Annual Assessment Report 2020-2021

MS Biological Sciences

Biological Sciences

College of Science

CONTACT

Name of Program Assessment Lead Erin Questad

Name of Person Completing Report Erin Questad

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/biologicalsciences/about/graduateslos-andassessment.shtml

ASSESSMENT ACTIVITIES IN 2020-2021

This section provides the opportunity for programs to share and discuss assessment activities conducted in **AY 2020-2021.** 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 2020-2021?

- My program assessed SLOs in AY 2020-2021

Please list the SLOs examined

- SLO #1: Students will demonstrate knowledge in areas of biology relevant to selected research interests.
- SLO #2: Students will identify research questions on a contemporary issue in biology, and critically analyze the relevant literature. Students will develop specific hypotheses pertaining to a research problem
- SLO #3: Students will develop specific hypotheses pertaining to a research problem
- SLO #4: Students will devise and conduct experiments to test hypotheses
- SLO #5: Students will demonstrate mastery of the methodology and techniques specific to the field of study
- SLO #6: Students will statistically analyze and interpret data
- SLO #7: Students will be able to discuss, both orally and in writing, the relevance of their research data to the original hypotheses and to the general field of interest

Student Learning Outcome (SLO)	Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence	Findings			
				N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
SLO 1: Students will demonstrate knowledge in areas of biology relevant to selected research interests.	• Created/modified/discussed assessment procedures (e.g., SLOs, curriculum matrix, mechanism to collect student work, rubric, survey, etc.)						
	• Collected direct evidence (e.g., student work, exam items, etc.) • Scored direct evidence of student learning	• Thesis or dissertation (graduate level only)	• Used professional judgement (no rubric or scoring guide used)	180	Long term average and trend	Yes	
	• Collected indirect evidence of student learning (e.g., surveys, interviews, focus groups, etc.)	• Student survey/interview w/focus group with self-reports of SLO achievement • Other: Faculty Survey of SLO achievement					

Student Learning Outcome (SLO)	Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence	Findings			
				N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
SLO 2: Students will identify research questions on a contemporary issue in biology, and critically analyze the relevant literature. Students will develop specific hypotheses pertaining to a research problem	• Created/modified/discussed assessment procedures (e.g., SLOs, curriculum matrix, mechanism to collect student work, rubric, survey, etc.)						
	• Collected direct evidence (e.g., student work, exam items, etc.) • Scored direct evidence of student learning	• Thesis or dissertation (graduate level only)	• Used professional judgement (no rubric or scoring guide used)	180	Long term average and trend	Yes	Faculty scores during the Thesis proposal stage were lower than average; student scores were above average
	• Collected indirect evidence of student learning (e.g., surveys, interviews, focus groups, etc.)	• Student survey/interview/focus group with self-reports of SLO achievement • Other: Faculty Survey of SLO achievement					

Student Learning Outcome (SLO)	Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence	Findings			
				N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
SLO 3: Students will develop specific hypotheses pertaining to a research problem	• Created/modified/discussed assessment procedures (e.g., SLOs, curriculum matrix, mechanism to collect student work, rubric, survey, etc.)						
	• Collected direct evidence (e.g., student work, exam items, etc.) • Scored direct evidence of student learning	• Thesis or dissertation (graduate level only)	• Used professional judgement (no rubric or scoring guide used)	180	Long term average and trend	Yes	Faculty scores were on the low end of the historical range. Student scores were above average
	• Collected indirect evidence of student learning (e.g., surveys, interviews, focus groups, etc.)	• Student survey/interview/focus group with self-reports of SLO achievement • Other: Faculty Survey of SLO achievement					

Student Learning Outcome (SLO)	Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence	Findings			
				N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
SLO 4: Students will devise and conduct experiments to test hypothesis	• Created/modified/discussed assessment procedures (e.g., SLOs, curriculum matrix, mechanism to collect student work, rubric, survey, etc.)						
	• Collected direct evidence (e.g., student work, exam items, etc.) • Scored direct evidence of student learning	Thesis or dissertation (graduate level only)	Used professional judgement (no rubric or scoring guide used)	180	Long term average and trend	Yes	Faculty scores during the Proposal were below average, student scores during the proposal were on the low end of the average range; Scores during the thesis Defense were above average for students and faculty
	• Collected indirect evidence of student learning (e.g., surveys, interviews, focus groups, etc.)	• Student survey/interview/focus group with self-reports of SLO achievement • Other: Faculty Survey of SLO achievement					

