

CORE AND REQUIRED COURSES	INTRODUCTORY COURSES								GEOSCIENCES CORE COURSES REQUIRED FOR MAJORS								ADVISOR-APPROVED EMPHASIS COURSES a representative selection					
	GEOS 251 Physical Geology	GEOS 255 Historical Geology	GEOS 302 Stratigraphy/ Sedimentation	GEOS 304 Structural Geology	GEOS 306 Mineralogy	GEOS 308 Paleontology	GEOS 322 Introduction to Geophysics	GEOS 356 Petrology	GEOS 414 Geology Field Camp	GEOS 400 Introduction to Geochemistry	GEOS 425 Regional Tectonics	GEOS 427 Orogenic Systems	GEOS 434A Exploration Seismology	GEOS 446 Economic Mineral Deposits	GEOS 453 Glacial and Quaternary Geology	GEOS 478 Global Change						
<b>ACTIVITIES</b>																						
Computer Methods				Strain Labs	Yes	Computer Methods																
Writing Assignment	mid term and final exams, extra credit write up	weekly quizzes, mid term and final exams, final paper (extra credit)	Dept. Writing Emphasis Class 2 field trip reports (1 of these rewritten, abstract, discussions)	Paper/Fault Project	Yes	Term Paper	Weekly Summaries		biweekly write up of geologic history	weekly problem sets, mid-term and final	Term Paper	Term Paper		Term Paper	Term Paper							
Poster Presentation																						
Oral Presentation				Oral Presentation			Oral Presentation								Oral Presentation	In Pairs						
Group		Group		Group			Group	Occasional					In Class and Homework									
Laboratory	2hr/wk	2hr/wk	3 hr/wk	3 hr/wk	Yes	2hr/wk	3hr/wk	3hr/wk														
Field Work	three SE Arizona fieldtrips	Grand Canyon	1 Local, 2 weekend	Local		Local/regional										mapping, Western US						
<b>Discipline Specific Knowledge</b>																						
1. Graduates will have a working knowledge of common Earth materials including their composition, origin, and uses. (Examples: working with/identifying rocks and minerals, soils, resources and economic geology topics.)	Strongly Emphasized	referred to previous class material	Emphasized	Emphasized	Strongly Emphasized	Considered	Not Considered	Strongly Emphasized	Considered	Considered	Considered	Considered	Considered	Strongly Emphasized	Considered	Not Considered						
2. Graduates will understand Earth surface processes and how humans affect and are affected by the processes. (Examples, sedimentary systems, interaction of earth surface with oceans and atmosphere, geomorphological processes, climate and environmental geology.)	Strongly Emphasized	Strongly Emphasized	Strongly Emphasized	Considered	Considered	Emphasized	Not Considered	Not Considered	Considered	Emphasized	Considered	Considered	Not Considered	Strongly Emphasized	Strongly Emphasized	Strongly Emphasized						
3. Graduates will understand processes in the Earth's interior. (Examples: the major geophysical and geochemical properties of the Earth's interior: their genesis and role in tectonics, earthquakes, magmatism, and other Earth properties.)	Emphasized	Considered	Not Considered	Emphasized	Strongly Emphasized	Not Considered	Considered	Strongly Emphasized	Considered	Considered	Strongly Emphasized	Emphasized	Emphasized	Emphasized	Considered	Not Considered						
4. Graduates will know the geologic time scale and major Earth events. (Examples: determining absolute and relative time, the major timescale divisions and geologic and biologic events in Earth history.)	Strongly Emphasized	Strongly Emphasized	Strongly Emphasized	Considered	Not Considered	Strongly Emphasized	Not Considered	Considered	Emphasized	Considered	Considered	Considered	Not Considered	Considered	Strongly Emphasized	Considered						
<b>Problem-Solving and Communication Skills</b>																						
5. Graduates will understand how physics, chemistry, biology, and mathematics are applied to the study of the Earth present and past. (Examples: modeling earth systems, applying basic scientific and quantitative methods to geologic problems.)	Considered	Considered	Considered	Emphasized	Considered	Strongly Emphasized	Strongly Emphasized	Emphasized	Considered	Strongly Emphasized	Considered	Emphasized	Physics and Math Strongly Emphasized	Emphasized	Emphasized	Strongly Emphasized						
6. Graduates will acquire specific skills required for the study and interpretation of geological materials, history, and features. (Examples: map reading, field methods and observations, analytical methods, quantitative methods.)	Emphasized	Strongly Emphasized	Strongly Emphasized	Strongly Emphasized	Strongly Emphasized	Strongly Emphasized	Considered	Emphasized	Strongly Emphasized	Strongly Emphasized	Strongly Emphasized	Considered	Pertinent Aspects Strongly Emphasized	Emphasized	Strongly Emphasized	Emphasized						
<b>Other Skills (Comm., etc.)</b>																						
7. Graduates will be able to read and critically evaluate primary Earth science literature and data. (Examples: able to summarize published research, including strengths and weaknesses and unanswered questions).	Not Considered	Emphasized	Emphasized	Considered	Strongly Emphasized	Emphasized	Considered	Not Considered	Not Considered	Considered	Strongly Emphasized	Strongly Emphasized	Considered	Emphasized	Strongly Emphasized	Emphasized						
8. Graduates will be able to present geological information clearly in written and oral form. (Examples: poster or oral presentations in classes or at local, regional, or national meetings; well-written papers; visual representation of data or ideas.)	Considered	Not Considered	Strongly Emphasized	Strongly Emphasized	Strongly Emphasized	Emphasized	Considered	Not Considered	Strongly Emphasized	Not Considered	Strongly Emphasized	Emphasized	Well presented problem solutions emphasized	Emphasized	Strongly Emphasized	Emphasized						
9. Understanding the process of scientific inquiry. (Examples: able to make observations and measurements, perform experiments, and able to formulate and test scientific hypotheses. Scientific ethics.)	Considered	Strongly Emphasized	Strongly Emphasized	Emphasized	Emphasized	Strongly Emphasized	Not Considered	Not Considered	Considered	Considered	Strongly Emphasized	Considered	Strongly Emphasized	Considered	Strongly Emphasized	Considered						