

**COURSES****Biology (BIOL)****BIOL 1A. Introductory Biology (4)**

Course one of two-semester sequence required of all biology majors. Thematic introduction to the unifying concepts of life science: chemical basis of life; cellular processes; energy metabolism; genetics; evolution. G.E. Breadth B2. (3 lecture, 3 lab hours) (Formerly BIOSC 1A)

**BIOL 1B. Introductory Biology (5)**

Course two of a two-semester sequence required of all biology majors. Continuation of thematic introduction to the unifying concepts of life science: classification and diversity of life; survey of the living organisms; physiology; ecology and environmental biology. (3 lecture, 6 lab hours)\* (Formerly BIOSC 1B)

**BIOL 10. Life Science (3)**

Not open to students with credit in BIOL 1A. How living things work and why they work that way. Biology from chemical and physical foundations to ecological and evolutionary processes. Biology and its relationship to human affairs. G.E. Breadth B2. (2 lecture, 2 lab hours)

**BIOL 11. Plant Biology (3)**

Not open to students with credit in BIOL 1B. Structure, function, and development of plants. G.E. Breadth B2. (2 lecture, 2 lab hours) (Formerly BOT 10)

**BIOL 12. Animal Biology (3)**

Not open to students with credit in BIOL 1B. Structural and functional comparison of animals; principles and human implications of inheritance, evolution, and ecology; physiology as applied to man. G.E. Breadth B2. (2 lecture, 2 lab hours) (Formerly ZOOL 10)

**BIOL 20. Introductory Microbiology (4)**

Not open to students with credit in BIOL 120. Prerequisites: CHEM 1A or 3A. Introduction to microbiology; principles and selected applications. (3 lecture, 3 lab hours) (Formerly MICRO 20)

**BIOL 33. Human Anatomy and Physiology (5)**

Three units allowed for students with prior credit in human anatomy; 2 units allowed for students with prior credit in human physiology. An integrated study of the structure and function of the human body. (4 lecture, 3 lab hours) (Course fee, \$25) (Formerly PHYAN 33)

**BIOL 64. Functional Human Anatomy (3)**

Not open to students with credit in BIOL 33. Primarily for students in the health related and biological professions. The life continuum from conception to death. A systems approach to the gross and microscopic structures of the human body. (2 lecture, 3 lab hours) (Course fee, \$25) (Formerly PHYAN 64)

**BIOL 65. Human Physiology (5)**

Not open to students with credit in BIOL 33. College chemistry and human anatomy recommended. Homeostasis in the human body; how organ systems function to maintain life; dynamic and adaptive systems at the molecular, cellular, and organ level. (4 lecture, 3 lab hours) (Formerly PHYAN 65)

**BIOL 101. General Ecology (3)**

Prerequisites: BIOL 1A and 1B; PSYCH 42 or MATH 101. MATH 70 or equivalent recommended. Required of all biology majors. The structure, function, organization, and regulation of populations, communities, and ecosystems. The role of evolution in environmental relationships. (2 lecture, 3 lab or field hours)\* (Formerly BIOSC 130)

**BIOL 102. Genetics (3)**

Prerequisites: BIOL 1A, 1B and CHEM 8 or 128A. Required of all biology majors. Fundamentals of inheritance, including an introduction to the underlying molecular mechanisms. (3 lecture hours) (Formerly BIOSC 140A)

**BIOL 103. Cellular Biology (3)**

Prerequisites: BIOL 102 and either CHEM 150 or 155. Required of all biology majors. Fundamentals of inheritance and cellular biology for both prokaryotic and eukaryotic systems, including an introduction to the underlying molecular mechanisms. (3 lecture hours) (Formerly BIOSC 140B but excludes 3 lab hours)

**BIOL 104. Genetics and Cellular Biology Lab (1)**

Prerequisite: BIOL 102 and 103. (BIOL 103 may be taken concurrently.) Required of all biology majors. Must be taken a minimum of four semesters from completing BIOL 103. Basic techniques in molecular genetics and cell biology. No credit if BIOSC 140B taken prior to fall 2005. (3 lab hours) (Formerly BIOSC 140B lab component, BIOSC 140L)

**BIOL 105. Evolution (3)**

Prerequisites: senior standing or permission of instructor; BIOL 101, 102, and 103. Required of all biology majors. Evolutionary processes and patterns. Satisfies the senior major requirement for the B.S. in Biology. (Formerly BIOSC 180)

**BIOL 110. Human Ecology (3)**

The study of the relationships between humans and their environment, both natural and manmade; emphasis on scientific understanding of root causes of current environmental problems.

**BIOL 120. Microbiology (4)**

Prerequisites: BIOL 1A, 1B; CHEM 8 or 128A; or BIOL 11 and CHEM 150. Emphasis on prokaryotes (bacteria); microbial physiology, genetics, ecology, classification, and identification; applications of microbiology. Prerequisite to most upper-division microbiology courses. (3 lecture, 3 lab hours) (Formerly MICRO 140)

**BIOL 121. Medical Microbiology (3)**

Prerequisite: BIOL 120; BIOL 157 recommended. The role of microorganisms in causing infection and disease; strategies for diagnosing and treating infections. (3 lecture hours) (Formerly BIOL 189T, MICRO 183)

**BIOL 122. Nonvascular Plants (3)**

Prerequisites: BIOL 1A and 1B or permission of instructor. Comparative structure and phylogeny of the fungi, algae, mosses, and liverworts. (2 lecture, 3 lab hours) (Formerly BOT 132)

**BIOL 123. Phycology (4)**

Prerequisites: BIOL 1A and 1B or permission of instructor. Morphology, cytology, ecology, physiology, economic importance, and cultivation of the algae. (2 lecture, 6 lab or field hours)\* (Formerly BOT 142)

**BIOL 124. Vascular Plants (4)**

Prerequisites: BIOL 1A and 1B or permission of instructor. Morphology, reproduction, and evolution of the major groups of vascular plants (both living and extinct). Emphasis placed upon the seed plants. (2 lecture, 6 lab hours) (Formerly BOT 131)