Student Learning Outcome (SLO)	Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence	Findings			
				N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
SLO 5: Students will demonstrate mastery of the methodology and techniques specific to the field of study	• Created/modified/discussed assessment procedures (e.g., SLOs, curriculum matrix, mechanism to collect student work, rubric, survey, etc.)						
	• Collected direct evidence (e.g., student work, exam items, etc.) • Scored direct evidence of student learning	• Thesis or dissertation (graduate level only)	• Used professional judgement (no rubric or scoring guide used)	180	Long term average and trend	Yes	During the proposal, Student scores were similar to last year (low end of average), faculty scores went down from above average to the low end of average; During the Defense student and faculty scores were well above average. These patterns indicate mastery of the skills in advanced students but less so in earlier students at the proposal stage. COVID-19 related limited access to research likely played a role.
	• Collected indirect evidence of student learning (e.g., surveys, interviews, focus groups, etc.)	• Student survey/interview/ focus group with self-reports of SLO achievement • Other: Faculty Survey of SLO achievement					

Student Learning Outcome (SLO)	Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence	Findings			
				N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
SLO 6: Students will statistically analyze and interpret data	• Created/modified/discussed assessment procedures (e.g., SLOs, curriculum matrix, mechanism to collect student work, rubric, survey, etc.)						
	• Collected direct evidence (e.g., student work, exam items, etc.) • Scored direct evidence of student learning	Thesis or dissertation (graduate level only)	Used professional judgement (no rubric or scoring guide used)	180	Long term average and trend	Yes	During the proposal, student scores were above average, faculty scores went down to below average; During the Defense student and faculty scores were above average. These patterns indicate mastery of the skills in advanced students but less so in earlier students at the proposal stage. COVID-19 related limited access to research likely played a role.
	Collected indirect evidence of student learning (e.g., surveys, interviews, focus groups, etc.)	• Student survey/interview/focus group with self-reports of SLO achievement • Other: Faculty Survey of SLO achievement					

Student Learning Outcome (SLO)	Assessment Activities	Evidence Used	Evaluation and Interpretation of Evidence	Findings			
				N of Artifacts	Criterion Used	Goal Met	Eye-opening Result
SLO 7: Students will be able to discuss, both orally and in writing, the relevance of their research data to the original hypotheses and to the general field of interest	• Created/modified/discussed assessment procedures (e.g., SLOs, curriculum matrix, mechanism to collect student work, rubric, survey, etc.)						
	• Collected direct evidence (e.g., student work, exam items, etc.) • Scored direct evidence of student learning	• Thesis or dissertation (graduate level only)	• Used professional judgement (no rubric or scoring guide used)	77	Long term average and trend	Yes	Student and faculty scores were above average
	• Collected indirect evidence of student learning (e.g., surveys, interviews, focus groups, etc.)	• Student survey/interview/focus group with self-reports of SLO achievement • Other: Faculty Survey of SLO achievement					

IMPROVING THROUGH ASSESSMENT

Overall, what best describes how the program used the results in 2020-2021? Select all that apply.

- Students' out-of-course changes (e.g., advising, co-curricular experiences, mentoring, program website, workshops, brown bag lunches, etc.)

Ideas to improve student learning can come from different constituents. With whom did the program discuss assessment planning and/or share results during AY 2020-2021? Select all that apply.

- Program/department faculty as a whole
- Program/department assessment committee
- 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 2020-2021 so that others may learn from your experiences.

Our results show that students show mastery of SLO's by completion of the program, but our early-stage assessment showed lower mastery compared to average, which may be due to limited access to in-person research activities for newer students (due to campus closures). We implemented new advising tools to close the loop, such as timelines, expectations for completion of milestones, and updated our website. A graduate student club was started to offer more support, social engagement, and professional growth opportunities for students.

CPP's GI2025 goals focus on eliminating equity gaps. What plans 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.)

Each year we review demographic data on our applicants as well as students retained in the program to ensure we are not losing students from a specific background or group.

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