Bachelor of Arts in Geology

The B.A. in Geology, General Geology Concentration is recommended for students planning a career in public service and education (e.g. government agencies, park rangers and K-12 science teaching), non-profit or non-governmental environmental organizations, or pre-environmental law. This Concentration has maximum elective flexibility to produce an experience tailored to the needs of the student.

The B.A. in Geology, Field and Applied Geology Concentration is recommended for students planning to become professional geologists employed by environmental and geo-technical firms, governmental agencies, oil and mining companies, and for those students planning to pursue a graduate degree in geology. Emphasizing field and applied geology courses, and experiential learning, this program is designed to permit students to meet existing requirements for Professional Licensing.

Geology majors must earn a grade of "C-" (1.7) or better in all required geology courses for those courses to satisfy the degree requirements for a B.A. degree in Geology. No more than 3 units of elective may be from supervision courses. At least 3 units of elective must be from GEOL courses. Students may not earn credit for both concentrations.

Requirements (69-75 units)

Total units required for graduation: 120

Requirements for the B.A. in Geology

Lower-division requirements (22-25)

Choose one of the following courses, with laboratory 4-5
CHEM 2050 Survey of General Chemistry
CHEM 2050L Survey of General Chemistry Laboratory
CHEM 2100 General Chemistry I
CHEM 2100L General Chemistry I Laboratory

Choose one from the following (fulfills GE category B4) 3-4
MATH 1401 Accelerated Preparation for Calculus
MATH 1601 Modeling with Calculus
MATH 2210 Calculus I

Choose one of the following courses, with laboratory 4-5
PHYS 1000 & 1000L Physics in the Modern World and Physics in the Modern World Lab
PHYS 2000 & 2000L Introduction to Physics I and Introduction to Physics I Lab
PHYS 2500 & 2500L General Physics I and General Physics I Lab

Choose one of the following courses: 3
GEOL 1000 Introductory Geology
GEOL 1020 Plate Tectonics: Key to Understanding Earthquakes, Volcanoes and Tsunami
GEOL 1060 Environmental Geology and Geological Hazards

Choose one of the following laboratories: 1
GEOL 1000L Introductory Geology Laboratory

GEOL 1060L Environmental Geology and Geological Hazards Laboratory
GEOL 2000 Interpreting Earth Systems History: Stories from an Ancient Planet
GEOL 2500 Geology of California

Upper-division requirements (34)

GEOL 3100 Introduction to Geologic Mapping 3
GEOL 3200 Mineralogy 5
GEOL 3220 Introduction to Geochemistry 4
GEOL 3240 Igneous and Metamorphic Petrology 4
GEOL 3300 Sedimentary Geology: Principles and Applications 4
GEOL 3600 Structural Geology 4
GEOL 3700 Groundwater Hydrology 3
GEOL 3990 Geological Research Design 3
GEOL 4000 Undergraduate Geological Research 2
GEOL 4900 Senior Seminar 2

Concentration (13-16)

Students must satisfy the requirements of one of the concentrations listed below. 13-16

Total Units 69-75

Concentrations (13-16 units)

General Geology Concentration (13 units)

(Program Code GEOL)

Requirements (13)

A minimum of 13 units chosen from the following (no more than 3 units from supervision courses): 13

3100-level or above GEOL courses not previously used for the degree
2000-level and higher courses in MATH, BIOL, CHEM, or PHYS not previously used for the degree, up to 6 units
GEOG 2250 Introduction to Geographic Information Systems and Cartography
GEOG 3710 Advanced Geographic Information Systems
MATH 2265 Statistics with Applications
GEOG 4250 Watershed Hydrology and Management
GEOG 4400 Geomorphology
HSCI 5557 Solid and Hazardous Waste Management

Total Units 13

Field and Applied Geology Concentration (16 units)

(Program Code: GEFA)

Requirements (16)

GEOL 4100 Engineering Geology 4

Six units chosen from: 6
GEOL 3902 Advanced Field Geology (2)
GEOL 3903 Advanced Field Geology (3)
GEOL 3904 Advanced Field Geology (4)
GEOL 3906 Advanced Field Geology (6)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>GEOL 5280</td>
<td>Digital Mapping and GIS for Scientists</td>
<td>3</td>
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<tr>
<td>GEOG 4400</td>
<td>Geomorphology</td>
<td>3</td>
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<tr>
<td>GEOL 5600</td>
<td>Earth Resources</td>
<td>4</td>
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<tr>
<td>GEOG 2250</td>
<td>Introduction to Geographic Information Systems and Cartography</td>
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<tr>
<td>GEOL 3750</td>
<td>Field Methods in Hydrology</td>
<td>3</td>
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<tr>
<td>GEOL 4200</td>
<td>Topics in Applied Geology</td>
<td>3</td>
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<tr>
<td>GEOL 4200L</td>
<td>Laboratory for Topics in Applied Geology</td>
<td>1</td>
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<tr>
<td>GEOL 5220</td>
<td>Neotectonics and Seismic Hazard Analysis</td>
<td>4</td>
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<tr>
<td>GEOL 5400</td>
<td>Environmental Hydrology</td>
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<tr>
<td>GEOL 5620</td>
<td>Site Investigation, Siting, and Case Histories in Engineering Geology</td>
<td>4</td>
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Total Units: 16