

Bachelor of Science (BS)
Degree Code 205A

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

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**]

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 ____ (1) Genetics Laboratory (Pre/Co: BIO 2400/2700)	BIO 2600 ____ (3) Cell Biology (Pre: CHE 1102)
BIO 2610 ____ (1) Cell Bio Lab (Pre: MAT 1025; Pre/Co: BIO 2600)	BIO 3301 ____ (4) Human Sys Phys [WID] (Pre: CHE2201/2101;ENG2001)
BIO 3308 ____ (4) Microbiology (Pre: CHE 1102/1120)	BIO 3314 ____ (4) Comp Vertebrate Zoo [WID] (Pre: ENG 2001)
BIO 3800 ____ (4) Molecular Bio [WID] (Pre:CHE2201/2101; ENG 2001)	BIO 4555 ____ (4) Plant Physiology (Pre: CHE 1102/1120)
BIO 4563 ____ (3) Biology of Aging	BIO 4564 ____ (4) Microscopy
BIO 4568 ____ (4) Immunology (Pre: BIO 2400/2700)	BIO 4569 ____ (4) Invertebrate Zoology
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 2001 ____ (4) Introduction to Zoology
BIO 4571 ____ (4) Plant/Insect Interactions in Terrestrial Ecosystems	BIO 4575 ____ (4) Ecotoxicology [CAP] (Pre: 1 sem organic CHE;WID; Sr. stndg)
BIO 4601 ____ (4) Animal Behavior-Ethology	

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

BIO 2000 ____ (4) Introduction to Botany	BIO 2001 ____ (4) Introduction to Zoology
BIO 3304 ____ (4) Systematic Botany (Pre: BIO 2000)	BIO 3313 ____ (4) Global Change Ecology [WID] (Pre: ENG 2001)
BIO 3315 ____ (3) Conservation Biology [WID] (Pre: ENG 2001)	BIO 4551 ____ (4) Ornithology
BIO 4552 ____ (4) Entomology	BIO 4556 ____ (4) Mycology
BIO 4557 ____ (4) Ichthyology	BIO 4558 ____ (3) Taxonomy of the Fleshy Fungi
BIO 4559 ____ (4) Mammalogy	BIO 4560 ____ (4) Herpetology
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 3120 ____ (3-6) Field Archeology (Pre: ANT 2221)
ANT 3200 ____ (3) Zooarcheology (Pre: ANT 2221)	GHY 1010 ____ (3) Intro to Physical Geography
GHY 2310 ____ (3) Cartographic Design & Analysis	GHY 3100 ____ (3) Weather & Climate (Pre: GHY 1010)
GHY 3110 ____ (3) Vegetation, Soils, & Landforms (Pre: GHY 1010)	GHY 3812 ____ (3) Introduction to GIS (Pre: GHY 2310, 2812)
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-)
 STT 2810 ____ (3) Intro to Statistics (Pre: MAT 1010)

III. MINOR (optional)

IV. ELECTIVES (taken to a minimum of 128 hours for the degree)..... 18
2 semester hours of free electives must be outside the major discipline. 128