### Bachelor of Science (BS)  
**Degree Code 121A**  
**ENVIRONMENTAL SCIENCE**

#### I. GENERAL EDUCATION CURRICULUM

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.

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: 49 semester hours**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Pre-Requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 1801</td>
<td>Biological Concepts I (Co: CHE 1101)</td>
<td>4</td>
<td>CHE 1101/1110</td>
</tr>
<tr>
<td>BIO 2000</td>
<td>Intro to Botany (Pre: BIO 1801)</td>
<td>4</td>
<td>CHE 1102/1120</td>
</tr>
<tr>
<td>Or BIO 2001</td>
<td>Intro to Zoology (Pre: CHE 1801)</td>
<td>4</td>
<td>CHE 2101/2203</td>
</tr>
<tr>
<td>GLY 1101</td>
<td>Introduction to Physical Geology</td>
<td>4</td>
<td>MAT 1110</td>
</tr>
<tr>
<td>GLY 2250</td>
<td>Evolution of the Earth (Pre: GLY 1101/2/3/4/5)</td>
<td>3</td>
<td>MAT 1120</td>
</tr>
<tr>
<td>PHY 1150</td>
<td>Analytical Physics I (Co: MAT 1110)</td>
<td>5</td>
<td>STT 2810</td>
</tr>
<tr>
<td>PHY 1151</td>
<td>Analytical Physics II (Co: MAT 1120)</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

**B. Required Environmental Courses: 20 semester hours**

A writing course [WID] must be taken in the Junior year.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Pre-Requisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 3302</td>
<td>Ecology (Pre: CHE 1101)</td>
<td>4</td>
<td>CHE 1102/1120</td>
</tr>
<tr>
<td>GLY 4630</td>
<td>Hydrogeology (Pre: 6 s.h. GLY ≥ 2000; Jr stndg)</td>
<td>3</td>
<td>PHY 3140</td>
</tr>
<tr>
<td>GHY 3820</td>
<td>GIS for Env &amp; Social Sciences <strong>OR</strong> GHY 3812*</td>
<td>3</td>
<td>Introduction to GIS (Pre: GHY 2310, 2812)</td>
</tr>
<tr>
<td>PLN 4460</td>
<td>Environmental Policy &amp; Planning</td>
<td>3</td>
<td>ENV 3100</td>
</tr>
</tbody>
</table>

**C. Science Concentration: 12 semester hours**

Must choose from at least 2 of these categories.

- **Chemistry**
  - CHE 2210 | Quantitative Analysis (Pre: CHE 1102/1120; Co: 2211) | 3 |
  - CHE 2211 | Quantitative Analysis Lab (Co: CHE 2210) | 1 |
  - CHE 3301 | Physical Chemistry I (Pre: CHE 2210 & 2211, MAT 1120, PHY 1151) | 4 |
  - CHE 3303 | Physical Chemistry I Lab [WID] (Pre: ENG 2001; Co: CHE 3301) | 1 |
  - CHE 3530-49 | Selected Topics | 3 |
  - CHE 3560 | Instrumental Methods of Analysis (Pre: CHE 3301; Co: 3561) | 3 |
  - CHE 3561 | Instrumental Methods of Analysis Lab (Co: CHE 3560) | 1 |
  - CHE 4620 | Environmental Chemistry (Pre: CHE 3013,560/3561,STT 2810) | 4 |

- **Geophysical Sciences**
  - GGY 3310 | Environmental Remote Sensing | 3 |
  - GLY 3150* | Principles of Structural Geology & Tectonics (Pre: GLY 2250, 2745) | 3 |
  - GLY 3333 | Geomorphology (Pre: 6s.h.GLY) | 4 |
  - GLY 3530-49 | Selected Topics | 3 |
  - GLY 3800 | Introduction to Stratigraphy & Sedimentology (Pre: GLY 2250) | 3 |
  - GLY 4705 | Advanced Environmental & Engineering Geology (Pre: 6 s.h. GLY ≥ 2000) | 3 |
  - PHY/GLY 3160* | Introduction to Geophysics (Pre:1 intro GLY course; PHY 1103/1150; MAT 1110) | 3 |
  - PHY 3150* | Atmospheric Physics (Pre: PHY 1151; Co: MAT 3130) | 3 |
  - PHY 3230* | Thermal Physics (Pre: PHY 1104 or 1151; MAT 2130) | 3 |
  - PHY 3530-49 | Selected Topics: | 3 |
  - PHY 3850 | Environneleons (Pre: PHY 1104 or 1151) | 3 |
  - PHY 3851 | Environneleons Lab (Pre or Co: PHY 3850) | 1 |
  - PHY 4020* | Computational Methods in Physics & Engineering (Pre: PHY 2010 & 2020 w/grade C or better; MAT 2130) | 3 |
  - PHY 4330 | Digital Electronics | 3 |
  - PHY 4730* | Analog Systems (Co: PHY 3210) | 3 |

- **Biology (Pre: BIO 1801 for all BIO courses 2000 and above)**
  - BIO 3304 | Systematic Botany (Pre: BIO 2000) | 4 |
  - BIO 3310 | Marine Sciences | 4 |
  - BIO 3320 | Air Pollution Effects on Plants & People (Pre: Jr stndg) | 3 |
  - BIO 3530-49 | Selected Topics: | 3 |
  - BIO 4555 | Plant Physiology (Pre: CHE 1102/1120) | 4 |
  - BIO 4571 | Plant-Insect Interactions in Terrestrial Ecosystems | 4 |

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** | Environmental Science Seminar [CAP] (Pre: Sr. stndg) | 3 |

#### III. MINOR (optional)

#### IV. ELECTIVES (taken to a minimum of 122 hours for the degree)

2 semester hours of free electives must be outside the major discipline

---

Revised 01/2012