

REPORT ON AY2022-2023 ACADEMIC ASSESSMENT

Submission date: 11/10/2023

Assessment Plan covered in the report: Applied Geological Sciences MS

College: College of Arts and Sciences

Campuses where the program(s) is delivered: Anchorage KOD KPC MSC PWSC

Submitted by: Eric Klein, Assistant Professor, Department of Geological Sciences, esklein@alaska.edu

After responding to the questions below, the program should email this form to the dean, with a copy to the appropriate community campus director(s) if the program is delivered on a community campus.

- 1. Please list and number the Program Student Learning Outcomes your program assessed in AY23. For each outcome, indicate one of the following: Exceeded faculty expectations, Met faculty expectations, or Did not meet faculty expectations.**

Example: 1. Communicate effectively in a variety of contexts and formats – Exceeded faculty expectations; 2. Adopt critical perspectives for understanding the forces of globalization and diversity – Met faculty expectations.

1. Use rigorous methods of scientific analysis. Met faculty expectations
2. Demonstrate mastery of graduate-level geological sciences theory. Exceeded faculty expectations
3. Conduct advanced geological sciences research and/or demonstrate technical skill application. Exceeded faculty expectations
4. Apply the scientific method to graduate-level problems in one or more focus areas of geological sciences. Met faculty expectations
5. Work effectively within the professional framework of geological sciences careers or be prepared for Ph.D. research programs. Met faculty expectations

- 2. Describe your assessment process in AY23 for these Program Student Learning Outcomes, including the collection of data, analysis of data, and faculty (and other, e.g., advisory board) conversations around the findings. (1000 words or less)**

Assessment of performance in these five categories is accomplished through three assessment

measures:

1) Direct Course Level Assessment (CLA)

FALL 2022

GEOL A641 Paleoclimatology

GEOL A637 Depositional Systems

SPRING 2023

GEOL 636 Petroleum Geology

2) Exit surveys

Some graduate students expressed interest in opportunities for geoscience graduate studies beyond a MS (e.g., PhD) at UAA.

3) Thesis defenses or comprehensive examinations

Four completed thesis defenses.

3. What are the findings and what do they tell the faculty about student learning in your program? (1000 words or less)

The SLOs and outcomes (letter grades) for AY 2022-2023 that could be assessed are as follows:

- a. Demonstrate critical thinking skills through synthesis of geologic information: A-
- b. Critically evaluate their own and others work for accuracy, fairness, clarity and scientific style: B+
- c. Produce professional quality reports using their own and other's data: A-

These results are similar to AY 2021-2022.

4. Based on the findings, did the faculty make any recommendations for changes to improve student achievement of the Program Student Learning Outcomes? No

- i. **Please describe the recommended action(s), what improvements in student learning the program hopes to see, the proposed timeline, and how the program will know if the change(s) has worked. If no recommendations for changes were made, please explain that decision. (1000 words or less)**

The faculty haven't made any explicit recommendations for changes. In the past couple of years, some grad students requested more stand-alone grad courses. The faculty understand the issue, but current faculty shortages in our department (e.g., geophysics,

structural geology) prevent us from creating more stand-alone grad courses. Our MS program is represented at various national conferences (e.g., Geological Society of America), and we have successfully recruited MS students from across the country, many with competing offers. We also continue to work with our Community Advisory Board to keep providing internship opportunities for grad students (e.g., USGS, ADNR, NANA), which helps student success.

5. In the past academic year, how did your program use the results of previous assessment cycles to make changes intended to improve student achievement of the Program Student Learning Outcomes? Please check all that apply.

- Course curriculum changes
- Course prerequisite changes
- Changes in teaching methods
- Changes in advising
- Degree requirement changes
- Degree course sequencing
- Course enrollment changes (e.g., course capacity, grading structure [pass/fail, A-F])
- Changes in program policies/procedures
- Changes to Program Student Learning Outcomes (PSLOs)
- College-wide initiatives (e.g., High-Impact Practices)
- Faculty, staff, student development
- Other
- No changes were implemented in AY23. *(If no options above were selected)*

If you checked "Other" above, please describe. (100 words or less)

6. Do you have any information about how well these or other past improvements are working? Are they achieving their intended goals? Please include any data or assessment results that help you demonstrate this. (1000 words or less)

N/A: We have not made any changes as no clear concerns about the delivery or effectiveness of the program were raised by previous assessments.

DEAN SECTION (Due to the program on January 15)

After completing the Dean Section and signing it, the dean should email this form to the program, and copy uaa_oaa@alaska.edu for posting. If the program is delivered on one or more community campus, the dean should consult with the appropriate community campus director(s) on the response and copy the

appropriate community campus director(s) when emailing the response to the program.

1. Based on the program's responses above, what guidance and support do you have for the program moving forward? (200 words or less)

I encourage the program to use more than just cumulative grades for the assessment and to explain how the letter grades reported in item 3 were determined, as well as how completed theses were used in assessment.

2. Discuss what the program is doing particularly well in terms of its processes for the assessment and improvement of student learning, for example, the use of a common rubric or prompt, a signature assignment, etc. (200 words or less)

The faculty in the program are keenly aware of the industry needs in geology. They are applauded for their work with community partners. The encouragement of internships in the program is a positive.

Dean's signature: Jenny McNulty

Date: 1/12/2024