

GEOLOGY: EARTH & ENVIRONMENTAL SCIENCES, BSLAS

for the degree of Bachelor of Science in Liberal Arts & Sciences in Geology (Sciences & Letters), Earth & Environmental Sciences Concentration

The **Sciences and Letters Curriculum in Geology (BSLAS)**, administered by the Department of Geology, is designed for students who want a more flexible course of study than is provided by the Specialized Curriculum in Geology and Geophysics. It may be used by those wishing to obtain a more liberal education and/or background in geology for use in fields such as anthropology, business, mineral economics, regional planning, journalism, law, sales, or library and information science. It is not intended to prepare a student for graduate work in the geological sciences unless the student selects additional courses in mathematics, chemistry, and physics comparable to those required in the Specialized Geology and Geophysics Curriculum. Students must choose from the following: Geology, Earth and Environmental Sciences, or Earth Science Teaching. The Earth Science Teaching Concentration is designed for students preparing to teach earth science at the secondary school level.

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 (p. 1)
- 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) (<http://catalog.illinois.edu/undergraduate/las/geology-bs/>)
- 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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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 required major and supporting course work: Normally equates to 43 hours including at least 26 hours in Geology. Twelve hours of 300- and 400-level in the major must be taken on this campus.

Minimum hours required for graduation: 120 hours.

Code	Title	Hours
Core requirements:		
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
CHEM 102	General Chemistry I	3
CHEM 103	General Chemistry Lab I	1
Select one of the following MATH courses: (An introductory Statistics course, e.g., STAT 100, SOC 280, ECON 202, or a second semester of Calculus is recommended)		4-5
MATH 220 or MATH 221	Calculus	
MATH 234	Calculus for Business I	
Courses beyond the core requirements		
ATMS 140 or GEOL 118	Climate and Global Change Natural Disasters	3
GEOL 333 or GEOL 432	Earth Materials and the Env Mineralogy and Mineral Optics	4
GEOL 380	Environmental Geology	4
Ten to twelve hours of additional advanced geology courses		10-12
Six to eight hours Environmental Studies electives. (see Geology advisor for list of approved courses)		6-8

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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 fourth 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
Free Elective course	1
GEOL 107	4
Language Other Than English (3rd level)	4
Composition I or General Education course	3
CHEM 102	3
CHEM 103	1
Total Hours	16

Total Hours 16

First Year

Second Semester	Hours
GEOL 208	4
Free Elective course	4
Language Other Than English (4th level)	4
General Education course or Composition I	3
Total Hours	15

Total Hours 15

Second Year

First Semester	Hours
ATMS 140 or GEOL 118	3
General Education course	3
General Education course	3
Free Elective course	3
Free Elective course	3
Total Hours	15

Total Hours 15

Second Year

Second Semester	Hours
GEOL 333 or 432	4
General Education course	3
General Education course	3

MATH 220, 221, or 234	4
Total Hours	14

Total Hours 14

Third Year

First Semester	Hours
GEOL 380	4
300-400 level Environmental Studies elective course from list	3
Geology 300-400 level course	4
General Education course	3
Total Hours	14

Total Hours 14

Third Year

Second Semester	Hours
Geology 300-400-level course	3
300-400 level Environmental Studies elective course from list	3
General Education course	3
Free Elective course	3
Free Elective course	3
Total Hours	15

Total Hours 15

Fourth Year

First Semester	Hours
Geology 300-400 level course	4
General Education course	3
Free Elective course	3
Free Elective course	3
Free Elective course	3
Total Hours	16

Total Hours 16

Fourth Year

Second Semester	Hours
General Education course	3
Free Elective course	3
Free Elective course	3
Free Elective course	3
Free Elective course	3
Total Hours	15

Total Hours 15

Total Hours: 120

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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. Upon completing this program, students will be able to analyze the Earth as a complex

system and evaluate the interconnectedness of Earth systems and their effects on each other. Students will be able to analyze the causes and impacts of the Earth's changing climate over various time scales and evaluate the environmental, social, and geological impacts of these changes. Students will be able to analyze complex geological processes and their interconnectedness with environmental systems on geologic and real timescales, applying spatial analyses in 3D (and 4D), using direct field observations coupled with geologic interpretation and synthesis.

2. Students will develop an understanding of the physical, chemical, and mathematical theories fundamental to Earth processes through rigorous coursework and research. Upon program completion, students will be able to analyze and solve mathematical and computational problems encountered in geoscience research and professional practice. Students will be able to analyze and interpret geologic structure including geologic timescales, and tectonic and deformation processes and their hazard potentials. Students will be able to interpret the chemical and mechanical processes involved within each stage of the rock cycle. Students will be able to recognize key surface processes and their connection to geological features, including potential hazards. Students will be able to analyze and interpret the chemical and mechanical processes involved in the Water Cycle and evaluate water as a critical natural resource.
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 and Earth science problems. Upon completion of this program, students will be able to carry out geological data collection and analysis in the field and/or lab, in independent and team working environments. Students will have the strong critical thinking and problem-solving skills needed to effectively analyzing and solving complex geologic problems. They will be able to navigate non-unique answers and make informed decisions based on evidence.
4. Students will demonstrate the ability to effectively communicate scientific data, interpretations, and hypotheses through written and oral methods. Upon completion, Students will be proficient in communicating science verbally and in writing and be able to tailor their written and verbal communication to different audiences. Students will have developed good listening skills and the ability to carry on an interactive dialogue with their colleagues.
5. Students will hone and apply interpersonal skills in a professional setting through group work, research activities, and field studies. Upon completing this program, students will be able to work in professional and academic group settings as productive members of a team to solve complex geologic and Earth science problems.

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Department of Earth Science & Environmental Change (<https://esec.illinois.edu/>)

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

College of Liberal Arts & Sciences

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

Admissions

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

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