Annual Assessment Report 2023-2024

MS Chemistry

Department of Chemistry & Biochemistry

College of Science

CONTACT
Name of Program Assessment Lead Alex John and S. Chantal E. Stieber
Name of Person Completing Report Alex John

DISCIPLINARY ACCREDITATION No

DEVELOPMENT AND DOCUMENTATION OF STUDENT LEARNING OUTCOMES
How were the program's SLOs developed? (select all that apply)
- o   We developed them as a program/department using our own knowledge and expertise of the field.

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: _____
- Course Syllabi

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?
- 5

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.).

Please list the SLOs examined

- SLO #1: Question and probe scientific issues through critical analysis of the chemical literature
- SLO #2: Demonstrate proficiency in scientific writing
- SLO #3: Demonstrate proficiency in oral communication of science
- SLO #4: Develop and pursue hypothesis through appropriate experimental design (thesis proposal)
- SLO #5: Demonstrate successful application of the scientific method (thesis completion)

Student Learning Outcome (SLO): Question and probe scientific issues through critical analysis of the chemical literature

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) • Thesis or dissertation (graduate-level only) (Direct)	• Used rubric or scoring guide

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
7	Average score above 2 out of 3	Yes	Students demonstrated mastery in their field of study for the Master's thesis. Although most of these students started in the program or were enrolled immediately after the pandemic, they were motivated to complete all requirements towards their degree. Students passed in their first attempt.

Student Learning Outcome (SLO): Demonstrate proficiency in scientific writing

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
• Collected/Analyzed/Developed/Modified/Discussed assessment tools	• Thesis or dissertation (graduate-level only) (Direct)	• Used rubric or scoring guide • Used professional judgement (no rubric or scoring guide)

Findings			
N of Artifacts	**Criterion Used**	**Goal Met**	**Eye-opening Result**
7	Average score above 2 out of 3	Yes	Students demonstrated mastery in their field of study for the Master's thesis. Although most of these students started in the program or were enrolled immediately after the pandemic, they were motivated to complete all requirements towards their degree. Students passed in their first attempt. Generally, the students demonstrated significant competency in scientific writing.

Student Learning Outcome (SLO): **Demonstrate proficiency in oral communication of science**

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 • Used professional judgement (no rubric or scoring guide)

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
7	Average score above 2 out of 3	Yes	Generally, the students demonstrated remarkable competency during their thesis defense.

Student Learning Outcome (SLO): Develop and pursue hypothesis through appropriate experimental design (thesis proposal)

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) • Thesis or dissertation (graduate-level only) (Direct)	• Used rubric or scoring guide

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
7	Average score above 2 out of 3	Yes	Students demonstrated mastery in their field of study for the Master's thesis. Although most of these students started in the program or were enrolled immediately after the pandemic, they were motivated to complete all requirements towards their degree. Students passed in their first attempt.

Student Learning Outcome (SLO): Demonstrate successful application of the scientific method (thesis completion)

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) • Thesis or dissertation (graduate-level only) (Direct)	• Used rubric or scoring guide

Findings				
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
7	Average score above 2 out of 3	Yes	Students demonstrated mastery in their field of study for the Master's thesis. Although most of these students started in the program or were enrolled immediately after the pandemic, they were motivated to complete all requirements towards their degree. Students passed in their first attempt.

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.

- A committee of program/department faculty
- College Assessment Liaison

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.

Majority of our graduating students finished their undergraduate degree in an online mode due to the pandemic. While this may have resulted in a slow start in research for some of them, all of them made significant progress in their research projects, and contributed to the growth of specific research programs. The department continued using a hybrid format for oral defense talks to improve participation from a broad audience.

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.

Since the no. of artefacts collected is too small we did not engage in disaggregating assessment data. Our student population is representative of the Universities general student population but is a smaller program compared to other graduate programs on campus.

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 - Yes

Curriculum Matrix - Yes