

# EARTH SCIENCE - B.A.

## College of Arts and Sciences

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## Description

The Bachelor of Arts degree in Earth Science is ideal for students interested in broad interdisciplinary study of the key natural and physical processes that shape the planet, leading to potential careers in environmental or earth system fields. The program requires 28 credit hours of geology, including courses in physical geology, minerals and rocks, and 10 credit hours of geography, including GIS. Most geology courses have extensive (one-to-three-day) excursions that allow students to obtain valuable field experience.

Graduates have opportunities for employment in a wide variety of careers where an understanding of natural science is useful or critical in success. Geology can be a strong background for advanced study or career development in areas such as business, city management, regional development, planning, law, journalism and science writing.

## Fully Offered At:

- Kent Campus

## Admission Requirements

The university affirmatively strives to provide educational opportunities and access to students with varied backgrounds, those with special talents and adult students who graduated from high school three or more years ago.

**Freshman Students on the Kent Campus:** The freshman admission policy on the Kent Campus is selective. Admission decisions are based upon the following: cumulative grade point average, ACT and/or SAT scores, strength of high school college preparatory curriculum and grade trends. The Admissions Office at the Kent Campus may defer the admission of students who do not meet admissions criteria but who demonstrate areas of promise for successful college study. Deferred applicants may begin their college coursework at one of seven regional campuses of Kent State University. For more information on admissions, including additional requirements for some academic programs, visit the admissions website for new freshmen.

**Freshman Students on the Regional Campuses:** Kent State campuses at Ashtabula, East Liverpool, Geauga, Salem, Stark, Trumbull and Tuscarawas, as well as the Regional Academic Center in Twinsburg, have open enrollment admission for students who hold a high school diploma, GED or equivalent.

### English Language Proficiency Requirements for International Students:

All international students must provide proof of English language proficiency (unless they meet specific exceptions) by earning a minimum 525 TOEFL score (71 on the Internet-based version), minimum 75 MELAB score, minimum 6.0 IELTS score or minimum 48 PTE score, or by completing the ESL level 112 Intensive Program. For more information on

international admission, visit the Office of Global Education's admission website.

**Transfer, Transitioning and Former Students:** For more information about admission criteria for transfer, transitioning and former students, please visit the admissions website.

## Program Learning Outcomes

Graduates of this program will be able to:

1. Understand and communicate to others: a. the nature of scientific investigation and evidence, b. the complex interrelationships of the biosphere, atmosphere, hydrosphere, and the lithosphere through geologic time.
2. Understand Earth materials and interpret geologic and environmental processes.
3. Synthesize geologic information to understand and solve geologic and environmental problems.
4. Students will demonstrate critical thinking skills and be able to work as a geologist in the field and in the laboratory.

## University Requirements

All students in a bachelor's degree program at Kent State University must complete the following university requirements for graduation.

**NOTE:** University requirements may be fulfilled in this program by specific course requirements. Please see Program Requirements for details.

Destination Kent State: First Year Experience	1
Course is not required for students with 25 transfer credits, excluding College Credit Plus, or age 21+ at time of admission.	
Diversity Domestic/Global (DIVD/DIVG)	2 courses
Students must successfully complete one domestic and one global course, of which one must be from the Kent Core.	
Experiential Learning Requirement (ELR)	varies
Students must successfully complete one course or approved experience.	
Kent Core (see table below)	36-37
Writing-Intensive Course (WIC)	1 course
Students must earn a minimum C grade in the course.	
Upper-Division Requirement	39 (or 42)
Students must successfully complete 39 upper-division (numbered 30000 to 49999) credit hours to graduate. Students in a B.A. and/or B.S. degree in the College of Arts and Sciences must complete 42 upper-division credit hours.	
Total Credit Hour Requirement	120
Some bachelor's degrees require students to complete more than 120 credit hours.	

