

Department of Earth and Environmental Sciences, CSCI



ASSESSMENT PLAN: B.S. in Geology

Date prepared: Fall 2023

PROGRAM MISSION

CSUEB Missions, Commitments, and ILOs

CSUEB Geology B.S. Program Description

Geology is the science that explores global change, the evolution of life, earthquakes, volcanoes, landslides, minerals, rocks, mountains, petroleum, water, and their complex relationship to our planet. Classroom, laboratory and field work combine to provide Cal State East Bay students with a strong understanding of natural processes, deep geologic time, sustainability, and the human impact on the environment. Our location adjacent to a major, active plate boundary offers unique opportunities for collaborative research and field studies.

Field experiences are fundamental to all degree programs and take advantage of the diverse geology, active tectonics, and environmental issues in the bay area and in California. The B.S. program in Geology is the primary professional degree program in Geology offered by the department, and serves as preparation for employment in the field, usually in a technical capacity. ~~The B.A. program offers the student a greater degree of flexibility, addresses California next generation science standards, and is a path to a teaching credential. Students planning an academic or industry career or wishing to do original geologic research should plan on graduate study.~~

PROGRAM STUDENT LEARNING OUTCOMES (PLOs)

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

PLO 1 <i>ILO 1, 4,6</i>	Develop foundational knowledge in geologic Materials, Processes & Time (Knowledge), Processes & Time (Knowledge)
PLO 2	Develop fundamental geological field and laboratory skills and computer competence

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<i>ILO 1, 3,4,5,6</i>	(Skills)
<i>PLO 3 ILO 1,4,5,6</i>	Integrate and analyze geologic information through synthesis & critical thinking (Analysis)
<i>PLO 4 ILO 1,2,3,4,5,6</i>	Develop oral and written communication, and collaborative skills (Communication)
<i>PLO 5 ILO 1,2,3,4,5</i>	Understand the impact of the Earth Sciences on local-to-global sustainability and their role as an ethical scientist (Global)

Year 1: 2023-2024

1. Which PLO(s) to assess	PLO 2 (Skills), PLO 3 (Analysis)
2. Assessment indicators	GEOL381 (Structural Geology) Final Project, GEOL 397 (Advanced Field)
3. Sample (courses/# of students)	GEOL361/15; GEOL381/15
4. Time (which semester(s))	Spring 2024
5. Responsible person(s)	EES faculty
6. Ways of reporting (how, to who)	The report is delivered to the Chair, and distributed to the faculty. It is also included within the department report.
7. Ways of closing the loop	Areas of improvement are discussed at faculty meetings, improvements and revisions to future courses are expected.

Year 2: 2024-2025

1. Which PLO(s) to assess	PLO 1 (Knowledge)
2. Assessment indicators	Course assignments and projects, with department rubric.
3. Sample (courses/# of students)	GEOL360/15 (Mineralogy) Mineral Identification Practicum, GEOL371/15 (Sed Strat) Stratigraphic Section Project
4. Time (which semester(s))	Fall 2024; Spring 2025.
5. Responsible person(s)	EES faculty
6. Ways of reporting (how, to who)	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.”
7. Ways of closing the loop	Identified “areas for improvement” will be incorporated into modified/updated courses for future graduate majors

Year 3: 2025-2026

1. Which PLO(s) to assess	PLO 4 (Synthesis), PLO 5 (Global)
2. Assessment indicators	Course assignments and projects, precis & oral presentations. Department rubrics will be used.
3. Sample (courses/# of students)	GEOL499/15 (Capstone Seminar)
4. Time (which semester(s))	Spring 2026.
5. Responsible person(s)	EES faculty
6. Ways of reporting (how, to who)	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.”
7. Ways of closing the loop	Identified “areas for improvement” will be incorporated into modified/updated core courses for future majors. Issues with the Thesis process will be discussed and acted upon.

Year 4: 2026-2027

1. Which PLO(s) to assess	PLO 2 (<i>Skills</i>), PLO 3 (<i>Analysis</i>).
2. Assessment indicators	Course assignments and projects. Department rubrics will be used.
3. Sample (courses/# of students)	GEOL381/15 (Structural); GEOL397/20 (Field Experience).
4. Time (which semester(s))	Fall 2026, Spring 2027; intersession or summer
5. Responsible person(s)	EES faculty
6. Ways of reporting (how, to who)	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."
7. Ways of closing the loop	We will assess progress made since 2018-2019, adjust strategies. Revise program requirements as needed.

Year 5: 2027-2028

1. Which PLO(s) to assess	PLO 1 (<i>Knowledge</i>)
2. Assessment indicators	Course assignments and projects, precis & oral presentations. Department rubrics will be used.
3. Sample (courses/# of students)	GEOL361 (Mineralogy); GEOL371/15 (Sed Strat) Stratigraphic Section Project
4. Time (which semester(s))	Fall 2027
5. Responsible person(s)	EES faculty
6. Ways of reporting (how, to who)	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."
7. Ways of closing the loop	Assess progress made since 2019-2020, adjust strategies.