

# BACHELOR OF ARTS

## Earth Science

[www.emporia.edu/earthsci](http://www.emporia.edu/earthsci)

The earth science program includes the study of geology, the atmospheric sciences, pedology (soils), hydrology, the environment, and space science. The Bachelor of Arts major allows the student some specialization in geology while gaining breadth in other disciplines. It can also provide a preparation for graduate study in one of the disciplines of the earth sciences.

### General Education

General Education requirements are outlined in the current schedule of classes. ES 110/111 would normally be taken for general education, and is a prerequisite for required courses. Note that university requirements for a B.A. include ten credit hours of foreign language.

### Required and Elective Courses: 36 hours

#### Required ES and GO Courses: 17 hours

<u>Courses</u>	<u>Hours</u>
GO324 Rocks and Minerals .....	3
GO325 Earth History .....	3
GO326 Plate Tectonics .....	3
ES319 Meteorology or ES365 World Regional Climatology .....	3
GO547 Field Geology .....	5
or: GO548 Field Stratigraphy (2hrs), and ES546 Field Geomorphology (2hrs), and either ES439 (1hr) or ES475 (1hr) for a capstone project.	

#### Elective ES and GO Courses: 9 hours

ES254 Physical Geography .....	3
ES319 Meteorology .....	3
ES320 Severe and Unusual Weather .....	3
ES331 Ice Age Environments .....	3
GO336 Mineralogy .....	4
GO340 Gemstones and Gemology .....	2-3
ES341 Wetland Environments .....	3
ES351 Introduction to GeoSpatial Analysis† .....	3
ES365 World Regional Climatology .....	3
ES366 Natural Hazards .....	3
ES367 Topics in Earth Science .....	1-3
ES439 Independent Study in ES .....	1-4
ES470 Internship in GeoSpatial Analysis .....	3
ES475 Senior Thesis .....	1-5

GO521 History of Geology .....	3
GO536 Optical Mineralogy .....	3
ES539 Soil Science and Laboratory .....	4
ES545 Geomorphology .....	3
ES546 Field Geomorphology .....	2-5
GO548 Field Stratigraphy .....	2
ES551 Computer Mapping Systems .....	3
ES555 Small-Format Aerial Photography .....	3
ES567 Topics in Earth Science .....	1-4
GO568 Structural Geology .....	3
GO569 Invertebrate Paleontology .....	3
GO570 Sedimentation and Stratigraphy .....	3
GO571 Hydrogeology .....	4
GO572 Contaminant Hydrogeology .....	3
GO580 Environmental Field Methods .....	3
ES703 Seminar in Physical Geography .....	1-3
GO766 Petrology and Petrography .....	4
ES767 Topics in Earth Science .....	1-4
GO769 Vertebrate Paleontology .....	3
ES771 Remote Sensing .....	4
ES775 Advanced Image Processing .....	3

#### Elective Associated Courses: 10 Hours

Courses in chemistry, physics, math, computer science, geography, biology, etc. as formally approved by the student's advisor.

### Required Second Program of Study

The student is required to complete a minor, or a second major, or a second program of study in another discipline.

† Fulfills technology competency course requirement