

M.S. in Geology Student Outcomes Assessment Report
2018-2019 Academic Year Results

Assessment Committee
Department of Earth and Environmental Sciences
California State University

1 Learning outcome assessed

For the 2018-2019 academic year, the Geology M.S. SOAP required assessment of Outcomes B and C (“Use the scientific method to organize and conduct research, and apply quantitative methods to solve problems, analyze data and formulate models, either independently or collaboratively”, and “Students will effectively disseminate technical findings and conclusions by means of written reports, and organize and give professional oral presentations,” respectively). Also, the SOAP called for examining exit interviews.

2 Instruments used to assess the outcomes

To assess Outcomes B and C, students will produce a Masters thesis that will be presented to all willing to attend. All faculty present will fill out evaluation forms, which are collected and summarized by the assessment coordinator. The department expects a mean score for each section evaluated on the rubric (i.e., Science and Presentation) >2 out of 3 points when all student scores are averaged, with the idea that an A, B, and F grade would be represented by a 3, 2, 1 point out of 3 possible, respectively. A 2 out of 3 points would therefore represent the minimum GPA that graduate students must maintain throughout their enrollment.

An online exit interview was sent this year and the replies of 3 respondents was analyzed.

3 Results of assessment

3.1 Grading rubric

The thesis defenses of 6 students were analyzed and scored using the rubric summarized in Table 1 and shown in the appendix, while the results are summarized in Tables 2 in increments of half a point. *Note on the scale: 1. Not passing, 2. Standard, and 3. Exceptional.*

	Characteristic/Quality	Maximum score
Science	Problem	3
	Approach	3
	Results and Discussion	3
Presentation	Slides/Talk	3
	Organization	3
	Q and A	3

Table 1: Grading rubric for Masters thesis defense

A closer look at the scoring distribution within the sub-categories of each criterion shows no particular deficiency amongst the students.

As stated in the SOAP, the department expects a mean score for each criteria >2 when all student scores are averaged. This goal has been met by each and every criterion. Thus, the faculty consider that Outcomes B and C have been met.

Characteristic/Quality		Student 1	Student 2	Student 3	Student 4	Student 5	Student 6	Average all students
Science	Problem	2.8	2.3	2.0	2.7	2.5	2.6	2.5
	Approach	2.7	2.6	2.0	2.4	2.5	2.3	2.4
	Results and Discussion	2.4	2.5	1.8	2.6	2.3	2.2	2.3
Presentation	Slides/Talk	2.6	2.5	1.9	2.9	2.4	2.7	2.5
	Organization	2.4	2.4	1.7	2.9	2.3	2.4	2.6
	Q and A	2.6	2.8	2.0	3.0	2.1	2.2	2.5

Table 2: Average scores for Geology Masters theses

3.2 Student exit interviews

Student exit interviews were collected from 2 students this year with questions and responses which suggest relative satisfaction with the degree program. Students were asked to rank their answers from 1 (strongly disagree) to 5 (strongly agree).

Several comments and facts demonstrating overall student satisfaction are below;

- To the question “I was able to obtain instruction (courses) in subjects that I am interested in,” the mean value was 2.50 (SD: 0.50, 2 respondents).
- To the question “I was able to obtain instruction (courses) that I need to advance my future career,” the mean value was 2.50 (SD: 0.5, 2 respondents).
- To the question “I was able to obtain the knowledge and training from the courses that will help me advance my career objective,” the mean value was 4.50 (SD: 0.50, 2 respondents).
- To the question “The program in general met my expectation,” the mean value was 4.50 (SD: 0.50, 2 respondents).
- To the question “I was intellectually challenged by the teaching of the faculty,” the mean value was 4.0 (SD: 0.0, 2 respondents).
- To the question “The graduate faculty of the department is active and up-to-date in their fields of expertise.,” the mean value was 4.5 (SD: 0.5, 2 respondents).
- To the question “My advisor was a good mentor,” the mean value was 5 (SD: 0.0, 2 respondents).
- To the question “Your over-all ranking of your graduate education experience is...”, the mean value was 4.50 (SD: 0.50, 2 respondents).

The only comment pointing toward an unsatisfactory part of the graduate experience concerns the course offering that did not satisfy those students, as well as a lack of financial opportunities.

4 Changes made as a results of the findings

Based upon the assessment of the Masters theses, no further action is necessary as the goal for Outcome A was met.

Based upon feedback from student responses to exit interview questions, no further action is necessary as there appears to be an overall satisfaction with the Masters in Geology Degree Program.

5 M.S. in Geology Action Plan Progress

The Department is currently working on generating an action plan for the Geology M.S.

6 Appendix

Appendix 1: Grading rubric for the Masters Thesis

Rubric 4: Want to Pass Your Oral Thesis Defense? Here's how!

Characteristic/Quality		Exceptional	Standard ¹	Not Passing
Science	Problem	A problem of broad interest is outlined, and put into a context of prior work	An original problem is clearly stated	No clear problem is articulated; problem is not original
	Approach	Clearly differentiated and put into context of published studies	Methods explicitly connected to addressing the stated problem	Methods not connected to addressing the stated problem
	Results & Discussion	A novel solution is found that addresses a compelling problem	The results represent a clear scientific advance	No clear advance or solution to a problem
Presentation	Slides/Talk	Talk is clear, concise, and on time; few if any flaws;	Talk is clear, concise. Free of long pauses, or distracting gestures or phrasing	Talk is unclear; poor use of allotted time
	Organization	Maximizes audience's understanding	Talk is on time, easy to follow	Talk is difficult to follow (any of motivation, approach, results, are unclear)
	Q&A	Can answer any and all questions; answers demonstrate a command of the thesis, and ancillary subjects	Is able to answer most questions, showing a mastery of the thesis topic	Unable to answer even the most basic questions (such as why the topic, data or approach were chosen)

Notes: 1. You must meet the standard in all of the Science & Presentation categories to pass and earn thesis credit.