


Academic Year 2024-2025

Bachelor Environmental & Earth Science Learning Outcomes


Scientific Communication

Students will communicate scientific information through written, oral, and graphical expression with clarity, logical organization, and use of scientific evidence to support their ideas.

| MEASURES | RESULTS | ACTIONS |
|--|--|---|
| <p>Final Presentation In Geology</p> <p>Students must develop a research project of their choice to present to the class by using scientific databases to find primary resources and data (or they can collect and analyze their own data from a local field site) then synthesize, organize, and visually present that information using figures as part of an oral presentation. This culminates in a 8-10 minute oral (powerpoint) presentation that addresses geologic processes that relate to our society in the form of resources, hazards, or an area's natural history.</p> <p>Direct - Assignment</p> <p><i>Geology: GEOG 2100</i></p> <p>Target</p> <p>80% of students proficient or better</p> | <p>MET</p> <p>Final Presentation In Geology</p> <p>■ Exceeded ■ Met</p>  <p>0% 100%</p> <p><i>Values are not shown when too close to each other. Click or use arrow keys to see details.</i></p> <p>Exceeded: 67% Met: 33%</p> <p>Met Total: 100% Not Met Total:</p> <p>Analysis</p> <p>2 of the 3 EES majors in this course exceeded expectations by earning above a 95% with the third student meeting expectations - earning above an 85%.</p> | <p><i>No actions have been added.</i></p> |

Scientific Process

Students will use the scientific process, including experimental design, analysis, and critical evaluation of information, and integration of evidence from relevant sources, in the context of environmental investigations.

| MEASURES | RESULTS | ACTIONS |
|---|--|---|
| <p>Experiment design and lab report</p> <p>Students develop a hypothesis then design an experiment to test it. They report the results of the experiment in a formal written assignment.</p> <p>Direct - Assignment</p> <p><i>Oceanography: GEOG 2500</i></p> <p>Target</p> <p>80% of students proficient or better</p> | <p>MET</p> <p>Experiment design and lab report</p> <p>■ Exceeded ■ Met</p>  <p>0% 100%</p> <p><i>Values are not shown when too close to each other. Click or use arrow keys to see details.</i></p> <p>Exceeded: 67% Met: 33%</p> <p>Met Total: 100% Not Met Total:</p> <p>Analysis</p> | <p><i>No actions have been added.</i></p> |

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| | students were evaluated on 4 criterion relevant to this LO. All six students met or exceeded expectations for all four criteria. |
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Earth Systems

Students will discuss the structure and composition of Earth's interior, surface, and atmosphere, and explain what it means to consider Earth as a system.

| MEASURES |
|-------------------------------------|
| <i>No measures have been added.</i> |

Environmental Interactions

Describe the complex interactions between humans and their environment, including geologic hazards, air and water pollution, global environmental issues, and use and conservation of Earth's resources.

| MEASURES | RESULTS | ACTIONS |
|--|---|--|
| <p>Recent climate change assignment</p> <p>This assignment has students interact with recent climate change data, including trends in global temperature, sea level, sea ice extent, mountain glaciers, and ocean heat content. Students discuss the data and to what degree they provide evidence of climate change. They also discuss reasons for the change, evaluating a variety of potential factors that contribute to climate change. Finally, they examine recent change and projections for a particular region of the world.</p> <p>Direct - Assignment</p> <p><i>Climatology: GEOG 3110</i></p> <p>Target</p> <p>80% of students score proficient or better</p> | <p>MET</p> <p>Recent climate change assignment</p> <p>■ Exceeded</p>  <p>0% 100%</p> <p>Values are not shown when too close to each other. Click or use arrow keys to see details.</p> <p>Exceeded: 100%</p> <p>Met Total: 100%</p> <p>Not Met Total:</p> <p>Analysis</p> <p>All EES students who submitted this assignment (9 of 17 enrolled in the course) earned over 90% on this assignment.</p> | <p>Revise Measurement / Assessment</p> <p>IN PROGRESS</p> <p>This assignment could be modified slightly for application to this learning outcome. In particular, the score for just the questions that align with this LO (rather than the assignment grade as a whole) would be better reflect the degree to which students are meeting this outcome.</p> <p>Recommended Due Date: 12/31/2025</p> |