn the unifying principles of biology. Topics include biochemistry, cell structure and function, bio-energetics, and molecular genetics. Three hours of lecture and two hours of lab. Offered every fall and spring. This course meets General Education Distribution Area II.B

BIO 207 Medical Terminology 3 Semester Hours

Introducing students to the specialized language used in medicine and health, this course provides students with a foundation to succeed in a chosen allied medical field. Students study the formation of words and various aspects related to their use in diagnostic, medical, and health-related fields.

BIO 210 Human Anatomy and Physiology I 4 Semester Hours

The first course in a two-semester sequence, BIO 210 is designed for Exercise Science and Health Science Studies majors, and students interested in allied health and nursing. Lecture and laboratory topics include the structure and function or the integumentary, skeletal, muscular, and nervous systems. Offered fall semester. Three hours of lecture and two hours of lab. Prerequisite BIO 120 or CHE 103. *Note:* Students may not receive credit for both EXSC 210 Foundations in Anatomy & Physiology and this course.

BIO 220 Human Anatomy and Physiology II 4 Semester Hours

A continuation of BIO 210, this course examines the structure and function of the cardiovascular, respiratory, digestive, lymphatic, endocrine, and urogenital systems through laboratory and lecture. Emphasis is on normal regulatory mechanisms and homeostatic processes. Offered spring semester. Three hours of lecture and two hours of lab. Prerequisite: BIO 210.

BIO 240 Biodiversity 4 Semester Hours

A study of the diversity of life on earth, BIO 240 examines the structure and function, development,
natural and geologic history, classification, and ecological role of various organismal groups, including the plants, animals, bacteria, protists, and fungi. Three hours of lecture and two hours of lab. Prerequisites: BIO 105, BIO 110 or BIO 120. Offered fall semester.

BIO 281 Animals & Plants of the Southern Appalachians, Fall 3 Semester Hours

Through field and laboratory experience, students study natural history, taxonomy, and identification of the organisms active during the summer and fall seasons in the Southern Appalachians. Offered every other fall semester (odd years). Prerequisite: Any 100 level Biology course.

BIO 282 Animals & Plants of the Southern Appalachians, Spring 3 Semester Hours

Through field and laboratory experience, students study natural history, taxonomy, and identification of the organisms active during the winter and spring seasons in the Southern Appalachians. Offered every other spring semester (odd years). Prerequisite: Any 100 level Biology course.

BIO 310 Developmental Biology 4 Semester Hours

Developmental biology examines the initiation and construction of organisms, from fertilization through hatching or birth. Evolutionary change via developmental processes will be explored. Offered every other spring semester (odd years). Three hours of lecture and two hours of lab. Prerequisite: BIO 110.

BIO 320 Genetics 4 Semester Hours

Students learn the principles and mechanisms of heredity and gene expression. Topics studied include transmission genetics, molecular genetics, population genetics, and quantitative genetics. The laboratory section focuses on the experience of genetics—the planning, performance, observation, evaluation, and reporting of genetic experiments. Three hours of lecture and two hours of lab. Prerequisites: BIO 110 and BIO 120.

BIO 330 Evolutionary Biology 3 Semester Hours

Students learn the mechanisms of change, both micro and macro, in population characteristics. Topics include sources of variation, types of selection, cultural inheritance, speciation, and population genetics. Prerequisites: BIIO 110/110L and BIO 120/120L.

BIO 340 Conservation Biology 3 Semester Hours

Conservation biology is the science of preserving biodiversity and sustaining the health and integrity of our planet. The three major goals of the discipline are to (1) Document the Earth's biological diversity; (2) Investigate the effects of humans on the Earth's species and ecosystems; and (3) Develop scientifically- based approaches to preserve and restore these species and ecosystems. Topics include conservation ethics and values, biodiversity, restoration ecology, and sustainable development. Prerequisites: BIO 110/110L, BCE 211/211L, and Junior or Senior standing.