

# Bachelor of Arts in Geology

## Why study geology?

In Geology you get to apply techniques and knowledge from chemistry, physics, biology and math to answer important questions about Earth processes, history and future. Geologists are in demand to evaluate geologic hazards, evaluate natural resources, and understand the environment.

The B.A. program (<https://geo.ku.edu/geology-undergraduate-ba/>) allows many free electives for background courses in the sciences or liberal arts. The program permits study of traditional geology (with emphasis on the solid earth, the earth's surface, or environmental geology and natural resources), environmental geology (with emphasis on water or urban environmental geology), or an individually tailored program.

## Undergraduate Admission

### Admission to KU

All students applying for admission must send high school and college transcripts to the Office of Admissions. Unless they are college transfer students with at least 24 hours of credit, prospective students must send ACT or SAT scores to the Office of Admissions. Prospective first-year students should be aware that KU has qualified admission requirements that all new first-year students must meet to be admitted. Consult the Office of Admissions (<http://admissions.ku.edu/>) for application deadlines and specific admission requirements.

Visit the International Support Services (<http://www.iss.ku.edu/>) for information about international admissions.

Students considering transferring to KU may see how their college-level course work will transfer on the Office of Admissions (<http://credittransfer.ku.edu/>) website.

### Admission to the College of Liberal Arts and Sciences

Admission to the College is a different process from admission to a major field. Some CLAS departments have admission requirements. See individual department/program sections for departmental admission requirements.

## Geology Programs

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Degree requirements may be altered to suit particular needs of a student upon petition to the undergraduate studies committee and in consultation with a geology faculty advisor. Special consideration is given to students with strong backgrounds in supporting sciences and students with superior records who decide to major in geology late in their programs.

## First- and Second-Year Preparation

Students interested in geology should see a department advisor as soon as possible. They should enroll in mathematics, chemistry, and English in addition to Introduction to Geology and electives. Students should take GEOL 360 as soon as possible.

## Advising

Developing a strong relationship with a faculty advisor helps students get the most out of their educational programs in the shortest time. Most courses for majors are offered in only one semester each year. Advisors can guide the student through complexities of the curriculum or into a specialized program.

## Requirements for the B.A. Major

### Geology Major Course Requirements

Code	Title	Hours
<b>Geology Prerequisite or Co-requisite Knowledge</b>		
Majors must complete courses as specified in each of the following areas. Majors are advised to take honors courses when eligible. These hours do not contribute to the minimum number of hours required for the major.		
Calculus I. Satisfied by:		
GEOL 190	Introduction to Quantitative Geoscience (or MATH 115 or MATH 125)	3
Foundations of Chemistry I. Satisfied by:		
CHEM 130	General Chemistry I	5
Physics. Satisfied by one of the following:		
PHSX 111	Introductory Physics	3
PHSX 114	College Physics I	1-4
PHSX 211 & PHSX 216	General Physics I and General Physics I Laboratory	5
Biology. Satisfied by:		
BIOL 100 & BIOL 102	Principles of Biology and Principles of Biology Laboratory (or higher level biology course)	4
Information Technology. Satisfied by:		
EECS 138	Introduction to Computing: _____	3
<b>Geology Core Knowledge and Skills</b>		
Majors must complete the following core courses:		
Introduction to Geology. Satisfied by:		
GEOL 101	The Way The Earth Works	3
Geology Fundamentals Laboratory. Satisfied by:		
GEOL 103	Geology Fundamentals Laboratory	2
Mineralogy and Structure of the Earth. Satisfied by:		
GEOL 311	Mineralogy and Structure of the Earth	3
Sedimentology and Stratigraphy. Satisfied by:		
GEOL 331	Sedimentology and Stratigraphy	4
Field Investigation. Satisfied by:		
GEOL 360	Field Investigation	2
Paleontology. Satisfied by:		
GEOL 521	Paleontology	3
Introductory Field Geology. Satisfied by:		
GEOL 560	Introductory Field Geology	3

Structural Geology. Satisfied by:

GEOL 562	Structural Geology	4
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### Geology Required Electives

Majors must complete a minimum of 15 hours in geology or related courses. Several possible tracks of upper-level course work are given below.

