

GEOLOGY, EARTH SCIENCE, BA

Bachelor of Arts in Geology, Earth Science (337001BA)

More on the Geology, Earth Science major (<https://www.uakron.edu/geology/academics/undergraduate/>)

Earth Science Fundamentals

Earth scientists study earth materials, structures and processes and how they've changed through time. This knowledge may be applied to exploration for natural resources – including metals, petroleum and water; understanding natural hazards such as earthquakes, volcanoes and landslides; addressing problems associated with environmental contamination; and investigating Earth's history to understand the evolution of life and global climate change. Earth scientists are employed by natural resource companies, environmental consulting firms, government agencies, nonprofit organizations and universities.

Core courses provide the fundamentals in:

- physical and historical geology
- mineralogy and petrography
- structural geology and plate tectonics
- sedimentology, paleontology and stratigraphy

Degree program can be tailored to a major field of interest by taking additional courses in the supporting sciences and mathematics.

Requirements for Admission

Admission to the College of Arts and Sciences. The student must maintain a minimum 2.00 grade point average.

The following information has official approval of The Department of Geosciences and The Buchtel College of Arts & Sciences, but is intended only as a supplemental guide. Official degree requirements are established at the time of transfer and admission to the degree-granting college. Students should refer to the Degree Progress Report (Stellic) which is definitive for graduation requirements. Completion of this degree within the identified time frame below is contingent upon many factors, including but not limited to: class availability, total number of required credits, work schedule, finances, family, course drops/withdrawals, successfully passing courses, prerequisites, among others. The transfer process is completed through an appointment with your academic advisor.

Three year accelerated option: for first time students who have earned credits for at least the first year of courses. Credits can be earned through qualifying scores on appropriate Advanced Placement (AP) exams or through College Credit Plus Program (CCP) courses. Credits for qualifying AP scores or CCP courses are determined by the appropriate academic department. Departments may assign varied course credit, depending on the student's score on an AP exam or grade in a CCP course. Students may also receive credit by examination or via placement tests, where appropriate.

Requirements Summary

Code	Title	Hours
	General Education Requirements (https://bulletin.uakron.edu/undergraduate/general-education/)	36
	College of Arts & Sciences Requirements	14
	Core Geology-Earth Science Requirements	26
	Geology-Earth Science Elective	10
	Geology-Earth Science Upper Level Electives	8
	Geology-Earth Science Non-Geology Requirements I	8
	Geology-Earth Science Non-Geology Requirements II	7
	Additional Credits for Graduation *	11
	Total Hours	120

* Bachelor's degrees require a minimum of 120 credit hours for graduation.

Recommended General Education Courses

Code	Title	Hours
Students pursuing a bachelor's degree must complete the following General Education coursework. Diversity courses may also fulfill major or Breadth of Knowledge requirements. Integrated and Applied Learning courses may also fulfill requirements in the major.		
Students are not required to enroll in the specific courses listed below. However, to facilitate successful degree completion, the academic department strongly encourages completion of the following recommendations.		
Academic Foundations		12
<i>Mathematics, Statistics and Logic: 3 credit hours</i>		
MATH 149	Precalculus Mathematics	
MATH 221	Analytic Geometry-Calculus I	
MATH 222	Analytic Geometry-Calculus II	
<i>Speaking: 3 credit hours</i>		
<i>Writing: 6 credit hours</i>		
Breadth of Knowledge		22
<i>Arts/Humanities: 9 credit hours</i>		
<i>Natural Sciences: 7 credit hours</i>		
GEOL 101	Introductory Physical Geology	
GEOL 102	Introductory Historical Geology	
CHEM 151	Principles of Chemistry I	
CHEM 152	Principles of Chemistry I Laboratory	
CHEM 153	Principles of Chemistry II	
PHYS 261	College Physics I	
PHYS 262	College Physics II	
PHYS 291	Elementary Classical Physics I	
PHYS 292	Elementary Classical Physics II	
BIOL 111	Principles of Biology I	
BIOL 112	Principles of Biology II	
<i>Social Sciences: 6 credit hours</i>		
Diversity		
Domestic Diversity		
Global Diversity		

Integrated and Applied Learning	2
<i>Select one class from one of the following subcategories:</i>	
Complex Issues Facing Society	
Capstone	
<i>Review the General Education Requirements page for detailed course listings.</i>	
Total Hours	36

College of Arts & Sciences Requirements

Code	Title	Hours
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Degree requirements in Arts & Sciences include the demonstration of ability to use another language by completion of the second year of a foreign language.

