2020-2021 Assessment Cycle

Assessment Findings

Program Assessment Accomplishments

None to report this cycle.

Finding per Measure

BA - Biology Outcome Set

PSLO 3

Outcome: Scientific techniques

Employ and demonstrate a variety of scientific techniques in the core biology disciplines of zoology, microbiology, genetics and undergraduate research.

Measure: Course Grades

Course level Direct - Exam

Details/Description:

Acceptable Target: 75% of students earn a B or better for BI 395; 75% earn a B or better for all other courses.

Findings for Course Grades

Summary of Findings:

Course Grade Distribution:
1. In BI 395 (Biology Research), out of 16 students enrolled, 94% earned a grade of A and 6% earned a B.
2. In BI 103 (General Organismal Biology), out of 34 students enrolled, 73% of students earned a grade of B or better.
In BI 301 (General Microbiology), out of 25 students enrolled, 36% of students earned a

	grade of B or better. In BI 333 (General Genetics), out of 36 students enrolled, 58% earned a grade of B or better. Please see supporting data attached with this report.
Results :	Acceptable Target Achievement: Not Met
Recommendations:	No recommendations at this time.
Reflections/Notes:	This year, we assessed our major students' ability to employ and demonstrate a variety of scientific techniques in each of our major core disciplines. Results from direct metrics indicate that a majority of our majors are well-trained across a spectrum of the biological sciences. While our grade threshold was not reached for BI 301 and BI 333, we are pleased that all of our students taking research for credit (one of two program capstone courses) are exceeding expectations. We anticipate that the student success we see in the BI 395 research course will translate to very good outcomes for several other PSLOs that assess understanding and utilization of the scientific method and report on student research presentations. Since BI 395 is one of our capstone courses, this also implies that previous coursework in the biology curriculum has effectively prepared our students to engage in undergraduate research. We are pleased to see that 91% of Biology majors enrolled in BI 103 (General Organismal Biology) passed with at least a C (see attached data for complete grade distribution). Since this class is our second and last introductory sequence course, our students are making a successful transition from BI 102 (General Cellular Biology) and continuing to perform very well. We anticipate that the foundational knowledge

these students have will prepare them for subsequent upper-division courses in the program.

BI 301 (General Microbiology) grades exhibited a bimodal distribution with 32% earning an A, 4% earning a B, and 32% earning a C. There were also a high percentage of students withdrawing from the course (16%) compared to recent academic years. It is difficult to compare this academic year's data to those previous due to teaching restrictions and modalities in place during the pandemic. It is worth noting that the current academic year's outcomes were lower than the '19-'20 academic year.

BI 333 (General Genetics) fell short of our revised metric threshold. Eighty-three percent of students in this class passed with at least a C (see supporting data). This is slightly lower than we observed for the previous year. Although we did not meet the 75% threshold for B and above, BI 333 was a difficult course to adapt and teach under pandemic restrictions. The laboratory portion of course was abbreviated and students were responsible for getting much of the content online. Again, this confounds comparison to previous assessment years.

Substantiating Evidence:

BI Majors Grades in BI Courses AY21.xlsx (Excel Workbook (Open XML))

Overall Recommendations

No recommendations for this cycle.

Overall Reflection

The Department of Biology continues to educate majors who demonstrate a variety of scientific techniques in the core biology disciplines of zoology and botany (BI 103), microbiology (BI 301), genetics (BI 333), and undergraduate research (BI 395).

Student preparation for lower-and upper-division core courses is demonstrated by high pass rates. We are confident that students are prepared to take on the increased rigors in the biology curriculum as they emerge from General Cellular Biology (BI 102). Although some benchmarks were not met during this assessment cycle, it is anticipated that a return to normal classroom organization and course content delivery will result in numbers that will be comparable or exceed those observed in pre-pandemic academic years.

Faculty Collaboration

This year, our department assessed our major's ability to employ and demonstrate a variety of scientific techniques in each of our major core disciplines. Results from direct metrics indicate that a majority of our majors are well-trained across a spectrum of the biological sciences. While our grade pass threshold was not reached for BI 301 and BI 333, we are pleased that almost all of our students taking research for credit are exceeding expectations.

Our faculty will be interested to see how the current assessment data compares with previous years especially due to the disruptions in teaching brought on by pandemic restrictions. The data from PSLO #3 will be shared with Biology faculty at a regular department meeting in order to facilitate improvements to student learning.

Communication & Collaboration with Students

A link to a copy of this report will be available on the department's web page.

Communication & Collaboration with External Stakeholders

At present we are working on ways to identify relevant external stakeholders and provide means of sharing the results of the assessment report.

Communication & Collaboration with University

Nothing to report this assessment cycle.

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