

**I. GENERAL EDUCATION CURRICULUM.....44**  
Chemistry 1101/1110 & 1102/1120 fulfills Science Inquiry. Math 1110 fulfills Quantitative Literacy requirement.

**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: CHE 1102, MAT 1025) **OR** BIO 2700 \_\_\_\_ (3) Human Genetics (Pre: CHE 1102, MAT 1025)

BIO 2600 \_\_\_\_ (3) Cell Biology (Pre: CHE 1102)

BIO 2012 \_\_\_\_ (3) Introduction to Evolutionary Biology

BIO 3800 \_\_\_\_ (4) Molecular Biology [WID] (Pre: CHE 2201 or 2101; RC 2001)

**Choose one of the following:** (Pre: Senior standing; WID)

**Choose one of the following:**

BIO 4501 \_\_\_\_ (3) Independent Research [CAP]

BIO 3301 \_\_\_\_ (4) Human Sys Phys [WID] (Pre: CHE 2201/2101; RC 2001)

BIO 4700 \_\_\_\_ (3) Seminar in Biological Science [CAP]

BIO 3314 \_\_\_\_ (4) Comparative Vertebrate Zoo [WID] (Pre: RC 2001)

BIO 4910 \_\_\_\_ (3) Capstone Internship in Biology [CAP]

BIO 4555 \_\_\_\_ (4) Plant Physiology (Pre: CHE 1102 & 1120; Sr. standing)

BIO 4519 \_\_\_\_ (3) Biology Honors Thesis (Pre: BIO 4518 w/min B)

**Choose one of the following:**

BIO 2410 \_\_\_\_ (1) Genetics Lab (Pre/Co: BIO 2400/2700) **OR**

BIO 2610 \_\_\_\_ (1) Cell Biology Lab (Pre: MAT 1025; Pre/Co: Bio 2600)

**C. Biology Electives in the Areas (15 semester hours) –** 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 2001 \_\_\_\_ (4) Introduction to Zoology

BIO 3302 \_\_\_\_ (4) Ecology

BIO 3304 \_\_\_\_ (4) Systematic Botany (Pre: BIO 2000)

BIO 3312 \_\_\_\_ (3) Environmental Studies [WID] (Pre: RC 2001)

BIO 3313 \_\_\_\_ (4) Global Change Ecology [WID] (Pre: RC 2001)

BIO 3315 \_\_\_\_ (3) Conservation Biology [WID] (Pre: RC 2001)

BIO 3320 \_\_\_\_ (3) Air Pollution Eff on Plants & People (Pre: Jr stndg)

BIO 4240 \_\_\_\_ (4) Aquatic Biology (Pre: BIO 3302; Sr. standing)

BIO 4551 \_\_\_\_ (4) Ornithology (Pre: Sr. standing)

BIO 4552 \_\_\_\_ (4) Entomology (Pre: Sr. standing)

BIO 4556 \_\_\_\_ (4) Mycology (Pre: Sr. standing)

BIO 4557 \_\_\_\_ (4) Ichthyology (Pre: Sr. standing)

BIO 4558 \_\_\_\_ (3) Taxonomy of the Fleshy Fungi (Pre: Sr. standing)

BIO 4559 \_\_\_\_ (4) Mammalogy (Pre: Sr. standing)

BIO 4560 \_\_\_\_ (4) Herpetology (Pre: Sr. standing)

BIO 4569 \_\_\_\_ (4) Invertebrate Zoology (Pre: Sr. standing)

BIO 4571 \_\_\_\_ (4) Plant/Insect Interactions in Trstl Ecosys (Pre: Sr. stdg)

BIO 4575 \_\_\_\_ (4) Ecotoxicology [CAP] (Pre: CHE 2201/2101; WID; Sr stndg)

BIO 4601 \_\_\_\_ (4) Animal Behavior-Ethology (Pre: Sr. standing)

**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 2410 \_\_\_\_ (1) Genetics Lab (Pre/Co: BIO 2400/2700)

BIO 2610 \_\_\_\_ (1) Cell Biology Lab (Pre: MAT 1025; Pre/Co: Bio 2600)

BIO 3301 \_\_\_\_ (4) Human Sys Phys [WID] (Pre: CHE2201/2101; RC 2001)

BIO 3308 \_\_\_\_ (4) Microbiology (Pre: CHE 1102 & 1120; BIO 2400/2600/2700)

BIO 3314 \_\_\_\_ (4) Comparative Vertebrate Zoo [WID] (Pre: RC 2001)

BIO 4001 \_\_\_\_ (3) Developmental Biology (Pre: BIO 2600; BIO 2400/2700)

BIO 4011 \_\_\_\_ (1) Developmental Biology Seminar (Honors) (Pre: BIO 2600; BIO 2400/2700; Co: BIO 4001)

BIO 4513 \_\_\_\_ (4) Plant Molecular Biology (Pre: BIO 3800; Sr. standing)

BIO 4555 \_\_\_\_ (4) Plant Physiology (Pre: CHE 1102 & 1120; Sr standing)

BIO 4563 \_\_\_\_ (3) Biology of Aging (Pre: Sr. standing)

BIO 4564 \_\_\_\_ (4) Microscopy (Pre: Sr. standing)

BIO 4568 \_\_\_\_ (4) Immunology (Pre/Co: BIO 2400; Sr. standing)

BIO 4572 \_\_\_\_ (3) Virology (Pre: BIO 2600; Sr standing)

**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-)

CHE 4580 \_\_\_\_ (3) Biochemistry I (Pre: CHE 2101/2202; Sr stndg)

**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/ Analytical Geom. I (Pre: MAT 1025 w/C-)

STT 2810 \_\_\_\_ (3) Introduction to Statistics (Pre: MAT 1010 or higher)

**III. MINOR (optional)**

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