ENVIRONMENTAL AND APPLIED GEOLOGY, BACHELOR OF SCIENCE (B.S.)

Geology is the study of Earth; we study the processes, behavior and materials of Earth, its water and its atmosphere both in recent times and in the geologic past. Through understanding how Earth formed, how it changed over billions of years, and how it continues to function today, we can look forward in time to predict how natural processes and human actions will interact to impact Earth in the future. Knowledge of geological concepts and processes helps scientists, politicians, and business professionals make decisions about the use of Earth's natural resources, protection of humans against natural disasters, and wise stewardship of our environment.

For students wishing to enter the professional world immediately upon graduation, the Professional Concentration prepares our students to become competent professionals with the requisite knowledge and skills necessary to successfully pass the initial certification exam to eventually obtain their Professional Geologist designation. Students will have the opportunity to gain knowledge and skills in each of the eight areas of professional geology and geotechniques, as well as develop critical research skills through a senior thesis or field camp experience.

Students in the Academic Concentration will gain the foundational knowledge and skills in geology, mathematics and natural sciences necessary to be successful in graduate school, as well as to explore potential areas of geologic specialization through independent research or a field camp experience and elective courses.

Program Requirements

CIP Code: 40.0601

Major

Code	Title	Hours
University Graduation Requirements		
General Education (http://catalogs.eku.edu/undergraduate/general-academic-information/general-education-requirements/)		36
Foundations of Learning		
GSD 101	Foundations of Learning	3
Upper division courses (42 hrs. distributed throughout Major/ Supporting/Gen Ed/Free Electives categories)		
Major Requirements		
Core Courses		
GEO 353	Geographic Information Systems	3
GEO 453	Advanced GIS	3
GEO 455	GIS Cartography	3
GEO 456	Remote Sensing	3
GEO 302	Global Environmental Problems	3
GLY 309	Mineralogy	4
GLY 409	Igneous & Metamorphic Petrology	4
GLY 410	Structural Geology	4
GLY 415	Sedimentary Geology	4
GLY 420	Stratigraphy	4
GLY 535	Hydrogeology	3
Choose from 6 hours of the following:		6
GLY 104	The Ocean World	
GLY 108	Earthquakes and Volcanoes	
GEO 110	Environmental Geography	
GLY 109	Great Moments in Earth History	
GEO 210	Introduction to Physical Geography	
Choose from 9 hours of the following:		9
GEO 321	Urban Geography	
GEO 325	Environment Land Use Planning	
GEO 351	Geoscience Data and Techniques	
GEO 458	Advanced Geographic Imagery	
GEO 501	Advanced Geography:___	
GLY 210	Introduction to Geochemistry	
GLY 303	Environmental Geoscience	
GLY 315	Hydrology	
GLY 351	Field Methods	
GLY 408	Process Geomorphology	
GLY 451	Field Camp	
GLY 460	Aqueous Geochemistry	
GLY 480	Petroleum Geology	
GLY 498	Capstone Project in Geology	
GLY 499	Senior Thesis	
GLY 580	Selected Topics:___	
AEM 195	Computer Aided Drafting	
CON 221	Plane Surveying	
HLS 461	Disaster Resilience	
HLS 491	Disaster Planning and Exercises	
STA 215	Introduction to Statistical Reasoning	
Supporting Course Requirements		*1-3*
CHE 111 & 111L	General Chemistry and General Chemistry Lab I (Element 4) [G]	
MAT 122	Precalculus Mathematics (or higher)(Element2) [G]	
Choose from one of the following:		
PHY 101	Conceptual Physics (Element 4) [G]	
PHY 131	College Physics I (Element 4) [G]	
PHY 201	University Physics I (Element 4) [G]	
Free Electives		*25-27*
Total Hours		**120**

G Course also satisfies a General Education element. Hours are included within the 36 hr. General Education requirement above.

[1] Preparatory course in mathematics may be required before admission to MAT 122 Precalculus Mathematics, or MAT 234 Calculus I.