

**Student Learning Outcomes & Curriculum Map
for the Bachelor of Science in Geology
(Revised 9/23/2011)**

Student Learning Outcomes (SLOs)

1. Students will learn the basic scientific principles of the Geosciences.
2. Students will learn the basis of scientific laws and theories and where the Geosciences fit within that framework.*
3. Students will learn to effectively communicate scientific observations, analyses and arguments.
4. Students will learn to critically evaluate the scientific merit of literature and lectures.
5. Students will learn to collect, analyze and interpret geologic data scientifically.*

*In terms of the courses required outside the Geosciences, the SLOs will focus on that discipline rather than the Geosciences. For example, both SLOs 2 and 5 will focus on Chemistry and chemical data, respectively, for CHEM 115 (General Chemistry I).

Courses required of all Geology majors:

Course Number	Course Title	Credit Hrs	SLO(s)
GEO 165	Geology I	3	1, 2
GEO 169	General Geology Lab	1	1, 2, 5
GEO 210	Geology II	3	1, 2, 5
GEO 370	Structural Geology	4	1, 2, 3, 4, 5
GEO 411	Mineralogy	4	1, 2, 3, 4, 5
GEO 421	Petrology	4	1, 2, 3, 4, 5
GEO 459	Seminar in Geosciences	1	3, 4
GEO 461	Field Geology (or Equivalent)	3	3, 4, 5

Geology electives:

Course Number	Course Title	Credit Hrs	SLO(s)
GEO 330	Geomorphology	4	3, 4, 5
GEO 335	Geophysics	4	3, 4, 5
GEO 345	Paleontology	4	3, 4, 5
GEO 400	Stratigraphy	4	3, 4, 5
GEO 450	Hydrogeology	4	3, 4, 5

Students must take 4 Geology electives for a total of 16 credit hours.

Supporting courses:

Course Number	Course Title	Credit Hrs	SLO(s)
CHEM 115/125	General Chemistry I	3	2, 5
CHEM 125	General Chemistry I Lab	1	2, 3, 4, 5
CHEM 116/126	General Chemistry II	3	2, 5
CHEM 126	General Chemistry II Lab	1	2, 3, 4, 5
PHYS 230 or PHYS 121	University Physics I or College Physics I	4 3	2, 5
PHYS 232 or PHYS 123	University Physics I Lab or College Physics I Lab	1 1	2, 3, 4, 5
PHYS 231 or PHYS 122	University Physics II or College Physics II	4 3	2, 5
PHYS 233 or PHYS 124	University Physics II Lab or College Physics II Lab	1 1	2, 3, 4, 5
MATH 122 or MATH 120	University Calculus I or Survey of Calculus I	4 3	2
MATH 123 or MATH 121	University Calculus II or Survey of Calculus II	4 3	2
STAT 250	Statistics	3	2