

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) Introductory Chemistry I & Lab
BIO 1802 ____ (4) Biological Concepts II (Pre: BIO 1801 w/min grade C)	CHE 1102/1120 ____ (4) Introductory Chemistry II & Lab (Pre: CHE 1101 & 1110)
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)	
GLY 3131 ____ (3) Geochemistry (Pre: GLY 2250, CHE 1101, MAT 1110)	OR CHE 2550 ____ (3) Intro to Env'l Chem (Pre: CHE2101 & 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. Science Courses: 12 semester hours (Must choose from at least 2 of these categories.)

Environmental 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 (Counts towards the 12 hours required in part C, but does not count as one of the 2 categories. By permit only.)
ENV 3530-49 ____ (1-4) Selected Topics
ENV/GLY 4110 ____ (3) Environmental Management & Impact Analysis [CAP – for ENV only] (Pre: ENV 3100 or GLY 3703; and GHY 3812)
ENV 4900 ____ (1-12) Internship in Environmental Science (Pre: Jr. standing; may only count 3 hours towards the major)

Chemistry

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)
CHE 3301/3303 ____ (4) Physical Chemistry I & Lab [WID] (Pre: CHE 2210 & 2211, RC 2001, MAT 1120, PHY 1151)
CHE 3560/3561 ____ (4) Instrumental Methods of Analysis (Pre: CHE 3301 & 3303)
CHE 4620 ____ (4) Environmental Chemistry (Pre: CHE 3301 & 3303, 3560 & 3561, STT 3850)
CHE 3530-49 ____ (1-4) Selected Topics

Geophysical Sciences

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 or 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 ____ (3) Environucleonics & Lab (Pre: PHY 1104 or 1151)
PHY 4330 ____ (3) Digital Electronics (Pre: Sr standing)
PHY 4730* ____ (3) Analog Systems (Co: PHY 3210; Sr. standing) GLY or PHY 3530-49 ____ (1-4) Selected Topics

Biology (Pre: BIO 1801 for all BIO courses 2000 and above)

All BIO courses at the 2000-level and above - except those listed above and except for BIO 3500, 3520, 3521, 4011, 4518, 4519, 4900, 4910

**Pre-/Co-requisites are 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 4100 ____ (3) Environmental Science Seminar [CAP] (Pre: ENV 3100)
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**