## General Geology Options

Concentrate on traditional geology with emphasis on the solid earth and the earth's interior, earth surface processes, or environmental geology and natural resources.

Code	Title	Hours
<b>Rocks</b>		
GEOL 312	Mineral Structures and Equilibria Laboratory	1
GEOL 315	Gemstones	3
GEOL 501	Simple Error Analysis with Matlab	2
GEOL 502	Linear Algebra for Earth Scientists	2
GEOL 503	Numerical Methods in the Earth Sciences	2-3
GEOL 512	Igneous and Metamorphic Petrology	3
GEOL 513	Petrology Laboratory	1
GEOL 536	Geological Log Analysis	1
GEOL 537	Petroleum Reservoir Characterization	3
GEOL 538	Basin Analysis	3
GEOL 572	Geophysics	3
<b>Water &amp; Climate</b>		
GEOL 301	Introduction to Oceanography	3
GEOL 302	Oceanography	4
GEOL 351	Environmental Geology	3
GEOL 541	Geomorphology	4
GEOL 542	Energy and Society	3
GEOL 543	Environmental Ethics: A View from the National Parks	3
GEOL 552	Introduction to Hydrogeology	3
GEOL 554	Contaminants in Groundwater	3
GEOL 555	Climate Science	3
EVRN 332	Environmental Law (prerequisite: EVRN 148)	3
<b>Life</b>		
GEOL 304	Historical Geology	3
GEOL 391	Special Studies in Geology	1-6
GEOL 523	Paleontology Laboratory	1
GEOL 525	Geobiology: The Coevolution of Life and Rocks	3
GEOL 591	Topics in Geology: _____	1-5

## Environmental Geology Options

Concentrate on environmental geology with emphasis on water and the environment or urban environmental geology.

Code	Title	Hours
<b>Water, Geology, and the Environment</b>		
GEOL 302	Oceanography	4
GEOL 351	Environmental Geology	3
GEOL 391	Special Studies in Geology	1-6
GEOL 541	Geomorphology	4

GEOL 552	Introduction to Hydrogeology	3
CE 477	Introduction to Environmental Engineering and Science	3
BIOL 661	Ecology of Rivers and Lakes	3
<b>Urban Environmental Geology</b>		
GEOL 351	Environmental Geology	3
ATMO 525	Air Pollution Meteorology	3
CE 477	Introduction to Environmental Engineering and Science	3
GEOG 304	Environmental Conservation	3
<b>Other Elective Courses</b>		
BIOL 414	Principles of Ecology	3
GEOG 558	Spatial Data Analysis	4

## Major Hours & Major GPA

While completing all required courses, majors must also meet each of the following hour and grade-point average minimum standards:

### Major Hours

Satisfied by 30 hours of major courses.

### Major Hours in Residence

Satisfied by a minimum of 15 hours of KU resident credit in the major.

### Major Junior/Senior Hours

Satisfied by a minimum of 12 hours from junior/senior courses (300+) in the major.

### Major Junior/Senior Graduation GPA

Satisfied by a minimum of a 2.0 KU GPA in junior/senior courses (300+) in the major. GPA calculations include all junior/senior courses in the field of study including F's and repeated courses. See the Semester/Cumulative GPA Calculator (<http://clas.ku.edu/undergrad/tools/gpa/>).

Sample 4-year plans for the BA degree in Geology with the following concentrations can be found here: General Geology (<http://catalog.ku.edu/liberal-arts-sciences/geology/ba/general-geology/>) and Environmental Geology (<http://catalog.ku.edu/liberal-arts-sciences/geology/ba/environmental-geology/>), or by using the left-side navigation.

## Departmental Honors

Pursuit of departmental honors in Geology is by invitation from the Department of Geology honors coordinator.

Requirements include:

3.50 or higher KU geology-courses GPA at graduation.

Completion of at least 2 credit hours of GEOL 399.

Completion and successful defense of an honor's thesis.

Additional requirements and more information may be obtained from the Department of Geology honors coordinator and web site.