2 Year Language Proficiency	14
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101 Beginning I

102 Beginning II

201 Intermediate I

202 Intermediate II

SLPA 222 Survey of Deaf Culture in America (American Sign Language option only)

Students must also complete a minimum of 40 credits (excluding workshops) consisting of either:

Upper-level (300/400) courses both in and outside of the student's major;

or other courses outside the major department approved by the student's major department chair (permission should be obtained prior to enrollment); these may not include workshops

Core Geology-Earth Science Requirements

Code	Title	Hours
GEOL 101	Introductory Physical Geology	4
GEOL 102	Introductory Historical Geology	4
GEOL 231	Silicate Mineralogy and Petrology	4
GEOL 350	Structural Geology	4
GEOL 360	Paleobiology	4
GEOL 453	Geology Field Camp I	3
GEOL 454	Geology Field Camp II	3
Total Hours		26

Geology-Earth Science Electives

Code	Title	Hours
Students must select a minimum of ten (10) credits from geology courses not required for this degree		
GEOL:1xx/2xx/3xx/4xx		
Total Hours		10

Geology-Earth Science Upper Level Electives

Code	Title	Hours
Students must select a minimum of eight (8) credits from the upper level courses listed below		
		8

Code	Title	Hours
GEOL:3xx/4xx ⁶		
GEOG 314	Climatology	
GEOG 405	Geographic Information Systems ⁶	
GEOG 407	Advanced Geographic Information Systems	
GEOG 440	Cartography	
GEOG 445	GIS Database Design	
GEOG 446	GIS Programming and Customization	
GEOG 447	Remote Sensing	
GEOG 449	Advanced Remote Sensing	
GEOG 495	Soil & Water Field Studies	
Total Hours		8

Geology-Earth Science Non-Geology Requirements I

Code	Title	Hours
MATH 149	Precalculus Mathematics	4
CHEM 151	Principles of Chemistry I	3
CHEM 152	Principles of Chemistry I Laboratory	1
Total Hours		8

Geology-Earth Science Non-Geology Requirements II

Code	Title	Hours
Students must take a minimum of seven (7) credits from the list of courses below.		
BIOL 111	Principles of Biology I	
BIOL 112	Principles of Biology II	
CHEM 153	Principles of Chemistry II	
CHEM 154	Qualitative Analysis	
MATH 221	Analytic Geometry-Calculus I	
MATH 222	Analytic Geometry-Calculus II	
PHYS 261	College Physics I	
PHYS 262	College Physics II	
PHYS 291	Elementary Classical Physics I	
PHYS 292	Elementary Classical Physics II	
Total Hours		7

¹ Requirement is fulfilled by taking MATH 149 Precalculus Mathematics or MATH 221 Analytic Geometry-Calculus I

² Check General Education course listings (<https://bulletin.uakron.edu/undergraduate/general-education/#associateddegreerequirementstext>) for courses that satisfy both this requirement and either Domestic or Global Diversity requirement.

³ Requirement is fulfilled by taking GEOL 101 Physical Geology and CHEM 151 Principles of Chemistry I, which are required for this degree.

⁴ Upper Level Geology elective courses GEOL 421 Coastal Geology and GEOL 443 Rivers satisfy this requirement in addition to counting towards the Geology Upper Level Electives requirement.

⁵ American Sign Language option only

⁶ Students may select any upper level geology course which is not required for this degree to satisfy this requirement. We also highly recommend taking GEOG 405 Geographic Information Systems as an upper level elective.

