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/)

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>
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<tr>
<td>CHEM 104</td>
<td>General Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 105</td>
<td>General Chemistry Lab II</td>
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<tr>
<td>CHEM 202</td>
<td>Accelerated Chemistry I</td>
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<tr>
<td>CHEM 203</td>
<td>Accelerated Chemistry Lab I</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 & PHYS 212 University Physics: Mechanics
and University Physics: Elec & Mag

or

PHYS 101 & PHYS 102 College Physics: Mech & Heat
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

for the degree of Bachelor of Science Major in Geology

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 (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