

Bachelor of Science (BS)
Degree Code 142*
Concentration Code 142C

Program of Study for Biology Majors
ECOLOGY, EVOLUTION, & ENVIRONMENTAL
BIOLOGY CONCENTRATION

I. GENERAL EDUCATION CURRICULUM.....44
 Chemistry 1101-1110 and 1102-1120 fulfill the Science Inquiry. Math 1110 fulfills the Quantitative Literacy requirement.

II. BIOLOGY MAJOR REQUIREMENTS (not including 12 s.h. counted in Area I, above).....66
2.0 major GPA is required for graduation. Major GPA calculation will include all courses taken in the major department, plus any other courses under II. Minimum of 18 semester hours of courses taken to fulfill major requirements must be courses offered by Appalachian.

A. Biology Core Requirements: 8 semester hours (must be completed before taking any other biology courses)

BIO 1801 ____ (4) Biological Concepts I (Co: CHE 1101) **AND** BIO 1802 ____ (4) Biological Concepts II (Pre: 1801 w/grade "C")

B. Additional Required Biology Courses: 13 semester hours (Pre: BIO 1801 & 1802 required for all additional BIO courses)

BIO 2012 ____ (3) Introduction to Evolutionary Biology **AND** BIO 3302 ____ (4) Ecology
 BIO 2400 ____ (3) Genetics (Pre: CHE 1102, MAT 1025) **OR** BIO 2700 ____ (3) Human Genetics (Pre: CHE 1102, MAT 1025)

and one of the following Senior Capstones: (Pre: Senior Standing; WID)

BIO 4501 ____ (3) Independent Research [CAP] BIO 4700 ____ (3) Seminar in Biological Science [CAP]
 BIO 4910 ____ (3) Capstone Internship in Biology [CAP] BIO 4519 ____ (3) Bio Honors Thesis [CAP] (Pre: BIO 4518 w/min B)

C. Ecology, Evolution, Environmental Concentration: 38 hours

Courses may only meet one requirement. If a course is chosen in one area, it may not be used in another.

******Student MUST choose one Junior Writing [WID] course. All WID Pre: RC 2001******

1. Evolution or Ecology or Environmental: Choose three courses (9-12 s.h.) from the following

BIO 3312 ____ (3) Environmental Studies [WID] BIO 4240 ____ (4) Aquatic Biology (Pre: BIO 3302; Sr. standing)
 BIO 3313 ____ (4) Global Change Ecology [WID] BIO 4571 ____ (4) Plant-insect Interactions in Terr Eco (Pre: Sr. stdg)
 BIO 3314 ____ (4) Comparative Vertebrate Zoo [WID] BIO 4575 ____ (4) Ecotoxicology [CAP] (Pre: CHE 2202/2101; Sr. stdg)
 BIO 3315 ____ (3) Conservation Biology [WID] BIO 4601 ____ (4) Animal Behavior-Ethology (Pre: Sr. standing)
 BIO 3320 ____ (3) Air Pollution Effects on Plants & People (Pre: Jr standing)

2. Biodiversity: Choose two courses (6-8 s.h.) from the following

BIO 2000 ____ (4) Introduction to Botany BIO 4556 ____ (4) Mycology (Pre: Sr standing)
 BIO 3304 ____ (4) Systematic Botany (Pre: BIO 2000) BIO 4557 ____ (4) Ichthyology (Pre: Sr standing)
 BIO 3314 ____ (4) Comparative Vertebrate Zoo [WID] BIO 4558 ____ (3) Taxonomy of the Fleshy Fungi (Pre: Sr stdg)
 BIO 3315 ____ (3) Conservation Biology [WID] BIO 4559 ____ (4) Mammalogy (Pre: Sr standing)
 BIO 4551 ____ (4) Ornithology (Pre: Sr standing) BIO 4560 ____ (4) Herpetology (Pre: Sr standing)
 BIO 4552 ____ (4) Entomology (Pre: Sr standing) BIO 4569 ____ (4) Invertebrate Zoology (Pre: Sr standing)

3. Cellular/Subcellular or Anatomy & Physiology: Choose one course (3-4 s.h.) from the following

BIO 2600 ____ (3) Cell Biology (Pre: CHE 1102) BIO 4555 ____ (4) Plant Physiology (Pre: CHE 1102 & 1120; Sr stdg)
 BIO 3301 ____ (4) Human System Physiology [WID] (Pre: CHE 2201/2101) BIO 4568 ____ (4) Immunology (Pre/Co: BIO 2400; Sr standing)
 BIO 3308 ____ (4) Microbiology (Pre: BIO 2400/2600/2700; CHE 1102 & 1120) BIO 4572 ____ (3) Virology (Pre: BIO 2600; Sr standing)
 BIO 3800 ____ (4) Molecular Bio [WID] (Pre: CHE 2201/2101)

4. Other Sciences: (14-20 s.h.) Courses from BIO, CHE, PHY, GLY or courses listed below may be chosen to bring total in AREA II.C. to 38 s.h.

ANT 2222 ____ (3) The Living Primates GHY 2310 ____ (3) Cartographic Design & Analysis
 ANT 2230 ____ (3) Biological Anthropology GHY/PLN 2812 ____ (3) Geospatial Data & Technology
 ANT 3200 ____ (3) Zooarchaeology (Pre: ANT 2221) GHY 3100 ____ (3) Weather & Climate (Pre: GHY 1010 or 1011)
 ANT 3220 ____ (3) Human Biological Variation (Pre: RC 2001) GHY 3110 ____ (3) Ecoregions & Dynamic Landforms
 ANT 3320 ____ (3) Primatological Field Methods GHY 3812 ____ (3) Introduction to GIS (Pre: GHY 2310, 2812)
 ANT 3350 ____ (3) Primate Behavior and Ecology GHY 4812 ____ (3) Advanced GIS (Pre: GHY 3812; Sr. standing)
 ANT 4350 ____ (3) Human Reproduction Evolutionary Perspective GHY 4814 ____ (3) Principles of GeoComputation (Pre: GHY 3812; Sr stdg)
 ANT 4360 ____ (3) Primate Conservation GHY 4820 ____ (3) Geographical Hydrology (Pre: GHY 1010, 3100, 3110; Sr stdg)
 GHY 1010 ____ (3) Intro to Physical Geography S D 3100 ____ (3) Principles of Agroecology

D. Required Cognate Courses: 19 semester hours

Chemistry

CHE 1101/1110 ____ (4) Intro Chemistry I & lab (Pre: MAT 1020 or higher)
 CHE 1102/1120 ____ (4) Intro Chemistry II & lab (Pre: CHE 1101 & 1110; MAT 1020 or higher)
 CHE 2101/2102 ____ (4) Fundamentals of Organic Chem & Lab (Pre: CHE 1102 & 1120)

Mathematics

MAT 1110 ____ (4) Calc w/Analytic Geometry I (Pre: MAT 1025 w/C-)
 STT 2810 ____ (3) Intro to Statistics (Pre: MAT 1010 or higher)

III. MINOR (optional)

IV. ELECTIVES (taken to a minimum of 122 hours for the degree)..... 12
2 semester hours of free electives must be outside the major discipline **122**