

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

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

1 Learning outcome assessed

For the 2018-2019 academic year, the Geology B.S. SOAP required assessment of Outcome D (“Students will develop intellectual independence and academic skills that will assist them in completing an independent project.”). 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 D, three student senior theses were graded using a rubric agreed upon by the department (see Appendix). For each outcome evaluated on the rubric, a score of 1 on a 2 point scale will define having met the learning outcome (i.e., passing grade). The department expects a mean score for each criteria >1.5 out of 2 possible points when all student scores are averaged.

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

3 Results of assessment

3.1 EES 199

The thesis of three students enrolled in EES 199 (Undergraduate Thesis) were analyzed and scored using the rubric shown in Table 1, while the grade details are summarized in Table 2. *Note on the scale: 0. Unacceptable, 1. Standard, 2. Exceptional.*

Science criterion	SOAP Goal	Max
Novelty	4	2
Data	4	2
Analysis/significance	4	2
Product	4	2
Student contribution criterion	SOAP Goal	Max
Problem	4	2
Independence	4	2
Context	4	2
Total		14

Table 1: Grading rubric for EES 199.

Student	1	2	3	Row average
Novelty	1	1	1	1
Data	1	2	2	1.67
Analysis/significance	1	1	1	1
Product	2	2	2	2
Problem	1	2	1	1.33
Independence	1	1	1	1
Context	1	2	1	1.33
Column average	1.14	1.57	1.29	1.33
Total (out of 14 pts)	8	11	9	N/A

Table 2: Grading details for EES 199.

Students from the Geology program were above the minimum 7 out of 14 required (i.e., all criterion are met with a passing grade). This goal has been met by each and every criterion. Thus, the faculty consider that Outcome D has been met.

3.2 Student exit interviews

Student exit interviews were collected from four 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?,” 1 student has become a graduate student, 2 have accepted full-time employment, and 1 plans to work full time but has not yet found a position.
- Long-term career goals range from “Becoming a practicing professional in the field of geology,” “Professional Hydrogeologist,” to “Environmental remediation.”
- To the question “I was able to obtain instruction (courses) in subjects that I am interested in,” the mean value was 4.11 (4 respondents).
- To the question “The program in general met my expectation,” the mean value is 4.36 (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 4.36 (4 respondents).
- To the question “I was intellectually challenged by the teaching of the faculty,” the mean value is 4.45 (4 respondents).
- To the question “Faculty members are competent undergraduate level instructors,” the mean value is 4.71 (4 respondents).
- To the question “My advisor was a good mentor,” the mean value is 4.68 (4 respondents).
- To the question “Your over-all ranking of your undergraduate education experience is . . .,” the mean value is 4.31 (4 respondents)

4 Changes made as a results of the findings

The results will be presented by the Departmental Assessment Committee during a faculty meeting. Based upon the assessment of EES 199, the department will certainly agree that no further action is necessary as the goal for Outcome D was met.

Based upon feedback from student responses to exit interview questions, the department will certainly agree that no further action is necessary as there appears to be substantial satisfaction with the Geology Degree Program.

5 Future assessment activities in the 2018-19 academic year

In 2019-20, we will evaluate 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), perform another set of exit interviews and conduct an employer survey.

6 B.S. in Geology Action Plan Progress

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

7 Appendix

Appendix 1: Grading rubric from EES 199 (Undergraduate Studies)

Rubric 6: Want to Pass EES 199? Here's how!

Characteristic/Quality		Exceptional	Standard	Not Passing
Science	Novelty	Expands and extends research scope of advisor	Presents an advance within an established area of research suggested by advisor	Does not work with an advisor or does nothing new
	Data	Collects or collates important data, with well-characterized precision and accuracy	Collects or collates data, useful to a larger scientific community	Data are of little or no value
	Analysis/Significance	Unexpected results/a breakthrough	New results, or confirmations of null hypothesis, of broad interest	No clear results from work
	Product	Thesis contributes to a manuscripts that can be submitted to a journal	1) A poster for CSM symposium or Dept. Dinner, and 2) a brief (6-10 page) scientific paper, not necessarily ready for publication	Lacking 1) or 2)
Student Contribution	Problem	Identifies the problem/hypothesis and methods of solution independent of advisor	Selects a problem and approach provided by adviser; develops clear tests of hypotheses	Does not work with an adviser; does not contribute to design of or approach to problem in any way
	Independence	Independently discovers new hypotheses and tests	Student works on assigned project independently	Needs help every step of the way
	Context	Independently finds new papers, collaborators, etc. that broaden impact and	Student reads assigned papers and can place their research into scientific context	No idea of relevant publications, or an external sci. community interested