## Kent Core Requirements

Kent Core Composition (KCMP)	6
Kent Core Mathematics and Critical Reasoning (KMCR)	3
Kent Core Humanities and Fine Arts (KHUM/KFA) (min one course each)	9
Kent Core Social Sciences (KSS) (must be from two disciplines)	6
Kent Core Basic Sciences (KBS/KLAB) (must include one laboratory)	6-7
Kent Core Additional (KADL)	6
<b>Total Credit Hours:</b>	<b>36-37</b>

## Program Requirements

### Major Requirements

Code	Title	Credit Hours
<b>Major Requirements (courses count in major GPA)</b>		
CHEM 10060	GENERAL CHEMISTRY I (KBS)	4
CHEM 10062	GENERAL CHEMISTRY I LABORATORY (KBS) (KLAB)	1
GEOG 49070	GEOGRAPHIC INFORMATION SCIENCE	4
GEOL 11040	HOW THE EARTH WORKS (KBS)	3
GEOL 11041	HOW THE EARTH WORKS LABORATORY (KBS) (KLAB)	1
GEOL 11042	EARTH AND LIFE THROUGH TIME (KBS)	3
or GEOL 21062	ENVIRONMENTAL EARTH SCIENCE (KBS)	
or GEOL 21080	ALL ABOUT THE OCEANS (KBS)	
GEOL 22000	DEGREE AND CAREER PATHS IN GEOLOGY (ELR)	1
GEOL 23063	EARTH MATERIALS I	4
GEOL 31070	EARTH MATERIALS II (WIC) <sup>1</sup>	4
GEOL 42035	SCIENTIFIC METHODS IN GEOLOGY	3
MATH 11010	ALGEBRA FOR CALCULUS (KMCR)	3
Geology (GEOL) Upper-Division Electives (30000 or 40000 level) <sup>2</sup>		9
Geography (GEOG) Upper-Division Electives (30000 or 40000 level), choose from the following: <sup>2</sup>		6
GEOL 31062	FUNDAMENTALS OF METEOROLOGY	
GEOL 31064	PRINCIPLES OF CLIMATOLOGY	
GEOL 41065	APPLIED CLIMATOLOGY	
GEOL 41066	GLOBAL CLIMATE CHANGE	
GEOL 41073	CONSERVATION OF NATURAL RESOURCES	
GEOL 49078	GEOGRAPHIC INFORMATION SCIENCE AND ENVIRONMENTAL HAZARDS	
<b>Additional Program Requirements (courses do not count in major GPA)</b>		
UC 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	1
Foreign Language (see Foreign Language College Requirement below)		14-16
College General Requirement (must be from Kent Core Social Sciences) <sup>3</sup>		3
Kent Core Composition		6
Kent Core Humanities and Fine Arts (minimum one course from each)		9
Kent Core Social Sciences (must be from two disciplines)		6
General Electives (total credit hours depends on earning 120 credit hours, including 42 upper-division credit hours)		16
Minimum Total Credit Hours:		101

<sup>1</sup> A minimum C grade must be earned to fulfill the writing-intensive requirement.

<sup>2</sup> Other relevant courses may be substituted in consultation with an advisor.

<sup>3</sup> One additional course taken from the Kent Core Social Sciences courses in the following Arts and Sciences disciplines: Anthropology (ANTH), Geography (GEOG), Criminology and Justice Studies (CRIM), Peace and Conflict Studies (PACS), Political Science (POL), Psychology (PSYC) or Sociology (SOC). The course may not be from the student's major.

