BACHELOR OF SCIENCE

Earth Science

www.emporia.edu/earthsci

This rigorous but flexible program emphasizes geology, but also may include course work in atmospheric science, pedology (soils), physical geography, environmental studies, hydrology and space science. The Johnston Geology Museum, Peterson Planetarium and an active Earth Science Club greatly enhance the program. Students in the Earth Science Club take extended field trips to many parts of the United States. Earth science graduates obtain employment in private industry and governmental agencies, or continue their educations in graduate school. Environmental consulting firms and water resource agencies currently employ many of these graduates and actively recruit new graduates.

General Education
General Education ***requirements*** *are outlined in the current schedule of classes. ES110/111 would normally be taken for general education, and is a prerequisite for many courses.*

Required ES, GO, and CH Courses: 33 hours

Courses	Hours
GO324 Rocks and Minerals	3
ES319 Meteorology or ES365 World Regional Climatology	3
GO325 Earth History	3
GO326 Plate Tectonics	3
ES333 Environmental Geology	3
ES351 Introduction to GeoSpatial Analysis†	3
GO547 Field Geology	5
CH123/124 Chemistry I & Chemistry I Lab	5
CH126/127 Chemistry II & Chemistry II Lab	5

*Alternatives for CH123/124 and CH126/127 are possible subject to advisor approval.

Elective ES or GO courses: 20 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
ES365 World Regional Climatology	3
ES366 Natural Hazards	3
ES367 Topics in Earth Science	1-3
ES439 Independent Study in Earth Science	1-4
ES470 Internship in GeoSpatial Analysis	3
ES475 Senior Thesis	1-5
ES518 Space Science	3
GO521 History of Geology	3
GO536 Optical Mineralogy	3
ES539 Soil Science and Laboratory	4
ES545 Geomorphology	3
ES546 Field Geomorphology	2
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

Required Associated Courses: 10 hours
Elective courses in allied sciences of biology, chemistry, computer science, geography, mathematics, physics, or physical sciences. Specific courses must be approved upon consultation with a student's advisor. This requirement may be satisfied by completing either a minor approved by a student's advisor or a second major in any other field.

Additional Electives
The student shall select additional courses in earth science or any other discipline to total 124 credit hours. Computer applications are integrated throughout the earth science curriculum.

† Fulfills technology competency course requirement