Department of Earth and Environmental Sciences, CSCI

ASSESSMENT PLAN: M.S. in Environmental Geosciences

Date prepared: Fall 2023

PROGRAM MISSION

CSUEB Missions, Commitments, and ILOs

CSUEB Geology M.S. Program Description

To serve graduate students who are employed during the day, many graduate courses in the Department of Earth and Environmental Sciences are offered in the evenings. In addition to regular catalog courses, recent graduate seminars and advanced topics courses have dealt with such subjects as rock mechanics, applied geophysics, isotope hydrology, planetary geology, tectonics and sedimentation. Additional research facilities and part-time employment may be secured through Co-op programs, the Lawrence Berkeley and Lawrence Livermore National Laboratories, and the U.S. Geological Survey in Menlo Park. Candidates for this degree must be prepared to engage in significant individual research. Student research in this department has included such topics as hydrogeology, water quality, near surface geophysics, areal geology and slope stability, geochemistry, structural geology, engineering geology, and neotectonics .

PROGRAM STUDENT LEARNING OUTCOMES (PLOs)

Students graduating with a M.S. in Geology will be able to:

PLO 1 ILO 5,6	Develop advanced knowledge in geologic Materials, Processes & Time (Knowledge)
PLO 2 ILO 4,5,6	Attain proficiency in geological and environmental field, computing and laboratory applications (Synthesis)
PLO 3 ILO 1,2,6	Perform original research by integration and analysis of geologic and environmental information and data sets (Research)
PLO 4 ILO 2,3,4,6	

Year 1: 2023-2024

1. Which PLO(s) to assess	PLO4 (Communication)
2. Is it aligned with an ILO?	Yes
3. If yes, list ILO.	ILO: Written Communication
4. Course name and number	GEOL 602 - Graduate Seminar
5. SLO's from course	Students will gain competency in critical reading of the peer-reviewed literature in a sub-discipline of the geosciences. Students will gain mastery in communicating scientific concepts in written and oral form.
6. Assessment Activity	Paper and Presentation Final Project
7. Assessment	

1. Which PLO(s) to assess	PLO1 (Knowledge)
2. Is it aligned with an ILO?	Yes
3. If yes, list ILO.	ILO: Diversity
4. Course name and number	GEOL601 - Professional Ethics in Environmental Geosciences
5. SLO's from course	GEOL 601: Demonstrate knowledge of the rules, laws, and ethics in the practice of geology and environmental science professions.
6. Assessment Activity	Paper and Presentation Final Project
7. Assessment Instrument	Department Rubric
8. How data will be reported	Quantitative, report to include proportion of students in each level 1-5 (5 mastered)
9. Responsible person(s)	EES Faculty
10. Ways of closing the loop	Reports first to the Chair and then to the entire faculty for comment & discussion. An end-of-year meeting will be devoted to evaluating assessment results and "closing the loop." Identified "areas for improvement" will be incorporated into modified/updated core courses for future majors. Issues with the

1. Which PLO(s) to assess	PLO5 (Global)
2. Is it aligned with an ILO?	Yes
3. If yes, list ILO.	ILO: Sustainability
4. Course name and number	GEOL 601 - Professional Ethics
5. SLO's from course	Gain an appreciation for the ethical community of scientists who recognize the importance of sustainability and the role of science in society.
6. Assessment Activity	Final Group Project & University Thesis
7. Assessment Instrument	Department Rubric & Thesis and Defense
8. How data will be reported	Quantitative, report to include proportion of students in each level 1-5 (5 mastered) & Bound University Thesis
9. Responsible person(s)	EES Faculty
10. Ways of closing the loop	Reports first to the Chair and then to the entire faculty for comment & discussion. An end-of-year meeting will be devoted to evaluating assessment results and "closing the loop." Identified "areas for improvement" will be incorporated into modified/updated core courses for future majors. Issues with the

Year 4: 2026-2027	
1. Which PLO(s) to assess	PLO3 (Research)
2. Is it aligned with an ILO?	Yes
3. If yes, list ILO.	ILO: Critical Thinking
4. Course name and number	GEOL 693 - Project GEOL 691 - University Thesis
5. SLO's from course	0 0 9.96 Tm ( )Tj ET EMC Q BT /P <<0BT 2 28 q o.12.720 g geolo0 Tw [ogi