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1st Year		
Fall Semester		Hours
GEOL 101	Introductory Physical Geology ¹	4
MATH 149	Precalculus Mathematics	4
	Writing Requirement ²	3
	101 Beginning Language I ³	4
Hours		15
Spring Semester		
GEOL 102	Introductory Historical Geology	4
CHEM 151	Principles of Chemistry I	3
CHEM 152	Principles of Chemistry I Laboratory	1
	Writing Requirement ²	3
	102 Beginning Language II ³	4
Hours		15
2nd Year		
Fall Semester		Hours
GEOL 230	Mineral Science	4
GEOL 3/4xx	Upper level Geology electives	3
	Speaking Requirement	3
	201 Intermediate Language I ³	3
Hours		13
Spring Semester		
GEOL 231	Silicate Mineralogy and Petrology	4
GEOL 3/4xx	Upper level Geology electives	3
	Social Science Requirement ⁴	3
	202 Intermediate Language II ³	3
Hours		13

3rd Year		
Fall Semester		Hours
GEOL 350	Structural Geology	4
GEOL 3/4xx	Upper level Geology electives ⁵	3
	Arts Requirement ⁴	3
	Geology-Earth Science Non-Geology Requirements II ⁶	4
Hours		14
Spring Semester		
GEOL 360	Paleobiology	4
GEOL 324	Sedimentation & Stratigraphy	4
	Social Science Requirement ⁴	3
	Geology-Earth Science Non-Geology Requirements II ⁶	3
Hours		14
Summer Semester		
GEOL 453	Geology Field Camp I	3
GEOL 454	Geology Field Camp II	3
Hours		6
4th Year		
Fall Semester		Hours
GEOL 3/4xx	Upper level Geology electives ⁵	6
	Arts/Humanities Requirement ⁴	3
	Global Diversity Requirement	3
	Complex Issues Requirement	3
Hours		15
Spring Semester		
	Upper Level Electives ⁷	9
	Domestic Diversity Requirement	3
	Humanities Requirement	3
Hours		15
Total Hours		120

¹ GEOL 101 Introductory Physical Geology Strongly Preferred, **OR** GEOL 100 Earth Science, **OR** GEOL 200 Environmental Geology, **OR** (by permission only) GEOL 211 Introduction to Environmental Science, **AND** GEOL 104 Exercises in Physical Geology.

² For English Composition I, ENGL 111 English Composition I or ENGL 113 African American Language and Culture I: College Composition are the recommended classes to meet the General Education English requirement. For English Composition II, ENGL 112 English Composition II or ENGL 114 African American Language and Culture II: College Composition are the recommended classes to meet the General Education English requirement. ENGL 222 Technical Report Writing fulfills the English Composition II requirement.

³ Demonstration of ability to use another language by completion of the second year of a foreign language or sign language is required. See your advisor for placement. Please note that all four semesters must be completed in the **same** language and it's recommended you begin your first language class as soon as possible.

⁴ We strongly recommend selecting Humanities and/or Social Science courses that fulfill both a Breadth of Knowledge requirement *and* Domestic or Global Diversity requirement. Please consult the General Education requirements (<https://bulletin.uakron.edu/undergraduate/general-education/>)

#associateddegreerequirementstext) to see which courses fulfill both requirements.

⁵ A total of 18 departmental (GEOL) credits are required, eight of which must be at the 300/400 level. Please contact a Department of Geosciences adviser to discuss alternatives.

⁶ B.A. degree requires completion of at least 7 credits from the following and these options can satisfy the upper level requirement for Arts & Sciences as well (300/400 level): BIOL 111 Principles of Biology I, BIOL 112 Principles of Biology II, CHEM 153 Principles of Chemistry II, PHYS 261 College Physics I, PHYS 262 College Physics II, PHYS 291 Elementary Classical Physics I, PHYS 292 Elementary Classical Physics II, MATH 221 Analytic Geometry-Calculus I, MATH 222 Analytic Geometry-Calculus II.

⁷ **Buchtel College of Arts & Sciences (BCAS)** – requires **40 credits** at the 300/400 level. We strongly suggest taking all upper level (300/400) Geology elective courses to fulfill the *Geology-Earth Science Elective* and *Geology-Earth Science Upper Level Elective* requirements because this plan of study will satisfy the BCAS requirement automatically. Taking 10 lower level (100/200) and 8 upper level (300/400) Geology elective courses to fulfill the *Geology-Earth Science Elective* and *Geology-Earth Science Upper Level Elective* requirements will not satisfy this BCAS requirement. Please contact a Geoscience or BCAS advisor to determine how many additional 300/400 courses are necessary to complete this BCAS requirement.

Alert

1. By the end of your first 48 credit hours attempted, you must have completed your General Education English, Mathematics, Statistics, and Logic, and Communications (Speech) requirements
2. By the end of your first 48 credit hours attempted, you must have declared a major and transferred to (been accepted by) a degree granting college at The University of Akron.