

Program-Level Assessment: Annual Report

Program: PhD

Department: Biology

Degree or Certificate Level: Graduate

College/School: Arts & Sciences

Date (Month/Year): May 2021

Primary Assessment Contact: Laurie Shornick, Chair

In what year was the data upon which this report is based collected? 2020

In what year was the program's assessment plan most recently reviewed/updated? 2018

1. Student Learning Outcomes

Which of the program's student learning outcomes were assessed in this annual assessment cycle?

Student Learning Outcomes for all graduate degree programs (MA, MS and PhD), and the program-level assessment plan were last revised in AY 2017-2018. SLOs for the PhD in Biology degree program are:

Ph.D. degree students will be able to:

- 1) *Critically analyze primary literature articles by evaluating the scientific contributions of peer-reviewed publications in biology*
- 2) *Effectively communicate scientific ideas*
- 3) *Demonstrate professional integrity*
- 4) *Use appropriate instrumentation and analytical methods to collect data*
- 5) *Draw statistically valid conclusions from quantitative data*
- 6) *Design novel research that advances knowledge of their field*
- 7) *Conduct self-directed research*

The Biology Department has not assessed graduate SLOs in this most recent annual assessment cycle. Detailed justification for this follows in section 6 of this report.

2. Assessment Methods: Artifacts of Student Learning

Which artifacts of student learning were used to determine if students achieved the outcome(s)? Please identify the course(s) in which these artifacts were collected. Clarify if any such courses were offered a) online, b) at the Madrid campus, or c) at any other off-campus location.

N/A

3. Assessment Methods: Evaluation Process

What process was used to evaluate the artifacts of student learning, and by whom? Please identify the tools(s) (e.g., a rubric) used in the process and include them in/with this report.

N/A

4. **Data/Results**

What were the results of the assessment of the learning outcome(s)? Please be specific. Does achievement differ by teaching modality (e.g., online vs. face-to-face) or on-ground location (e.g., STL campus, Madrid campus, other off-campus site)?

N/A

5. **Findings: Interpretations & Conclusions**

What have you learned from these results? What does the data tell you?

This past year, we have not collected data for the purpose of program-level assessment.

6. **Closing the Loop: Dissemination and Use of Current Assessment Findings**

A. When and how did your program faculty share and discuss these results and findings from this cycle of assessment?

The Biology Department faculty have not had a structured conversation about graduate program assessment, in the last assessment cycle, due to a series of circumstances that have necessarily steered our efforts in other directions.

Our department has experienced significant disruption of research and teaching activities since summer 2017, when our building was damaged in a fire. Reconstruction of our facilities has been long and complex, and required that faculty offices and laboratories relocate to various temporary spaces across campus, while our building was completely renovated. Faculty and graduate students were only gradually able to move into their new spaces in the renovated Macelwane Hall, with the last cohort of 10 research-active faculty returning to the building only in summer 2020.

Departmental leadership changed during AY 2019-2020, followed by reassignments and changes in leadership of the Biology Graduate Program, and of the Program Assessment Committee.

Just as some degree of normalcy was beginning to be restored, the COVID-19 pandemic struck, requiring the department - faculty and administrators - to once again reorient our efforts in unanticipated directions.

As we all agree our graduate program is a vital component of our educational, research, and training mission, we have continued to strive for excellence in support of our students. We look forward to recommitting to programmatic assessment of our educational programs with fresh ideas and new enthusiasm in 2021.

B. How specifically have you decided to use these findings to improve teaching and learning in your program? For example, perhaps you've initiated one or more of the following:

Changes to the Curriculum or Pedagogies

- Course content
- Teaching techniques
- Improvements in technology
- Prerequisites

- Course sequence
- New courses
- Deletion of courses
- Changes in frequency or scheduling of course offerings

Changes to the Assessment Plan

- Student learning outcomes
- Artifacts of student learning
- Evaluation process

- Evaluation tools (e.g., rubrics)
- Data collection methods
- Frequency of data collection

Please describe the actions you are taking as a result of these findings.

Conversations among department stakeholders, aimed at re-evaluating and updating the graduate program assessment plan, will continue throughout AY 2021-22.

Some initial discussion items include:

1. reviewing the current assessment committee membership and expanding it to include *ex-officio* the Graduate Program Director, and possibly more research-active faculty that directly engage with graduate student teaching and mentoring;
2. critically reviewing the current SLOs for our graduate programs (approved in 2017) with the assessment committee and with the entire department, to evaluate whether any changes may be needed;
3. identify existing milestone experiences built into our graduate program that can generate documented evidence of student outcome achievement (for example: the written qualifying exam for PhD students, the mandatory Scientific Communication Practicum or Colloquium, written research proposals, etc.);
4. develop appropriate procedures for systematic collection of specific artifacts generated by students in the educational experiences in (3), and
5. develop rubrics linking the artifacts to specific programmatic learning outcomes.

If no changes are being made, please explain why.

7. Closing the Loop: Review of Previous Assessment Findings and Changes

A. What is at least one change your program has implemented in recent years as a result of assessment data?

N/A

B. How has this change/have these changes been assessed?

N/A

C. What were the findings of the assessment?

N/A

D. How do you plan to (continue to) use this information moving forward?

N/A

IMPORTANT: Please submit any assessment tools and/or revised/updated assessment plans along with this report.