

Undergraduate Academic Assessment Plan 2013-14

**Geological Sciences
B.A.**

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>

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* | |
|--|--|
| Content | |
| Identify, describe and define the basic concepts related to earth materials and processes. | |
| Collect data in the field. | |
| Organize geologic, temporal and spatial data. | |
| Critical Thinking | |
| Interpret geologic maps and cross sections. | |
| Interpret results using the scientific method. | |
| Communication | |
| 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. | |

*undergraduate catalog dates

Curriculum Map

Curriculum Map for: Geological Sciences

Program: Bachelor of Arts

College: Liberal Arts & Sciences

Key: Intrduced

Reinforced

Assessed

| Courses SLOs | GLY2010C | GLY2100C | GLY3202C | GLY3603 | GLY4155C* 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 |

*GLY4155- 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

| SLOs | Year | 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

| 2013-14 Student Learning Outcome | Assessment Method | Measurement Procedure |
|--|----------------------|-----------------------|
| Identify, describe and define the basic concepts related to earth materials and processes. | Labs, Projects/exams | Project rubric |
| Collect data in the field. | Labs, Projects/exams | Project rubric |
| Organize geologic, temporal and spatial data. | Labs, Projects/exams | Project rubric |
| Interpret geologic maps and cross sections. | Labs, Projects/exams | Project rubric |
| Interpret results using the scientific method. | Labs, Projects/exams | Project rubric |
| Produce a clearly and effectively written synthesis of data collected in the field. | Labs, Projects/exams | Project rubric |
| Work in teams to solve simple geologic problems and to present the result of such collaboration effectively. | Labs, Projects/exams | Project rubric |

Direct Assessments

- (1) Final Projects (in GLY4155C) to assess a holistic understanding of the Student Learning Outcomes (especially communication and critical thinking).
- (2) Projects, Exams and Self-Evaluations conducted in GLY4155C (Geology of Florida). 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.

Figure 1: Rubric for project assessment

| Content | 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

Assessment Oversight

| Name | Department Affiliation | Email Address | Phone Number |
|---------------|------------------------|--|--------------|
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