CAL POLY POMONA
ASSESSMENT & PROGRAM REVIEW

Annual Assessment Report 2023-2024

BS Chemical Engineering

Department of Chemical & Materials Engineering

College of Engineering

CONTACT

Name of Program Assessment Lead Laila Jallo
Name of Person Completing Report Laila Jallo

DISCIPLINARY ACCREDITATION No

DEVELOPMENT AND DOCUMENTATION OF STUDENT LEARNING OUTCOMES

How were the program's SLOs developed? (select all that apply)

- Our disciplinary accrediting agency has required learning outcomes, so we use them.

Other than the CPP Catalog and the Office of Assessment and Program Review website, where else are your SLOs published? Select all that apply.

- Department Website - provide URL: https://www.cpp.edu/engineering/cme/about-us/outcomes.shtml

ASSESSMENT ACTIVITIES IN 2023-2024

This section provides the opportunity for programs to share and discuss assessment activities conducted in **AY 2023-2024.** This includes data collection, rubric development, data analysis, discussion of findings, development or implementation of closing the loop improvement strategies, update of your assessment plan and/or curriculum matrix, etc.

How many total SLOs does your program assess according to your assessment plan?

- 7

How many SLOs did your program assess this past year in 2023-2024?

- My program assessed SLOs in AY 2023-2024 (e.g., artifact collection, scoring, closing the loop, etc.).
- My program engaged in other assessment activity not specific to any SLO (e.g., modified curriculum matrix or assessment plan, received all data for program review, etc.)

Please share the assessment activities the program engaged in that were not specific to any SLOs.

<enter narrative>

Please list the SLOs examined

- SLO #1: an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- SLO #2: an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- SLO #3: an ability to communicate effectively with a range of audiences.
- SLO #4: an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- SLO #5: an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- SLO #6: an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- SLO #7: an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Student Learning Outcome (SLO): an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
• Collected/Analyzed/Developed/Modified/Discussed assessment tools	• Assignment/exam/paper completed as part of regular coursework (Direct) • Capstone product (e.g., project, senior thesis, etc.) (Direct) • Exit exam created by the program (Direct) • Oral performance (e.g., presentation, defense, conference presentation, etc.) (Direct)	• Used rubric or scoring guide • Scored exams/tests/quizzes

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
More 80	Percentage	Yes for some and no for others	The ones where the students were not meting the benchmark

Student Learning Outcome (SLO): an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
• Collected/Analyzed/Developed/Modified/Discussed assessment tools	• Capstone product (e.g., project, senior thesis, etc.) (Direct)	• Used rubric or scoring guide

Findings			
N of Artifacts	**Criterion Used**	**Goal Met**	**Eye-opening Result**
Two projects	Likert Scale of 1-5, with 2.5 or greater being the expected	Yes	None

Student Learning Outcome (SLO): **an ability to communicate effectively with a range of audiences.**

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
• Collected/Analyzed/Developed/Modified/Discussed assessment tools	• Oral performance (e.g., presentation, defense, conference presentation, etc.) (Direct)	• Used rubric or scoring guide

Findings			
N of Artifacts	**Criterion Used**	**Goal Met**	**Eye-opening Result**
About 25 group presentations	expected score 2.5 or greater on 5 point scale	Yes	None

Student Learning Outcome (SLO): an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
• Collected/Analyzed/Developed/Modified/Discussed assessment tools	• Oral performance (e.g., presentation, defense, conference presentation, etc.) (Direct)	• Used rubric or scoring guide

Findings			
N of Artifacts	**Criterion Used**	**Goal Met**	**Eye-opening Result**
4 team presentations	expected score of 3 out 4 point scale	Yes	None

Student Learning Outcome (SLO): an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
• Collected/Analyzed/Developed/Modified/Discussed assessment tools	• Student survey/interview/focus group with self-reports of SLO achievement (Indirect)	• Used rubric or scoring guide

Findings			
N of Artifacts	**Criterion Used**	**Goal Met**	**Eye-opening Result**
Over 50	2.5 or greater score out of 5 point scale	Yes	None

Student Learning Outcome (SLO): an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
• Collected/Analyzed/Developed/Modified/Discussed assessment tools	• Oral performance (e.g., presentation, defense, conference presentation, etc.) (Direct) • Student survey/interview/focus group with self-reports of SLO achievement (Indirect)	• Used rubric or scoring guide

Findings			
N of Artifacts	**Criterion Used**	**Goal Met**	**Eye-opening Result**
About 25	3 or greater score out of 4 point scale	No	Students seem to regress from previous results

Student Learning Outcome (SLO): **an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.**

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
• Collected/Analyzed/Developed/Modified/Discussed assessment tools	• Oral performance (e.g., presentation, defense, conference presentation, etc.) (Direct)	• Used rubric or scoring guide

Findings			
N of Artifacts	**Criterion Used**	**Goal Met**	**Eye-opening Result**
4 team presentations	3 or greater score out of 4 point scale	Yes	None

IMPROVING THROUGH ASSESSMENT

Ideas to improve student learning can come from different constituents. With whom did the program discuss assessment planning and/or share results during AY 2023-2024? Select all that apply.

- Program/department faculty as whole
- College assessment committee

The past academic year posed both challenges and opportunities. Please share any assessment discoveries (e.g., insights about assessment procedures, great achievements, etc.) regarding program assessment in 2023-2024 so that others may learn from your experiences.

None

Please share how the program triangulates various data sources to determine student success. Consider assessment findings, CPP's GI2025 markers, CSU Dashboard, CPP's Student Success Dashboard on Tableau, CPP's Graduating Senior Survey on Tableau, course evaluations, etc.

None

Does the program offer a certificate or credential (e.g., teaching credential)?

- No

The most current assessment plan and curriculum matrix we have on file for your program may be found here. To ensure we have the most updated assessment plan and curriculum matrix for your program, and for posting on our website, please upload the following documents:

Assessment Plan - No

Curriculum Matrix - No