Annual Assessment Report 2021-2022

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)
   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: https://www.cppedu/sci/chemistrybiochemistry/graduatestudents/studentlearning-outcomes.shtml
- Course Syllabi

ASSESSMENT ACTIVITIES IN 2021-2022

This section provides the opportunity for programs to share and discuss assessment activities conducted in **AY 2021-2022.** 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 2021-2022?

- My program assessed SLOs in AY 2021-2022

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
- SLO #5: Demonstrate successful application of the scientific method

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 direct evidence (e.g., student work, exam items, etc.) • Scored direct evidence of student learning	• Oral performance (e.g., presentation, defense, conference presentation, etc) • Thesis or dissertation (graduate-level only)	• Used rubric or scoring guide
• 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
7	Average score above 2 out of 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
• Collected direct evidence (e.g., student work, exam items, etc.) • Scored direct evidence of student learning	• Thesis or dissertation (graduate-level only)	• Used rubric or scoring guide
• 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
7	Same as SLO 1	Yes	Same as SLO 1

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

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
• Scored direct evidence of student learning		• Used rubric or scoring guide

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
7	Same as SLO 1	Yes	Same as SLO 1

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

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
• Collected direct evidence (e.g., student work, exam items, etc.) • Scored direct evidence of student learning	• Oral performance (e.g., presentation, defense, conference presentation, etc) • Thesis or dissertation (graduate-level only)	• Used rubric or scoring guide

Findings			
N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
7	Same as SLO 1	Yes	Same as SLO 1

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

Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence
• Collected direct evidence (e.g., student work, exam items, etc.) • Scored direct evidence of student learning	• Oral performance (e.g., presentation, defense, conference presentation, etc) • Thesis or dissertation (graduate-level only)	• Used rubric or scoring guide

Findings			
N of Artifacts	**Criterion Used**	**Goal Met**	**Eye-opening Result**
7	Same as SLO 1	Yes	Same as SLO 1

IMPROVING THROUGH ASSESSMENT

Overall, what best describes how the program used the results in 2021-2022? 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 2021-2022 so that others may learn from your experiences.

The introduction of online courses and oral defense talks was very well received by students and faculty alike. It allowed for enhanced flexibility and broader participation from the department community.

CPP's GI2025 goals What assessment-related efforts do you already implement, or would implement to support the campus' diversity, equity, and inclusion (DEI) efforts? (e.g., planned or current disaggregation of assessment data by race/ethnicity, etc.) Undergraduate programs may wish to refer to CPP's GI2025 goals. (Not Mandatory)

Since the no. of artefacts collected is too small we did not engage in disaggregating assessment data based on race/ethnicity etc.

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
No