

Student Learning Outcome (SLO) Objectives of Required Courses for B.S. in Geology & Geophysics

Student Learning Objectives (SLOs)

1. Students can explain the relevance of geology and geophysics to human needs, including those appropriate to Hawaii, and be able to discuss issues related to geology and its impact on society and planet Earth.
2. Students can apply technical knowledge of relevant computer applications, laboratory methods, field methods, and the supporting disciplines (math, physics, chemistry, biology) to solve real-world problems in geology and geophysics.
3. Students use the scientific method to define, critically analyze, and solve a problem in earth science.
4. Students can reconstruct, clearly and ethically, geological knowledge in both oral presentations and written reports.
5. Students can evaluate, interpret, and summarize the basic principles of geology and geophysics, including the fundamental tenets of the sub-disciplines, and their context in relationship to other core sciences, to explain complex phenomena in geology and geophysics.

Fill in each square according to the course objectives:
0=Negligible content of this topic/concept in the course
1=Introduce topics & concepts in order to provide awareness and instill curiosity, but there is negligible in-depth analysis or application.
2=Develop knowledge and capability through exploration, analysis, &/or application of topics & concepts.
3=Maturity—including proficiency, thorough knowledge, & good judgment—is achieved through in-depth exploration, analysis &/or application of topics/concepts.

	101	101L	103	170	200 (W)	250	301	302 (*W)	303	304	450	305 (W)	309 (*W)	325	410 (O)
1. Relevance															
1a) Relevance of **GG to society & human needs, including Hawaii	1,2	1	1	1	2	0	0	1	2	1	1	2	2	2	2
1b) Impact of **GG to understanding planet Earth	1	1	1	1	2	0	2	2	3	2	2	2	3	2	2
2. Technical knowledge															
2a) Application of supporting disciplines (math, physics, chemistry, biology)	1	1	1	1	2	2	3	3	3	3	3	2	2	2	1
2b) Computer applications	0			0	1	2	1	2	2	2	3	2	0	0	1
2c) Laboratory methods	0	1		1	0	0	3	3	2	2	0	1	3	0	1
2d) Field methods	0	1	1	1	0	0	0	2	2	3	1	3	1	0	1
3. Scientific method															
3a) Define a problem	1	1	1	1	1	2	2	2	2	2	1	2	2	0	2
3b) Critically analyze a problem	1	1	1	1	1	2	3	3	3	3	3	2	3	1	2
3c) Solve a problem	0	1	1	1	0	2	3	3	3	3	3	3	3	2	2
4. Communicate geological knowledge															
4a) Oral communication	0	0	1	1	0	0	0	2	2	2	2	0	2	0	3
4b) Written communication	0	1	1	1	2	2	0	3	2	2	2	3	3	2	2
4c) Use scientific ethics	0	0	1	1	0	0	2	1	1	2	1	3	2	0	2
5. Evaluate, interpret, summarize basic principles															
5a) Understand basic tenets of **GG sub-disciplines	1	1	1	1	2	0	2	2	2	3	2	3	3	2	2
5b) Understand relationships between **GG and other basic sciences	1	1	1	1	2	0	2	2	3	3	3	2	3	2	2
5c) Explain complex **GG phenomena	0	0	1	1	1	0	3	2	3	3	2	2	3	2	3

**GG= the subjects of geology and geophysics (not to the Dept. of Geology & Geophysics).

W=writing intensive focus, *W=sometimes but not always taught as writing intensive, O=oral focus;