Bachelor of Science (BS)  
Degree Code 205A

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

I. GENERAL EDUCATION CURRICULUM

Chemistry 1101-1110 and 1102-1120 fulfill the Science Inquiry Perspective. Math 1110 fulfills the Quantitative Literacy requirement.

II. BIOLOGY MAJOR REQUIREMENTS (not including 12 s.h. counted in Area I, above)

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)  
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  
BIO 2400 ____ (3) Genetics (Pre: CHE 1102, MAT 1025)  
BIO 3302 ____ (4) Ecology  
BIO 2700 ____ (3) Human Gen (Pre: CHE 1102, MAT 1025)

OR  
BIO 4501 ____ (3) Independent Research [CAP]  
BIO 4910 ____ (3) Capstone Internship in Biology [CAP]

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

BIO 4511 ____ (3) Virology  
BIO 4550 ____ (4) Immunology (Pre: BIO 2400/2700)

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

BIO 4569 ____ (4) Invertebrate Zoology  
BIO 4559 ____ (4) Mammalogy  
BIO 4560 ____ (4) Herpetology

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.****

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

BIO 2410 ____ (3) Genetics Laboratory (Pre/Co: BIO 2400/2700)  
BIO 2610 ____ (1) Cell Bio Lab (Pre: MAT 1025; Pre/Co: BIO 2600)

BIO 3308 ____ (4) Microbiology (Pre: CHE 1102/1120)  
BIO 3800 ____ (4) Molecular Bio [WID] (Pre:CHE2201/2101; ENG 2001)

BIO 4563 ____ (3) Biology of Aging  
BIO 4568 ____ (4) Immunology (Pre: BIO 2400/2700)

BIO 4572 ____ (3) Virology (Pre: BIO 2600)

2. Evolution or Ecology or Environmental: Choose two courses (8 s.h.) from the following

BIO 2000 ____ (4) Introduction to Botany  
BIO 4571 ____ (4) Plant/Insect Interactions in Terrestrial Ecosys

BIO 4601 ____ (4) Animal Behavior-Ethology  
BIO 2001 ____ (4) Introduction to Zoology

BIO 4575 ____ (4) Ecotoxicology [CAP] (Pre: 1 sem organic CHE; WID; Sr. stdng)

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

BIO 2000 ____ (4) Introduction to Botany  
BIO 3304 ____ (4) Systematic Botany (Pre: BIO 2000)

BIO 3315 ____ (3) Conservation Biology [WID] (Pre: ENG 2001)  
BIO 4552 ____ (3) Cartographic Design & Analysis

BIO 5557 ____ (4) Ichthyology  
BIO 4559 ____ (4) Mammalogy

BIO 4569 ____ (4) Invertebrate Zoology

4. Other Sciences: (18-22 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.

(GHY 1010 may be used in General Education Perspective depending upon choices.)

ANT 2230 ____ (3) Biological Anthropology  
ANT 3200 ____ (3) Zooarcheology (Pre: ANT 2221)

GHY 2310 ____ (3) Cartographic Design & Analysis  
GHY 3110 ____ (3) Vegetation, Soils, & Landforms (Pre: GHY 1010)

GHY 4820 ____ (3) Geographical Hydrology (Pre: GHY 1010, 3100, 3110)  
S D 3100 ____ (3) Principles of Agroecology

D. Required Cognate Courses: 19 semester hours

Chemistry

CHE 1101/1110 ____ (4) Intro. Chemistry I & lab  
CHE 1102/1120 ____ (4) Intro. Chemistry II & lab (Pre: CHE 1101)

CHE 2101/2102 ____ (4) Fund. of Organic Chem & Lab (Pre: CHE 1102/1120)

Mathematics

MAT 1110 ____ (4) Calc w/Analytic Geometry I (Pre: MAT 1025 w/C-)  
MAT 1110 ____ (4) Calc w/Analytic Geometry I (Pre: MAT 1025 w/C-)

STT 2810 ____ (3) Intro to Statistics (Pre: MAT 1010)

III. MINOR (optional)

IV. ELECTIVES (taken to a minimum of 128 hours for the degree)

2 semester hours of free electives must be outside the major discipline.