

B.S. in Geology Student Outcomes Assessment Report
2015-2016 Academic Year Results

Geology Degree Assessment Committee
Department of Earth and Environmental Sciences
California State University

1 Learning outcome assessed

For the 2015-2016 academic year, the Geology B.S. SOAP required assessment of Outcome A (“Students will synthesize knowledge and skills in the basic components of the Earth Sciences, and develop a command of map skills, including reading and interpretation of geologic, topographic, and other maps, as well as map making”). Also, the SOAP called for one indirect measure of assessment this year; exit interviews of students.

2 Instruments used to assess the outcomes

To assess Outcome A, maps from EES 30 and EES 107 (“early” work and “later” work, respectively) submitted by the same group of students were reviewed. These maps can be hand drawn or drafted on a computer, the means by which the map was done is not important; faculty are looking for growth in the areas of accuracy and interpretation. For each outcome evaluated on the rubric, a score of 2 on a 3 point scale will define having met the learning outcome. The department expects a mean score for each criteria >2.0 when all student scores are averaged.

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

3 Results of assessment

3.1 EES 30 and 107

The geologic maps of 13 students that subsequently enrolled in EES 30 and EES 107 were analyzed and scored using a rubric, and summarized in the table below in increments of half a point.

Criterion	Maximum score
Location accuracy	3
Lithologic unit identification	3
Accuracy of orientations	3
Recognition of non-lithologic geologic features	3
Coverage and detail	3
Map format	3
Total	18

Upon tallying all the scores, averages were calculated as shown below.

Criterion	Average score EES 30	Average score EES 107	% increase
Location accuracy	2.1	2.6	24
Lithologic unit identification	1.5	2.6	79
Accuracy of orientations	1.5	2.8	90
Recognition of non-lithologic geologic features	1.5	2.3	55
Coverage and detail	1.7	2.7	58
Map format	1.5	2.3	50
Total	9.7	15.3	57

Students from the geology program significantly progressed in all the criteria from their early map to their later map. Also, it should be noted that the area covered by the second map is a more complex geologic setting than the area occupied by EES 30. The total average assigned in EES 107 shows a 57% increase compared to its EES 30 counterpart. Of particular interest to the

department is the increase noted in lithologic unit identification (i.e., the types of rocks recognized by the students), the accuracy of orientations (e.g., which direction is a particular folded structure tilting) and the coverage and detail shown the map. These three criteria are important as many of our students are being employed in field positions at consulting companies where good mapping skills are essential.

As stated in the SOAP, the department expects a mean score for each criteria >2.0 when all student scores are averaged. This goal has been met by each and every criterion. Thus, the faculty consider that Outcome A has been met.

3.2 Student exit interviews

Student exit interviews were collected from 4 students this year with responses which suggest relatively high 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 “What is your current job status after graduation?,” 2 students have accepted full-time employment, 1 has been accepted in graduate school and plan to attend, and 1 plans to work full time but has not yet found a position.
- To the question “I was able to obtain instruction (courses) in subjects that I am interested in,” the mean value was 4.5 (4 respondents)
- Relevant to the outcome assessment this year, to the question “Formal, course-based field experiences contributed to my learning,” the mean value is 4.75 (4 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 is 4.25 (4 respondents).
- To the question “I was intellectually challenged by the teaching of the faculty,” the mean value is 4.75 (4 respondents).
- To the question “Faculty members are competent undergraduate level instructors,” the mean value is 4.75 (4 respondents).
- To the question “My advisor was a good mentor,” the mean value is 4.50 (4 respondents).
- To the question “your over-all ranking of your undergraduate education experience is...,” the mean value is 4.5 (4 respondents)

One comment point toward the fact that “Research facilities are extremely limited, broken, or non existing.”

4 Changes made as a results of the findings

Based upon the assessment of EES 30 or EES 167, 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 substantial satisfaction with the Geology Degree Program.

5 Future assessment activities in the 2014-15 academic year

In 2016-17, we will evaluate Goal 3 – Students will develop effective oral and written communication skills (WASC Core Competencies: Oral Communication & Written Communication), perform another set of exit interviews and conduct an employer survey.

6 B.S. in Geology Action Plan Progress

No progress.