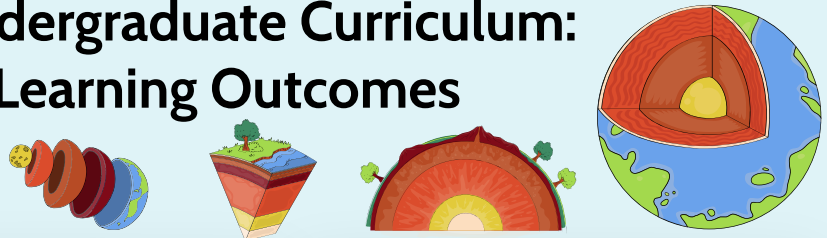




Mapping the EARTH Undergraduate Curriculum: Assessment of Student Learning Outcomes

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- Number of faculty: 20+ regular, 30+ graduate
- Number of undergraduate students: 90
- Undergraduate Degree Programs: BS in Earth Sciences, BA in Environmental Earth Science.
- Pathways: Environmental and Hydrology, Geophysics and Tectonics, Planetary, Volcanoes, Education



Introduction

The Earth Sciences undergraduate curriculum was recently revised based on interview findings with alumni and employers, and careful analysis of trends in geoscience education and department courses. This project maps the new undergraduate curriculum Student Learning Outcomes.

ERTH Student Learning Outcomes

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

Assessment Activities: Goals and Methods

Goals: Update undergraduate curriculum map using the Introduce (1), Reinforced (2), and Mastery (3) classification to better reflect the new program requirements; Collect assessment data on selected SLOs.

Steps

1. Revised curriculum maps in Spring 2024 to evaluate how updated courses contribute to SLOs and sub skills
2. Identified key courses offered in Fall 2024 that were relevant for assessing SLOs
3. Communicated with faculty instructors of selected courses to participate in assessment activities
4. Collected learning achievement data
5. Ongoing - data collection for additional courses and SLOs; interpretation of results; set goals for use of findings

ERTH Undergraduate Curriculum Map

Course:	101	101L	103	104	106	130	200	201	250	305	333	398	410	413	461
SLO 1															
1a	1	1	1	2	2	1	2	2	0	2	2	2	3	0	2
1b	1	1	1	1	1	1	2	2	0	2	2	2	3	0	1
SLO 2															
2a	1	1	1	1	1	1	2	2	2	2	2	3	2	3	1
2b	0	0	0	0	0	0	1	1	2	1	1	3	0	2	3
2c	0	1	0	0	0	0	2	1	0	1	2	3	0	0	1
2d	0	1	0	1	0	0	0	1	0	3	1	3	0	0	1
SLO 3															
3a	1	1	0	1	1	0	0	2	2	3	2	3	0	3	2
3b	1	1	1	1	1	1	1	2	2	3	2	3	0	3	2
3c	1	1	0	0	0	0	0	2	2	3	2	3	0	3	2
SLO 4															
4a	0	0	1	0	1	1	0	1	0	1	1	3	3	1	0
4b	0	1	0	1	0	0	2	1	0	3	1	3	2	2	1
4c	0	1	1	1	1	1	1	1	0	3	1	3	3	1	1
SLO 5															
5a	1	1	1	1	1	1	1	1	1	2	2	3	3	2	1
5b	1	1	1	1	1	1	1	1	1	2	2	3	2	2	1
5c	1	1	1	1	1	1	1	1	1	2	2	3	3	2	1

Action Plan and Next Steps

- Continue assessment data collection for all SLOs
- Interpret results and set goals for improvement

Assessment Data Reporting for EARTH SLOs:

