GEOLOGY, BS

for the degree of Bachelor of Science Major in Geology (Specialized Curriculum)

The Specialized Curriculum in Geology (BS) is designed for students who plan to pursue graduate study in geology or geophysics or who wish to work professionally in the environmental field upon obtaining the bachelor’s degree. It consists of geology, geophysics, and environmental geology areas, and offers more training in geology and related science than is required of students who make geology their major in the Sciences and Letters Curriculum. Students must choose one of the following: Geology, Geophysics, or Environmental Geology.

Undergraduate Degree Programs in Geology
For the Degree of Bachelor of Science in Liberal Arts and Sciences
Students select one of the following in consultation with an adviser:

• Major in Geology (Sciences and Letters) (http://catalog.illinois.edu/undergraduate/las/geology-bslas/)
• Major in Geology (Sciences and Letters), Earth and Environmental Sciences Concentration (http://catalog.illinois.edu/undergraduate/las/geology-bslas/earth-environmental-sciences/)
• Major in Geology (Sciences and Letters), Earth Science Teaching Concentration (http://catalog.illinois.edu/undergraduate/las/geology-bslas/earth-science-teaching/)

For the Degree of Bachelor of Science in Geology
Students select one of the following in consultation with an adviser:

• Major in Geology (Specialized Curriculum) (p. 1)
• Major in Geology (Specialized Curriculum), Environmental Geology Concentration (http://catalog.illinois.edu/undergraduate/las/geology-bs/environmental-geology/)
• Major in Geology (Specialized Curriculum), Geophysics Concentration (http://catalog.illinois.edu/undergraduate/las/geology-bs/geophysics/)

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Specialized Curriculum
Graduation requires a grade point average of at least 2.0 overall and a 2.0 average in all required science and technical courses (geology, physics, mathematics, chemistry, and technical requirements listed below). The Department of Geology will supply upon request a Guide for Geology Undergraduates giving more information about the curriculum.

Departmental Distinction: Students majoring in Geology can earn distinction, high distinction, and highest distinction upon graduation. The requirements for these awards are:

Distinction: A minimum cumulative grade point average of 3.3, and have also completed an approved independent study project, approved senior thesis, or approved capstone

High Distinction: A minimum cumulative grade point average of 3.5, and have also completed an approved independent study project, approved senior thesis, or approved capstone

Highest Distinction: A minimum cumulative grade point average of 3.7, and also completed an approved senior thesis or approved research capstone

General education: Students must complete the Campus General Education (https://courses.illinois.edu/gened/DEFAULT/DEFAULT/) requirements including the campus general education language requirement.
Minimum hours required for graduation: 126 hours.

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<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CHEM 102</td>
<td>General Chemistry I</td>
<td>3</td>
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<tr>
<td>CHEM 103</td>
<td>General Chemistry Lab I</td>
<td>3</td>
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<tr>
<td>CHEM 104</td>
<td>General Chemistry II</td>
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<tr>
<td>CHEM 105</td>
<td>General Chemistry Lab II</td>
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<td>or</td>
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<tr>
<td>CHEM 202</td>
<td>Accelerated Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 203</td>
<td>Accelerated Chemistry Lab I</td>
<td>3</td>
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<tr>
<td>CHEM 204</td>
<td>Accelerated Chemistry II</td>
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CHEM 205  Accelerated Chemistry Lab II

(45 hours of Geology Courses: Students transferring into the geology concentration from another science or engineering program may substitute up to 8 hours of 300- or 400-level science or engineering credits for 8 hours of 300- or 400-level geology courses with departmental approval.)

GEOL 107  Physical Geology (Students who decide to follow the curriculum after first taking GEOL 100 should enroll in GEOL 208. GEOL 100 will be accepted as a substitute for GEOL 107, but students should be aware that these courses are not intended for science majors.)  4

GEOL 208  History of the Earth System  4

GEOL 143  History of Life  3

GEOL 411  Structural Geol and Tectonics  4

GEOL 417  Geol Field Methods, Western US (GEOL 417 is a 6-hour summer field course taught off campus.)  6

GEOL 432  Mineralogy and Mineral Optics  4

GEOL 436  Petrology and Petrography  4

GEOL 440  Sedimentology and Stratigraphy  4

Select one of the following:  3-4

GEOL 450  Investigating the Earth's Interior  or GEOL 452  Introduction to Geophysics

GEOL 460  Geochemistry  3

6 additional hours 300- or 400-level geology  6

Mathematics  13-15

MATH 220  Calculus  or MATH 221  Calculus I

MATH 231  Calculus II

MATH 225  Introductory Matrix Theory  or MATH 415  Applied Linear Algebra

MATH 241  Calculus III

Physics. Select one group of courses:  8-10

PHYS 211  University Physics: Mechanics  & PHYS 212  and University Physics: Elec & Mag

or

PHYS 101  College Physics: Mech & Heat  & PHYS 102  and College Physics: E&M & Modern

Additional Technical Requirements  3

Select at least 3 hours from the following:

IB 103  Introduction to Plant Biology

IB 104  Animal Biology

CS 101  Intro Computing: Engrg & Sci

CS 125  Introduction to Computer Science

CPSC 440  Applied Statistical Methods I

STAT 400  Statistics and Probability I

MATH 285  Intro Differential Equations

MATH 441  Differential Equations

PHYS 213  Univ Physics: Thermal Physics

PHYS 214  Univ Physics: Quantum Physics

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1. Students will develop cross-disciplinary skills of observation, data collection, and spatial display of data (e.g., map making) related to geological materials, features, and processes.

2. Students will develop an understanding of the physical, chemical and mathematical theories fundamental to earth processes through rigorous coursework and research.

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3. Students will develop and apply critical thinking skills to synthesize principles learned in the classroom, and data collected in the laboratory and in the field in order to evaluate hypotheses and solve geological problems.

4. Students will demonstrate the ability to communicate effectively scientific data, interpretations, and hypotheses through written and oral methods.

5. Students will hone and apply interpersonal skills in a professional setting through group work, research activities, and field studies.

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department website: https://www.geology.illinois.edu/undergraduate

department faculty: Geology Faculty (https://www.geology.illinois.edu/cms/One.aspx?portalId=127672&pageId=225782)

advising: Geology advising (https://www.geology.illinois.edu/cms/One.aspx?portalId=127672&pageId=258530)

overview of college admissions & requirements: Liberal Arts & Sciences (http://catalog.illinois.edu/schools/las/academic-units/)

college website: https://las.illinois.edu/

email: geology@illinois.edu

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