

BUCKNELL UNIVERSITY GEOLOGY CURRICULA

BA REQUIREMENTS

Option 1 Geology (8 GEOL courses)	Option 2 Environmental Geology (8 GEOL courses)
6 core courses**	6 core courses**
Two 200- or 300-level <i>GEOL</i> courses (except for 207, 319, 320, 329, 430)	205 (Introduction to <i>Geochemistry</i>)
	1 course from 301 (<i>Geophysics</i>), 305 (<i>Environmental Geochemistry</i>), 310 (<i>Applied Env. Geomorphology</i>), 324 (<i>Hydrogeology</i>)

** 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.

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BS Requirements

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

*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.

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REQUIREMENTS FOR MINORS

Effective Fall 2005

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

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