## Graduation Requirements

Minimum Major GPA	Minimum Overall GPA
2.000	2.000

### Foreign Language College Requirement

Students pursuing the Bachelor of Arts degree in the College of Arts and Sciences must complete 14-16 credit hours of foreign language.<sup>1</sup> To complete the requirement, students have the equivalent of Elementary I and II in any language, plus one of the following options:

- Intermediate I and II of the same language<sup>2</sup>
- Elementary I and II of a second language
- Any combination of two courses from the following list:

- Intermediate I of the same language
- MCLS 10001 INTRODUCTION TO STRUCTURAL CONCEPTS FOR LANGUAGE STUDENTS
- MCLS 20091 VARIABLE CONTENT SEMINAR IN GLOBAL LITERACY: CASE STUDIES
- MCLS 21417 MULTICULTURALISM IN TODAY'S GERMANY (DIVG)
- MCLS 28404 THE LATIN AMERICAN EXPERIENCE (DIVG)

<sup>1</sup> All students with prior foreign language experience should take the foreign language placement test to determine the appropriate level at which to start. Some students may begin beyond the Elementary I level and will complete the requirement with fewer credit hours and fewer courses. This may be accomplished by (1) passing a course beyond Elementary I through Intermediate II level; (2) receiving credit through Credit by Exam (CBE), Advanced Placement (AP), International Baccalaureate (IB) or College Level Examination Program (CLEP); or (3) being designated a "native speaker" of a non-English language (consult with the College of Arts and Sciences Advising Office for additional information). When students complete the requirement with fewer than 14 credit hours and four courses, they will complete remaining credit hours with general electives.

<sup>2</sup> Certain majors, concentrations and minors may require specific languages, limit the languages from which a student may choose or require coursework through Intermediate II. Students who plan to pursue graduate study may need particular language coursework.

# Roadmap

This roadmap is a recommended semester-by-semester plan of study for this major. However, courses designated as critical (!) must be completed in the semester listed to ensure a timely graduation.

<b>Semester One</b>		<b>Credits</b>
GEOL 11040	HOW THE EARTH WORKS (KBS)	3
GEOL 11041	HOW THE EARTH WORKS LABORATORY (KBS) (KLAB)	1
MATH 11010	ALGEBRA FOR CALCULUS (KMCR)	3
UC 10097	DESTINATION KENT STATE: FIRST YEAR EXPERIENCE	1
Foreign Language		4
Kent Core Requirement		3
Credit Hours		15
<b>Semester Two</b>		
GEOL 11042	EARTH AND LIFE THROUGH TIME (KBS)	3
or	or ENVIRONMENTAL EARTH SCIENCE (KBS)	
GEOL 21062	or ALL ABOUT THE OCEANS (KBS)	
or		
GEOL 21080		
GEOL 22000	DEGREE AND CAREER PATHS IN GEOLOGY (ELR)	1
GEOL 42035	SCIENTIFIC METHODS IN GEOLOGY	3
Kent Core Requirement		3
Foreign Language		4
Credit Hours		14
<b>Semester Three</b>		
CHEM 10060	GENERAL CHEMISTRY I (KBS)	4
CHEM 10062	GENERAL CHEMISTRY I LABORATORY (KBS) (KLAB)	1
GEOL 23063	EARTH MATERIALS I	4
Foreign Language		3
Kent Core Requirement		3
Kent Core Requirement		3
Credit Hours		18
<b>Semester Four</b>		
GEOG 49070	GEOGRAPHIC INFORMATION SCIENCE	4
GEOL 31070	EARTH MATERIALS II (WIC)	4
Foreign Language		3
Kent Core Requirement		3
Credit Hours		14
<b>Semester Five</b>		
Geography (GEOG) Upper-Division Electives (30000 or 40000 level)		3
Geology (GEOL) Upper-Division Electives (30000 or 40000 level)		3
Kent Core Requirement		3
Kent Core Requirement		3
General Electives		3
Credit Hours		15
<b>Semester Six</b>		
Geography (GEOG) Upper-Division Electives (30000 or 40000 level)		3
Geology (GEOL) Upper-Division Electives (30000 or 40000 level)		3
College General Requirement		3
General Electives		6
Credit Hours		15
<b>Semester Seven</b>		
Geology (GEOL) Upper-Division Electives (30000 or 40000 level)		3

General Electives	12
Credit Hours	15
<b>Semester Eight</b>	
General Electives	14
Credit Hours	14
Minimum Total Credit Hours:	120