

**Bachelor of Science (BS)**  
**Degree Code 121\***  
**Concentration Code 121B**

**Program of Study for Science Majors**  
**ENVIRONMENTAL PROFESSIONAL**

**I. GENERAL EDUCATION CURRICULUM.....44**  
*CHE 1101 & 1110 & CHE 1102 & 1120 fulfills Science Inquiry. MAT 1110 fulfills Quantitative Literacy requirement.*

**II. MAJOR REQUIREMENTS (Not including 12 s.h. already counted in I, above)..... 76**  
**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. Science Core Requirements: 53 semester hours**

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| BIO 1801 ____ (4) Biological Concepts I (Co: CHE 1101)                       | CHE 1101/1110 ____ (4) Introductory Chemistry I & Lab                        |
| BIO 1802 ____ (4) Biological Concepts II (Pre: BIO 1801 w/min grade of C)    | CHE 1102/1120 ____ (4) Intro Chemistry II & Lab (Pre: CHE 1101 & 1110)       |
| CHE 2101/2102 ____ (4) Fund. Of Org Chem & Lab (Pre: CHE 1102 & 1120)        | <b>OR</b> CHE 2201/2203 ____ (4) Organic Chem I & Lab (Pre: CHE 1102 & 1120) |
| ENV 1010 ____ (3) Intro to Environmental Sci & Engineering                   | GLY 1104 ____ (4) Water: Mountains to Sea                                    |
| MAT 1110 ____ (4) Calc w/Analytic Geometry I (Pre: MAT 1025 w/min grade C-)  | GLY 2250 ____ (4) Evolution of the Earth (Pre: GLY 1101/2/3/4/5)             |
| MAT 1120 ____ (4) Calc w/Analytic Geometry II (Pre: MAT 1110 w/min grade C-) | PHY 1150 ____ (5) Analytical Physics I (Co: MAT 1110)                        |
| STT 3850 ____ (4) Statistical Data Analysis (Pre: MAT 1110)                  | PHY 1151 ____ (5) Analytical Physics II (Co: MAT 1120)                       |

**B. Required Environmental Courses: 17 semester hours** (A writing course [WID] must be taken in the Junior year.)

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| BIO 3302 ____ (4) Ecology (Pre: BIO 1801)                              | ENV 3100 ____ (1) Issues in Environmental Science [WID] (Pre: RC 2001)                |
| GHY 3812* ____ (3) Introduction to GIS (Pre: GHY 2310, 2812; see dept) |   |
| GLY 3131 ____ (3) Geochemistry (Pre: GLY 2250, CHE 1101, MAT 1110)     | <b>OR</b> CHE 2550 ____ (3) Intro to Env'l Chem (Pre: CHE 2101 & 2102 or 2201 & 2203) |
| GLY 4630 ____ (3) Hydrogeology (Pre: 6 s.h. GLY ≥ 2000; Jr stndg)      | PLN 4460 ____ (3) Environmental Policy & Planning (Pre: Sr. Standing)                 |

**C. Concentration Courses: 12 semester hours** (Must choose at least 1 course from Science category and at least 2 courses from Professional category.)

**Science**

- ENV 3010 \_\_\_\_ (3) Dynamics of Complex Systems (Pre: BIO 1802, CHE 2101 or 2201, GLY 2250, PHY 1151)
  - ENV 3560 \_\_\_\_ (1-3) Undergraduate Research (By permit only.)
  - ENV 3530-49 \_\_\_\_ (1-4) Selected Topics
  - CHE 2202/2204 \_\_\_\_ (4) Organic Chemistry II & Lab (Pre: CHE 2201 & 2203 w/min grade of "C-" in each)
  - CHE 2210/2211 \_\_\_\_ (4) Quantitative Analysis & Lab (Pre: CHE 1102 & 1120)
  - C S 1445 \_\_\_\_ (4) Introduction to Programming with Interdisciplinary Applications (Pre: MAT 1020 or 1025 w/min grade C-)
  - GHY 3110\* \_\_\_\_ (3) Vegetation, Soils, & Landforms (Pre: GHY 1010)
  - GHY 3310 \_\_\_\_ (3) Environmental Remote Sensing
  - GHY 4812 \_\_\_\_ (3) Advanced GIS (Pre: GHY 3812; Sr. standing)
  - GHY 4814 \_\_\_\_ (3) Principles of GeoComputation (Pre: GHY 3812; Sr. standing)
  - GLY 3150\* \_\_\_\_ (3) Principles of Structural Geology & Tectonics (Pre: GLY 2250, 2745)
  - GLY 3333 \_\_\_\_ (3) Geomorphology (Pre: 6s.h.GLY)
  - GLY 3800 \_\_\_\_ (3) Sedimentology & Stratigraphy (Pre: GLY 2250)
  - GLY 4705 \_\_\_\_ (3) Advanced Environmental & Engineering Geology (Pre: 6 s.h. GLY ≥ 2000; Jr. standing)
  - ENV/GLY 3455 \_\_\_\_ (3) Quantitative Data Analysis for Earth & Environmental Scientists (Pre: GLY 2250, MAT 1110, PHY 1150)
  - PHY/GLY 3160 \_\_\_\_ (3) Introduction to Geophysics (Pre: 1 intro GLY course; PHY 1103/1150; MAT 1110)
  - PHY 3140 \_\_\_\_ (3) Environmental Physics (Pre: PHY 1104 or 1151)
  - PHY 3150 \_\_\_\_ ((3) Atmospheric Physics (Pre: PHY 1151)
  - PHY 3230\* \_\_\_\_ (3) Thermal Physics (Pre: PHY 1104 or 1151; MAT 2130)
  - PHY 3850/3851 \_\_\_\_ (4) Environucleonics & Lab (Pre: PHY 1104 or 1151)
  - PHY 4330 \_\_\_\_ (3) Digital Electronics (Pre: Sr. standing)
  - GLY or PHY or CHE or BIO 3530-49 (1-4) Selected Topics\_\_\_\_\_
- All BIO courses at the 2000-level and above\*; except those listed above, and except for BIO 3500, BIO 3520, BIO 3521, BIO 4011, BIO 4518, BIO 4519, BIO 4900, BIO 4910 \_\_\_\_\_

**Professional**

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| COM 3117 ____ (3) Environmental Communication   | IDS 3010 ____ (3) H2O: We are Water                     |
| ENV 4900 ____ (1-12) Internship Environmental Sci (Pre: Jr stndg; may only count 3 hours towards major) | PLN 3730* ____ (3) Land Use Regulations (Pre: PLN 2410) |
| ECO 4621 ____ (3) Env. Economics & Policy (Pre: ECO 2030 or 2620; min grade C in WID; Sr standing)      | P S 4670 ____ (3) Environmental Politics                |
- \*Pre-/Co- requisite is not included in the 123 hours required for the degree. Students may count these hours in AREA II.D. and/or AREA IV or seek instructor permission.

**D. Science Electives: 3 semester hours \_\_\_\_\_**

**E. Environmental Science Capstone Course: Choose at least 3 semester hours** (Pre: Senior Standing)

- ENV/GLY 4110 \_\_\_\_ (3) Environmental Management & Impact Analysis [CAP – for ENV only] (Pre: ENV 3100 or GLY 3703; and GHY 3812)
- ENV 4510 \_\_\_\_ (1-3) Senior Honors Research & Thesis [CAP] (Pre: ENV 3560; ENV majors only; 3.45+ GPA cum and in ENV courses)

**III. MINOR (optional)**

**IV. ELECTIVES (taken to a minimum of 123 hours for the degree) .....3**  
**2 semester hours of free electives must be outside the major discipline** **123**