2012-2013 Undergraduate Academic Assessment Plan

Geological Sciences

Liberal Arts & Sciences

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B.A. Geological Sciences: CLAS
Undergraduate Academic Assessment Plan

Mission Statement

The Department of Geological Sciences is part of the College of Liberal Arts and Sciences. Our principal mission is to train students broadly in Earth Sciences and lead them to an understanding into the history of our planet, its resources (and their sustainability), the marine and terrestrial environments and global climate change (both past and present). Our students will be prepared to enter the workforce or continue on to graduate programs across the country and throughout the world. Our mission aligns with the UF and CLAS missions to discover, teach and engage our students.

Student Learning Outcomes (SLOs, CK=Content Knowledge, CT=Critical Thinking; C=Communication)

https://catalog.ufl.edu/ugrad/current/liberalarts/alc/geology-ba.aspx

Existing SLOs in the 2012-13 undergraduate catalog:
1. Know the basic concepts related to earth materials and processes.
2. Collect data in the field.
3. Organize geologic, temporal and spatial data.
4. Interpret geologic maps and cross sections.
5. Know the scientific method.
6. Produce a clearly and effectively written synthesis of data collected in the field.
7. Work in teams to solve geologic problems and to present the results of such collaboration effectively.

Revised SLOs in the 2013-14 undergraduate catalog:
Content

1. Identify, describe and define the basic concepts related to earth materials and processes.
2. Collect data in the field.
3. Organize geologic, temporal and spatial data.

Critical Thinking

4. Interpret geologic maps and cross sections.
5. Interpret results using the scientific method.

Communication

6. Produce a clearly and effectively written synthesis of data collected in the field.

7. Work in teams to solve simple geologic problems and to present the result of such collaboration effectively.

New/Revised SLOs, 2013-14*	Link to 2012-13* SLOs
Content	
Identify, describe and define the basic concepts related to earth materials and processes.	Know the basic concepts related to earth materials and processes.
Collect data in the field.	Collect data in the field.
Organize geologic, temporal and spatial data.	Organize geologic, temporal and spatial data.
Critical Thinking	
Interpret geologic maps and cross sections.	Interpret geologic maps and cross sections.
Interpret results using the scientific method.	Know the scientific method.
Communication	
Produce a clearly and effectively written synthesis of data collected in the field.	Produce a clearly and effectively written synthesis of data collected in the field.
Work in teams to solve simple geologic problems and to present the result of such collaboration effectively.	Work in teams to solve geologic problems and to present the results of such collaboration effectively.

*undergraduate catalog dates

Curriculum Map

Curriculum Map for: Geological Sciences

Program: Bachelor of Arts College: Liberal Arts & Sciences

Key: **I**ntroduced **R**einforced **A**ssessed

Courses SLOs	GLY2010C	GLY2100C	GLY3202C	GLY3603	GLY4155 CAPSTONE Course
Content Knowledge					
#1	I	R	R	R	A-Labs Projects/exams
#2	I	R	R	R	A-Labs Projects/exams
#3	I	R			A-Labs Projects/exams
Critical Thinking					
#4	I	R			A-Labs Projects/exams
#5	I	I	R	R	A-Labs Projects/exams
Communication					
#6	I			R	A-Labs Projects/exams
#7	I	R	R		A-Labs Projects/exams

***GLY4750L- Capstone course for students in the Bachelor of Arts Program**

Assessment Cycle

The assessment cycle is shown in tabular form (see below). Evaluation of SLO's will consist of review by a team of faculty (one Full, one Associate, one Assistant Professor along with the Chair). Faculty will be asked to provide materials (described in methods and procedures) for the evaluation process. Materials

will be made available to the team in August-September of the assessment year and the team will formulate a list of improvement actions by December and disseminate those materials in January of the following year.

Assessment Cycle Chart

Assessment Cycle for: Geological Sciences

Program: Bachelor of Arts

College: Liberal Arts and Sciences

Analysis and Interpretation: August-September
Improvement Actions: December
Dissemination: January

Year / SLOs	10-11	11-12	12-13	13-14	14-15	15-16
Content Knowledge						
#1	x			x		x
#2	x	x			x	
#3	x		x		x	
Critical Thinking						
#4	x			x		x
#5	x	x			x	
Communication						
#6	x			x		x
#7	x			x		x

Methods and Procedures

SLO Assessment Matrix

SLO Assessment Matrix for 2013-14

2012-13 Student Learning Outcome	Assessment Method	Measurement Procedure
Identify, describe and define the basic concepts related to earth materials and processes.	Labs, Projects/exams	Projects, labs and exams scored according to rubric
Collect data in the field.	Labs, Projects/exams	Projects, labs and exams scored according to rubric
Organize geologic, temporal and spatial data.	Labs, Projects/exams	Projects, labs and exams scored according to rubric
Interpret geologic maps and cross sections.	Labs, Projects/exams	Projects, labs and exams scored according to rubric
Interpret results using the scientific method.	Labs, Projects/exams	Projects, labs and exams scored according to rubric
Produce a clearly and effectively written synthesis of data collected in the field.	Labs, Projects/exams	Projects, labs and exams scored according to rubric
Work in teams to solve simple geologic problems and to present the result of such collaboration effectively.	Labs, Projects/exams	Projects, labs and exams scored according to rubric

Direct Assessments

(1) Final Projects (in GLY4750L) to assess a holistic understanding of the Student Learning Outcomes (especially communication and critical thinking).

(2) Projects, Exams and Self-Evaluations conducted in GLY4750L (Field Methods). Students work individually and in teams to produce industry/publication reports on specifically targeted field regions. All areas of the Student Learning Outcomes are evaluated by instructional staff (typically 1-2 professors and 1-2 upper level graduate students).

(3) Lab Component: Performance in most of our courses is based on both theory (generally lecture based) and practice (lab based). Both are evaluated for effectiveness in reinforcing our Student Learning outcomes by comparing instructional goals with student performance.

Indirect Assessments

(1) Review of Course Syllabi to check for appropriate inclusion of student learning outcomes.
(2) Review of End Course examinations (grade distribution) to check for appropriate levels of success in meeting the student learning outcomes.
(3) Meet with Departmental Advisory Committee (composed of individuals in industry, government and academia) for a discussion on how our graduates are performing on the job.
(4) Document (through exit interviews) the number of graduates continuing on in higher learning, industry, government and other occupations.
(5) Senior Thesis- Students who wish to pursue research projects (usually for Honors designation, but not exclusively) will conduct independent research projects under the direct supervision of faculty. Research projects are often submitted for publication/presentation. We maintain a record of these research projects and the quantity and quality of the resulting publications (via citation records) are available.

Rubric*

	Satisfactory	Unsatisfactory
Knowledge	Meets or excels in responding appropriately to the assignment. Produces accurate and detailed reports and professional quality projects.	Fails to respond appropriately to the assignment. Projects contain gross inaccuracies and are not of professional quality
Critical thinking	Synthesizes major ideas and makes connections between smaller projects/areas to observations at a regional scale.	May not consistently show a logical progression of ideas. Does not make key connections between local geology and regional geology.
Communication	Able to communicate basic ideas clearly and concisely. Presentations are well-prepared and delivered on time and are easy to follow.	Unable to communicate basic ideas of the project clearly or concisely. Presentations late or difficult to follow.

*Rubric is for project assessment GLY4155 (Capstone Course)

Assessment Oversight

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