

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.

Code	Title	Hours
Chemistry: Select one group of courses:		8-9
CHEM 102	General Chemistry I	
CHEM 103	General Chemistry Lab I	
CHEM 104	General Chemistry II	
CHEM 105	General Chemistry Lab II	
or		
CHEM 202	Accelerated Chemistry I	
CHEM 203	Accelerated Chemistry Lab I	
CHEM 204	Accelerated Chemistry II	
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		

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Sample Sequence

This sample sequence is intended to be used only as a guide for degree completion. All students should work individually with their academic advisors to decide the actual course selection and sequence that works best for them based on their academic preparation and goals. Enrichment programming such as study abroad, minors, internships, and so on may impact the structure of this four-year plan. Course availability is not guaranteed during the semester indicated in the sample sequence.

Students must fulfill their Language Other Than English requirement by successfully completing a third level of a language other than English. See the corresponding section on the Degree and General Education Requirements page (<http://catalog.illinois.edu/general-information/degree-general-education-requirements/>).

First Year

First Semester	Hours	Second Semester	Hours
Free elective course		1 GEOL 208	4
Composition I or General Education course		3 General Education course or Composition I	3
CHEM 102 (or CHEM 202)		3 CHEM 104 (or CHEM 204)	3
CHEM 103 (or CHEM 203)		2 CHEM 105 (or CHEM 205)	1
Language Other than English (3rd level)		4 GEOL 107	4
Free elective course		2 Free elective course	2
		15	17

Second Year

First Semester	Hours	Second Semester	Hours
MATH 220 (or MATH 221)		5 MATH 231	3
GEOL 143		3 GEOL 411	4

General Education course		3 GEOL 432	4
General Education Course		3 PHYS 211 (or PHYS 101)	4
Free elective course		3	
		17	15

Third Year

First Semester	Hours	Second Semester	Hours
PHYS 212 (or PHYS 102)		5 GEOL 417	6
GEOL 440		4 GEOL 436	4
MATH 241		4 MATH 225 (or MATH 415)	3
Free elective course		2 General Education Course	3
		15	16

Fourth Year

First Semester	Hours	Second Semester	Hours
GEOL 450 (or GEOL 452)		4 GEOL 460	3
Geology 300-400 level course		3 Geology 300-400 level course	3
General Education Course		3 Technical Geology course	3
General Education Course		3 General Education Course	3
Free elective course		3 General Education Course	3
		16	15

Total Hours 126

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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.
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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Geology

Geology website (<https://www.geology.illinois.edu/undergraduate/>)

Geology email (geology@illinois.edu)

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

College of Liberal Arts & Sciences

LAS College website (<https://las.illinois.edu/>)

Advising

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

Admissions

Liberal Arts & Sciences Admissions & Requirements (<http://catalog.illinois.edu/schools/las/academic-units/>)

University of Illinois Undergrad Admissions (<https://www.admissions.illinois.edu/>)