



Annual Assessment Report 2022-2023

MS Chemistry 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)

- 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: <https://www.cpp.edu/sci/chemistrybiochemistry/graduatestudents/studentlearning-outcomes.shtml>
- Course Syllabi

ASSESSMENT ACTIVITIES IN 2022-2023

This section provides the opportunity for programs to share and discuss assessment activities conducted in **AY 2022-2023**. 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 2022-2023?

- My program assessed SLOs in AY 2022-2023 (e.g., artifact collection, scoring, closing the loop, etc.). May also have engaged in assessment planning activities unrelated to specific SLOs (e.g., modified curriculum matrix, assessment plan, 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
<ul style="list-style-type: none"> Collected direct evidence (e.g., student work, exam items, etc.) Scored direct evidence of student learning 	<ul style="list-style-type: none"> Oral performance (e.g., presentation, defense, conference presentation, etc.) Thesis or dissertation (graduate-level only) 	<ul style="list-style-type: none"> Used rubric or scoring guide
<ul style="list-style-type: none"> Discussed assessment results to make program decisions to improve SLO achievement (e.g., design new course, modify assignments, etc.) 		

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
8	Average score above 2 or 3	Yes	Students demonstrated mastery in their field of study for the Master's thesis. Although many of these students started in the program or were enrolled during the pandemic, it had little affect on their motivation to complete all requirements towards their degree. Students usually pass in the first attempt.

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

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
<ul style="list-style-type: none"> Collected direct evidence (e.g., student work, exam items, etc.) Scored direct evidence of student learning 	<ul style="list-style-type: none"> Thesis or dissertation (graduate-level only) 	<ul style="list-style-type: none"> Used rubric or scoring guide
<ul style="list-style-type: none"> Discussed assessment results to make program decisions to improve SLO achievement (e.g., design new course, modify assignments, etc.) 		

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
8	Average score above 2 or 3	Yes	Students demonstrated mastery in their field of study for the Master's thesis. Although many of these students started in the program or were enrolled during the pandemic, it had little affect on their motivation to complete all requirements towards their degree. Students usually pass in the first attempt.

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

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
<ul style="list-style-type: none"> Collected direct evidence (e.g., student work, exam items, etc.) 		<ul style="list-style-type: none"> Used rubric or scoring guide

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
8	Average score above 2 or 3	Yes	Students demonstrated mastery in their field of study for the Master's thesis. Although many of these students started in the program or were enrolled during the pandemic, it had little affect on their motivation to complete all requirements towards their degree. Students usually pass in the first attempt.

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

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
<ul style="list-style-type: none"> Collected direct evidence (e.g., student work, exam items, etc.) Scored direct evidence of student learning 	<ul style="list-style-type: none"> Oral performance (e.g., presentation, defense, conference presentation, etc.) Thesis or dissertation (graduate-level only) 	<ul style="list-style-type: none"> Used rubric or scoring guide

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
8	Average score above 2 or 3	Yes	Students demonstrated mastery in their field of study for the Master's thesis. Although many of these students started in the program or were enrolled during the pandemic, it had little affect on their motivation to complete all requirements towards their degree. Students usually pass in the first attempt.

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

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
<ul style="list-style-type: none"> Collected direct evidence (e.g., student work, exam items, etc.) Scored direct evidence of student learning 	<ul style="list-style-type: none"> Oral performance (e.g., presentation, defense, conference presentation, etc.) Thesis or dissertation (graduate-level only) 	<ul style="list-style-type: none"> Used rubric or scoring guide

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
8	Average score above 2 or 3	Yes	Students demonstrated mastery in their field of study for the Master's thesis. Although many of these students started in the program or were enrolled during the pandemic, it had little affect on their motivation to complete all requirements towards their degree. Students usually pass in the first attempt.

IMPROVING THROUGH ASSESSMENT

Overall, what best describes how the program used the results in 2022-2023? Select all that apply.

- Assessment procedure changes (SLOs, curriculum matrix, rubrics, evidence collected, sampling, communications with faculty, etc.)
- Program curricular changes (e.g., course sequencing, changes to required curriculum, added or deleted courses)
- Results indicated no action needed because students met expectations.

Ideas to improve student learning can come from different constituents. With whom did the program discuss assessment planning and/or share results during AY 2021-2022? 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 2022-2023 so that others may learn from your experiences.

The introduction of online courses and oral defense talks during the pandemic was very well received by students and faculty alike. It allowed for enhanced flexibility and broader participation from the department community. The department continued using online oral defense talks for a few students upon request, and a few others were conducted in a hybrid mode 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](#), 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