**Core Courses:**

103 Dynamic Earth (150 Engineering Geology or 106 Environmental Geology may be substituted with permission)
104 Evolution of the Earth
201 Structural Geology
210 Geomorphology
214 Physical Sedimentology and Stratigraphy
217 Crystallography-Mineralogy

Notes: Students are encouraged to take a summer field course in geology, to elect additional courses in science and mathematics, and to participate in independent study research opportunities through GEOL 319-320, or through GEOL 329-430, with the latter preferred.
**BUCKNELL UNIVERSITY GEOLOGY CURRICULA**

**BS Requirements**

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Option 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Geology</strong>&lt;br&gt;(11.5 GEOL courses)</td>
<td><strong>Environmental Geology</strong>&lt;br&gt;(11.5 GEOL courses)</td>
</tr>
<tr>
<td>6 core courses**</td>
<td>6 core courses**</td>
</tr>
<tr>
<td><strong>312 (Igneous and Metamorphic Petrology)</strong></td>
<td><strong>205 (Introduction to Geochemistry)</strong></td>
</tr>
<tr>
<td><strong>329 (Senior Program I (half course)) and 430 (Senior Program II)</strong></td>
<td><strong>329 (Senior Program I (half course)) and 430 (Senior Program II)</strong></td>
</tr>
<tr>
<td>3 courses from 205 (Introduction to Geochemistry), 213 (Paleontology), 219 (Optical Mineralogy), 301 (Geophysics), 305 (Environmental Geochemistry), 310 (Applied Environmental Geomorphology), 321 or 322 (Special Topics), 324 (Hydrogeology)</td>
<td>1 course from 301 (Geophysics), 305 (Environmental Geochemistry), 310 (Applied Env. Geomorphology)</td>
</tr>
<tr>
<td><strong>MATH 201-202, 211 or 216</strong></td>
<td><strong>MATH 201-202</strong></td>
</tr>
<tr>
<td><strong>PHYS 211</strong></td>
<td><strong>PHYS 211</strong></td>
</tr>
<tr>
<td><strong>CHEM 201-202 or CHEM 211-212 or CHEM 221 with approval of advisors</strong></td>
<td>2 Biology or 2 Chemistry or 2 Civil Engineering courses from an approved list (see over)</td>
</tr>
</tbody>
</table>

*A summer field course in geology is strongly recommended.*
**Core GEOL Courses**

103 Dynamic Earth (GEOL 150 (Engineering Geology) or GEOL 106 (Environmental Geology) may be substituted with permission)

104 Evolution of the Earth
201 Structural Geology
210 Geomorphology
214 Physical Sedimentology and Stratigraphy
217 Crystallography-Mineralogy

Approved List of Biology, Chemistry and Civil and Environmental Engineering Courses for BS Environmental Geology*

BIOL 203  Population and Community Biology
BIOL 311  Vertebrate Diversity
BIOL 334  Limnology
BIOL 344  Marine Biology
BIOL 356  Plant - Animal Interactions
BIOL 358  Invertebrate Zoology
BIOL 415  Conservation Biology

CHEM 201  General Chemistry I
CHEM 202  General Chemistry II
CHEM 211  Organic Chemistry I
CHEM 212  Organic Chemistry II

CENG 320  Water Resources Engineering
CENG 340  Environmental Engineering
CENG 350  Soil Mechanics
CENG 421  Hydrology
CENG 425  Groundwater Hydrology
CENG 444  Hazardous Waste Management
CENG 451  Environmental Geotechnology
ENGR 220  Mechanics I
ENGR 222  Fluid Mechanics

*Other courses may be considered for approval.
BUCKNELL UNIVERSITY GEOLOGY CURRICULA

REQUIREMENTS FOR MINORS
Effective Fall 2005

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Geology</strong> (4 GEOL courses)</td>
<td><strong>Environmental Geology</strong> (4 GEOL courses)</td>
<td><strong>Engineering Geology</strong> (4 GEOL courses)</td>
</tr>
<tr>
<td>GEOL 103 or 106</td>
<td>GEOL 103, 106, or 150</td>
<td>GEOL 150</td>
</tr>
<tr>
<td>GEOL 104</td>
<td>Any 3 of the following courses: 205, 210, 301, 310, 324</td>
<td>GEOL 201</td>
</tr>
<tr>
<td>Any two 200- or 300-level GEOL courses except 230, 319, 320, 329, or 430</td>
<td>Any two 200- or 300-level GEOL courses except 213, 230, 312, 319, 320, 329, or 430</td>
<td></td>
</tr>
</tbody>
</table>

**GEOL Courses**

- 103 Dynamic Earth
- 104 Evolution of the Earth
- 106 Environmental Geology
- 110 Geology of Alaska - A Wilderness Environment
- 150 Engineering Geology
- 205 Introduction to Geochemistry
- 201 Structural Geology
- 210 Geomorphology
- 213 Paleontology
- 214 Physical Sedimentology and Stratigraphy
- 217 Crystallography-Mineralogy
- 230 Environmental Geographic Information Systems
- 301 Geophysics
- 310 Applied Environmental Geomorphology
- 312 Igneous & Metamorphic Petrology
- 319 Undergraduate Research
- 320 Undergraduate Research
- 324 Hydrogeology
- 329 Senior Program I
- 430 Senior Program II