

Department of Geological Sciences student learning Objective by Course matrix

Course/Objective	1.1	1.2	2.1	2.2	3.1	3.2	4.1	4.2	5.1	5.2
Ocean 100		I	I	I	I	I		I	I	I
Geol 100	I	I	I	I	I	I		I	I	I
Geol 101	I	I	I	I	I	I	I	I	I	I
Geol 104		I	I	I	I	I		I	I	I
Geol 200		I	P	P			I, P	P	I	
Geol 205	I, P, R		P	P					I	I
Geol 221					P	P		P		
Geol 300			P	P				P	P	P
Geol 306	I	P	R	R	P	P	R	P	P	P
Geol 307			R	R			P		P	
Geol 324					P, R	P, R				
Geol 498A							R			
*Geol 498B					R	R	R	R	R	R
Geol 508	P	P	P	P	R		R	R	R	
Geol 530					R	R				
Geol 536	R	P	R	R	P, R	R	P	P	P, R	P, R
Geol 537	P, R	P						P	P, R	P

I = Introduced; P = Practiced; R = Reinforced

*Geol 498B; specific objectives met by this course (Senior Thesis) depends on research topic

Goal 1. Understand earth history and systems, emphasizing life on Earth and sedimentary systems.

Objective 1.1 Understand the history of life on Earth using common fossil taxa.

Objective 1.2 Integrate sedimentological and stratigraphic data to reconstruct environmental history.

Goal 2 Understand field-based geological and geophysical investigations, emphasizing earth structure and dynamics.

Objective 2.1 Integrate diverse physical and structural data to reconstruct Earth history and understand Earth's physical dynamics.

Objective 2.2 Apply appropriate physical and mechanical principles to quantify and predict the actions of Earth processes and resulting physical structures.

Goal 3 Understand Earth materials and composition in all parts of the geosphere.

Objective 3.1 Identify and understand the relationships between the basic chemical building blocks that make up minerals and rocks.

Objective 3.2 Integrate chemical data to understand active and past Earth processes using compositional clues. Geoscience Methods, Norms and Epistemology

Goal 4 Understand the nature and collection of evidence in the Earth Sciences.

Objective 4.1 Construct accurate and interpretive geologic or geophysical maps in the field from data gathered during field-based investigations.

Objective 4.2 Communicate the results of any type of Earth science investigations via complete, concise, and coherent written and oral reports.

Goal 5. Understand geoscientific data interpretation: methods and paradigms.

Objective 5.1 Understand how to use the investigative method of multiple working hypotheses in authentic geological and geophysical investigations.

Objective 5.2 Understand and interpret Earth systems and complex system-scale interactions from the integration of diverse geoscientific data.