Bachelor of Science (BS) Non-teaching  
Degree Code 124  
Concentration Code 124A

I. GENERAL EDUCATION CURRICULUM........................................................................................................................................................................44

II. MAJOR REQUIREMENTS (Not including 12 semester hours already counted in 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: BIO 1801 w/"C" or better)

B. Additional Required Biology Courses: 21 semester hours (Pre: BIO 1801 & 1802 required for all additional BIO courses)
BIO 2400 ___ (3) Genetics (Pre: BIO 1801, CHE 1102, MAT 1025) OR BIO 2700 ___ (3) Human Genetics (Pre: BIO 1802, CHE 1102, MAT 1025)
BIO 2600 ___ (3) Cell Biology (Pre: CHE 1102) 
BIO 3436 ___ (3) Introduction to Evolutionary Biology
BIO 3800 ___ (4) Molecular Biology [WID] (Pre: 1 semester organic CHE; ENG 2001)

Choose one of the following: (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]

Choose one of the following:
BIO 2410 ___ (1) Genetics Laboratory (Pre: 1 sem org CHE; ENG 2001)
OR BIO 2610 ___ (1) Cell Biology Lab (Pre: MAT 1025; Pre/Co: Bio 2600) 

C. Biology Electives in the Areas (15 semester hours) – Students MUST choose one [WID] course. Students may not count a course more than once.

1. Evolution/Ecology or Biodiversity Electives: Choose one (3-4 hours)
BIO 2000 ___ (4) Introduction to Botany
BIO 3302 ___ (4) Ecology
BIO 3310 ___ (4) Marine Sciences
BIO 3320 ___ (3) Air Pollution Effects on People & Plants
BIO 4552 ___ (4) Entomology
BIO 4557 ___ (4) Ichthyology
BIO 4559 ___ (3) Mammalogy
BIO 4569 ___ (4) Invertebrate Zoology
BIO 4571 ___ (4) Plant/Insect Interactions in Terrestrial Ecosys

2. Cellular/Subcellular or Anatomy & Physiology Electives: Choose 11-12 s.h. not chosen above to bring total hours in AREA II-C to 15 s.h.
BIO 2400 ___ (3) Genetics (Pre: BIO 1801, CHE 1102, MAT 1025)
BIO 2610 ___ (1) Cell Biology Lab (Pre: MAT 1025; Pre/Co: BIO 2600)
BIO 3301 ___ (4) Human Sys Phys [WID] (Pre: 1 sem org CHE; ENG 2001)
BIO 3309 ___ (4) Developmental Biology
BIO 4552 ___ (4) Entomology
BIO 4563 ___ (3) Biology of Aging
BIO 4568 ___ (4) Immunology (Pre: BIO 2400/2700)

D. Required cognate courses: 34 semester hours
Chemistry
CHE 1101/1110 ___ (4) Intro. Chemistry I & lab
CHE 1102/1120 ___ (4) Intro. Chemistry II & lab (Pre: CHE 1101/1110)
CHE 2201/2203 ___ (4) Organic Chemistry I & lab (Pre: CHE 1102/1120)
CHE 2202/2204 ___ (4) Organic Chem II & lab (Pre: CHE 2201/2203 w/C- or better)
CHE 4580 ___ (3) Biochemistry I (Pre: CHE 2101 or 2202)

Physics
PHY 1103 ___ (4) General Physics I (Co: MAT 1020 or 1025)
PHY 1104 ___ (4) General Physics II (Pre: PHY 1103)

Mathematics
MAT 1110 ___ (4) Calculus w/ Analytic Geom. I (Pre: MAT1025 w/C-or better)
STT 2810 ___ (3) Introduction to Statistics (Pre: MAT 1010)

III. MINOR (optional)

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<tr>
<th>Major Requirements that count in Gen Education:</th>
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<tbody>
<tr>
<td>Quantitative Lit</td>
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<tr>
<td>Science Inquiry</td>
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Total Major hrs: 78  
Gen Ed hrs: 12  
Net Major hrs: 66

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