

Bachelor of Science (BS)
Degree Code 121A

Program of Study for Science Majors
ENVIRONMENTAL SCIENCE

- I. GENERAL EDUCATION CURRICULUM..... 44**
 CHE 1101/1110 & CHE 1102/1120 fulfills Science Inquiry perspective. 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: 50 semester hours**
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| BIO 1801 ____ (4) Biological Concepts I (Co: CHE 1101) | CHE 1101/1110 ____ (4) Intro to Chemistry I & Lab |
| BIO 1802 ____ (4) Biological Concepts II (Pre: BIO 1801) | CHE 1102/1120 ____ (4) Intro to Chemistry II & Lab (Pre: CHE 1101/1110) |
| GLY 1104 ____ (4) Water: Mountains to Sea | CHE 2101/2102 ____ (4) Fund. of Organic Chem & Lab (Pre: CHE 1102/1120) |
| GLY 2250 ____ (4) Evolution of the Earth (Pre: GLY 1101/2/3/4/5) | MAT 1110 ____ (4) Calc w/Analytic Geometry I (Pre: MAT 1025) |
| PHY 1150 ____ (5) Analytical Physics I (Co: MAT 1110) | MAT 1120 ____ (4) Calc w/Analytic Geometry II (Pre: MAT 1110) |
| PHY 1151 ____ (5) Analytical Physics II (Co: MAT 1120) | STT 3850 ____ (4) Statistical Data Analysis (Pre: MAT 1110) |
- B. Required Environmental Courses: 20 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: ENG 2001) |
| GLY 4630 ____ (3) Hydrogeology (Pre: 6 s.h. GLY ≥ 2000; Jr stndg) | PLN 4460 ____ (3) Environmental Policy & Planning |
| GLY 3131 ____ (3) Geochemistry (Pre: GLY 2250, CHE 1101, MAT 1110) OR | CHE 2550 ____ (3) Intro to Environmental Chemistry (Pre: CHE 1102/1120) |
| GHY 3820 ____ (3) GIS for Env & Social Sciences | OR GHY 3812* ____ (3) Introduction to GIS (Pre: GHY 2310, 2812) |
| ENV 3010 ____ (3) Dynamics of Complex Systems (Pre: BIO 1802, CHE 1102/1120, GLY 2250, MAT 1120, PHY 1151, STT 3850) | |
- C. Science Concentration: 12 semester hours** (Must choose from at least 2 of these categories.)
- Chemistry**
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| CHE 2210 ____ (3) Quantitative Analysis (Pre: CHE 1102/1120; Co: 2211) |
| CHE 2211 ____ (1) Quantitative Analysis Lab (Co: CHE 2210) |
| CHE 3301 ____ (3) Physical Chemistry I (Pre: CHE 2210 & 2211, MAT 1120, PHY 1151) |
| CHE 3303 ____ (1) Physical Chemistry I Lab [WID] (Pre: ENG 2001; Co: CHE 3301) |
| CHE 3530-49 ____ (3) Selected Topics _____ |
| CHE 3560 ____ (3) Instrumental Methods of Analysis (Pre: CHE 3301; Co: 3561) |
| CHE 3561 ____ (1) Instrumental Methods of Analysis Lab (Co: CHE 3560) |
| CHE 4620 ____ (4) Environmental Chemistry (Pre: CHE 3301, 3560/3561, STT 2810) |
- Geophysical Sciences**
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| GHY 3110 ____ (3) Vegetation, Soils, & Landforms (Pre: GHY 1010) |
| GHY 3310 ____ (3) Environmental Remote Sensing |
| GLY 3150* ____ (3) Principles of Structural Geology & Tectonics (Pre: GLY 2250, 2745) |
| GLY 3333 ____ (4) Geomorphology (Pre: 6s.h. GLY) |
| GLY 3530-49 ____ (3) Selected Topics _____ |
| GLY 3800 ____ (3) Introduction to Stratigraphy & Sedimentology (Pre: GLY 2250) |
| GLY 4705 ____ (3) Advanced Environmental & Engineering Geology (Pre: 6 s.h. GLY ≥ 2000) |
| 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; Co: MAT 3130) |
| PHY 3230* ____ (3) Thermal Physics (Pre: PHY 1104 or 1151; MAT 2130) |
| PHY 3530-49 ____ (3) Selected Topics: _____ |
| PHY 3850 ____ (3) Environucleonics (Pre: PHY 1104 or 1151) |
| PHY 3851 ____ (1) Environucleonics Lab (Pre or Co: PHY 3850) |
| PHY 4020* ____ (3) Computational Methods in Physics & Engineering (Pre: PHY 2010 & 2020 w/grade C or better; MAT 2130) |
| PHY 4330 ____ (3) Digital Electronics |
| PHY 4730* ____ (3) Analog Systems (Co: PHY 3210) |
- Biology** (Pre: BIO 1801 for all BIO courses 2000 and above)
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| BIO 2000 ____ (4) Intro to Botany | BIO 3530-49 ____ (3) Selected Topics: _____ |
| BIO 2001 ____ (4) Intro to Zoology | BIO 4555 ____ (4) Plant Physiology (Pre: CHE 1102/1120) |
| BIO 3304 ____ (4) Systematic Botany (Pre: BIO 2000) | BIO 4571 ____ (4) Plant-Insect Interactions in Terrestrial Ecosystems |
| BIO 3320 ____ (3) Air Pollution Effects on Plants & People (Pre: Jr stndng) | |
- Students may take up to two organismal biology courses from the following list: BIO 4551, BIO 4552, BIO 4556, BIO 4557, BIO 4558, BIO 4559, BIO 4560, BIO 4567 _____
- *Pre-/Co- requisite is not included in the 122 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: 3 semester hours** ENV 4100 ____ (3) Environmental Science Seminar [CAP] (Pre: Sr. stndng)
- 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**