Program Learning Outcomes

I= Introduced
R= Reinforced
M= Mastered

Program Name: Geology B.S.

Date: 12-18-2020 rev. 7-7-22

Program Learning Outcomes Knowledge, skill, or behavior students can demonstrate upon program completion		Courses Mapped to Outcomes														
		GES 100	GES 111	GES 125	GES 203	GES 243	GES 244	GES 251	GES 252	GES 295 (Clim change)	GES 320	GES 341	GES 351	GES 430	GES 450	GES 453
1	Observe, record, and interpret geological features in the field.	I		I	R	R		R	R			M	R			R
2	Understand the theoretical underpinnings and methods of data analysis, including quantitative analysis, that uniquely undergird specific subdisciplines within the geosciences.	I		I	I/R	M	M	M	M	M	M		M	M	M	M
3	Read, understand, and write geological literature.	I	I	I	I	R	M			M		R	M	M		M
4	Describe, classify, and interpret common geological materials and structures.	I	I	I	R	M	M	R	M		R	R/M	M			M
5	Understanding plate tectonics as the unifying theory in geology.	I	I/R		M		R									
6	Appreciate how "deep time" informs an understanding of the origins of geological features and resources, and use geological features to reconstruct natural history.	I		I	R/M		R			R			M			
7	Understand the scientific process, posit scientific hypotheses, devise ways to test them by collecting scientific data, and analyze data in a meaningful way.	I	I	I	R	M					R		M		R	

8	Demonstrate depth of understanding of interconnections between geology and other mathematics or science disciplines	I		I	R	R/M	R			R/M	R	R/M	R/M	R	R/M	R

Program Learning Outcomes: Assessment Tools

Program Name: Geology B.S. Date: 12-18-2020 rev. 7-7-22

Program Learning Outcomes Knowledge, skill, or behavior students can demonstrate upon program completion		Measurement Tool	Timeline/Frequency of Assessment	Target	Review
1	Observe, record, and interpret geological features in the field.	GES 341 fieldbooks, journals, or reports	Every 3 years, beginning 2022-2023	80% of reports acceptable as professional field notes	Department review of results
2	Understand the theoretical underpinnings and methods of data analysis, including quantitative analysis, that uniquely undergird specific subdisciplines within the geosciences	Evaluative assessments in individual Mastery courses. Exam questions or assignments deemed as testing mastery are collected for review.	Every 3 years, beginning 2022-2023	80% of artifacts demonstrate mastery of target skill for the assignment	Department review of results
3	Read, understand, and write geological literature.	"Appropriate use of literature" included as a component of the grade for at least one assignment in each Mastery course. This component is recorded separately and reviewed across a subset of mastery courses during Department Assessment Retreat.	Every 3 years, beginning 2022-2023	80% of artifacts demonstrate mastery of target skill for the assignment	Department review of results
4	Describe, classify, and interpret common geological materials and structures.	Evaluative assessments in individual Mastery labs. GES 243, GES 252, and GES 453 retain a sample assignment for review.	Every 3 years, beginning 2022-2023	80% of artifacts demonstrate mastery of target skill for the assignment	Department review of results
5	Understanding plate tectonics as the unifying theory in geology.	Summary exam question in GES 203, retained and reviewed.	Every 3 years, beginning 2022-2023	80% of questions reviewed demonstrate understanding	Department review of results
6	Appreciate how "deep time" informs an understanding of the origins of geological features and resources, and use geological	Summary exam question in GES 203, retained and reviewed.	Every 3 years, beginning 2022-2023	80% of questions reviewed demonstrate understanding	Department review of results

	features to reconstruct natural history.				
7	Understand the scientific process, posit scientific hypotheses, devise ways to test them by collecting scientific data, and analyze data in a meaningful way.	Mastery courses retain a sample assignment	Every 3 years, beginning 2022-2023	80% of assignments evaluated demonstrate understanding	Department review of results
8	Demonstrate depth of understanding of interconnections between geology and other mathematics or science disciplines	Evaluative assessments in individual Mastery courses. Exam questions or assignments deemed as testing mastery are collected for review.	Every 3 years, beginning 2022-2023	80% of assignments evaluated demonstrate understanding	Department review of results