

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

BIO 1801 ____ (4) Biological Concepts I (Co: CHE 1101)	CHE 1101/1110 ____ (4) Intro Chemistry I & Lab (Pre: MAT 1020 or higher)
BIO 1802 ____ (4) Biological Concepts II (Pre: BIO 1801 w/min grade of C)	CHE 1102/1120 ____ (4) Intro Chem II & Lab (Pre: CHE 1101/1110; MAT 1020 or higher)
CHE 2101/2102 ____ (4) Fund. Of Org Chem & Lab (Pre: CHE 1102 & 1120)	OR 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.)

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)	PLN 4460 ____ (3) Environmental Policy & Planning (Pre: Sr. Standing)
GLY 3131 ____ (3) Env'l Geochemistry (Pre: GLY 2250, CHE 1101/1110, MAT 1110)	OR CHE 2550 ____ (3) Intro to Env'l Chem (Pre: CHE 2101 & 2102 or 2201 & 2203)
GLY 4630 ____ (3) Hydrogeology (Pre/Co: GLY 2250; MAT 1110; PHY 1103 or 1150; Sr stdg)	

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) Ecoregions & Dynamic Landforms
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 & 2745)
GLY 4705 ____ (3) 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 ____ (4) 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

COM 3117 ____ (3) Environmental Communication	IDS 3010 ____ (3) H2O: We are Water
ENV/GLY 3110 ____ (3) Environmental Regulations & Enforcement	PLN 3730* ____ (3) Land, Property, & Law (Pre: PLN 2410)
ENV 4900 ____ (1-12) Internship Environmental Sci (Pre: Jr stdng; may only count 3 hours towards major)	P S 4670 ____ (3) Environmental Politics
ECO 4621 ____ (3) Env. Economics & Policy (Pre: ECO 2030 or 2620; min grade C in WID; Sr standing)	

*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