

**CLAS Deans' comments on
BS in Biological Sciences, Non-Accredited Program Report**

Reviewer: Michael Cornebise, Associate Dean

Last report submitted by department: Fall 2020 (Initial Assessment Plan).

Comments:

The Department of Biological Sciences 4-year assessment report is comprehensive and draws from multiple data points to measure SLOs including course rubrics, an exit survey, pre- and post-testing, and a chair's analysis. In the report, the department indicates whether their assessment goals were met or not met (based on available data). Assessment results were shared with the faculty who addressed concerns at a faculty retreat at the beginning of fall semester, 2022. The report indicates that COVID accommodations impacted the ability to gather some of their data, but, overall, they were able to successfully measure five out of eight of their defined SLOs. In instances where goals were not met (or partially met), the department has developed interventions to improve student learning outcomes. In addition, the department has indicated how they will gather the missing data in the next assessment cycle.

Year 4

Student Learning Outcomes (SLOs) for Academic Programs

Please list all of the student learning outcomes for your program as articulated in the assessment plan.

1. Students will be able to construct a professional research poster
2. Students will be able to present a professional research poster
3. Students will enhance global citizenship by participation in biology clubs with conservation and/or volunteer efforts
4. Students will demonstrate knowledge of key concepts in molecular biology, ecology, genetics, molecular biology and statistics.
5. Students will enhance global citizenship by participation in biology clubs with conservation and/or volunteer efforts
6. Student will have participated in volunteering/service activities
7. Impact of research experiences will be considered beneficial by students
8. Students will be accepted into a graduate program or professional school prior to graduation.

Overview of Measures/Instruments

Outcomes targeted by faculty targeted poster construction/presentation, understanding of biology principles, club participation, volunteer service, research experiences, and acceptance rates into graduate schools and professional programs.

<p>SLO(s)</p> <p><i>Note: Measures might be used for more than 1 SLO</i></p>	<p>ULG*</p>	<p>Measures/Instruments</p> <p><i>Please include a clear description of the instrument including when and where it is administered</i></p>	<p>How is the information Used?</p> <p><i>(include target score(s), results, and report if target(s) were met/not met/partially met for each instrument)</i></p>
<p>Students will be able to construct a professional research poster</p>	<p>C W Q</p>	<p>Each semester, students enrolled in the Biology major core course BIO 3120 Molecular and Cellular Biology will construct a professional scientific poster. Performance will be assessed based six criteria (Background, Objectives, Methods, Results, Conclusions, and References) using a rubric (Scored by instructor, provided to Chair)</p>	<p>Target: Score of >80% average score on overall poster construction. Scores will provide feedback on strength of skills and whether additional instruction on data presentation and interpretation needs to be incorporated into curriculum.</p> <p>Results: FY21-87% ave (70-100% range) ; FY22- Not done - online labs due to COVID-19 restrictions. GOAL MET Results shared with assessment committee, then faculty for discussion.</p>
<p>Students will be able to present a professional research poster</p>	<p>R</p>	<p>Exit survey will ask about club participation while at EIU (Tallied by Chair)</p>	<p>Target: Graduating students will have received a >80% average on scored poster presentations in a class or presented at a conference. If needed, additional subject-specific courses will be identified to include student poster presentations.</p> <p>Results: BIO 4952- SP20 96.3% ave; 31% (53 of 163) of graduates in FY20 and FY21 presented research at a conference. GOAL PARTIALLY MET. Results shared with assessment committee, then faculty for discussion.</p>
<p>Students will demonstrate knowledge of key concepts in molecular biology, ecology, genetics, molecular biology and statistics.</p>	<p>Q</p>	<p>Pre-test will be administered in freshman BIO1500 General Biology and post-test in BIO 3200 Genetics</p>	<p>Target: Student will demonstrate knowledge of key concepts demonstrated by a >50% increase in exam scores from pre to post tests.</p> <p>Results: Exam not administered due to COVID restrictions.</p>

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<p>Students will enhance global citizenship by participation in biology clubs with conservation and/or volunteer efforts</p>	<p>R</p>	<p>Exit survey will ask about club participation while at EIU (Tallied by Chair)</p>	<p>Target: 50% of graduating seniors will indicate that they have participated in biology clubs (Botany, Wildlife, Pre-med, Pre-vet, Earthwise).</p> <p>Results: Only 34% involved in club activity. GOAL NOT MET. Thus, use Bio Forum, Social media to increase club exposure. Results shared with assessment committee, then faculty for discussion.</p>
<p>Student will have participated in volunteering/service activities</p>	<p>Q</p>	<p>Exit survey will ask students the number of volunteer activities involved in while enrolled at EIU (Tallied by Chair)</p>	<p>Target: >80% of students will have engaged in at least 2 volunteer activities while at EIU. If target not met, volunteerism awareness efforts will be increased.</p> <p>Results: Question not included on exit interview. Cannot assess. Will be included on FY23 exit interview</p>
<p>Impact of research experiences will be considered beneficial by students</p>	<p>R</p>	<p>Exit survey will ask “How would you describe your research experience? What are some highlights? What are some things that the department can improve on to make the research experience better?” (Tallied by Chair)</p>	<p>Target: 90% of students who engage in laboratory research will claim that the research conducted was beneficial; Feedback from students will be evaluated for potential improvement.</p> <p>Results: In FY21 and FY22, 71% agreed that research prepared them for Graduate/professional studies. 73% agreed that research experience increased their desire for a graduate degree. Goal not met. Results shared with assessment committee, then faculty for discussion.</p>
<p>Students will be accepted into a graduate program or professional school prior to graduation.</p>		<p>Exit survey will ask students if they have plans for graduate school and provide names of graduate programs or professional schools to which they have been accepted. (Tallied by Chair)</p>	<p>Target: 50% of students applying to graduate/professional school will have been accepted prior to graduation.</p> <p>Results: Over FY21 and FY22, ave of 44% of graduates were enrolled in a graduate or professional program upon graduation, with 50% expecting to enter the workforce.</p>

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			Results shared with assessment committee, then faculty for discussion.

**Please reference any University Learning Goal(s) (ULG) that this SLO, if any, may address or assess. C=Critical Thinking, W=Writing & Critical Reading; S=Speaking and Listening; Q=Quantitative reasoning; R=Responsible Citizenship; NA=Not Applicable*

Dean Review & Feedback



Dean or designee

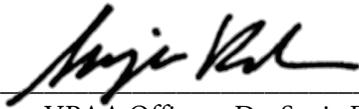
November 21, 2022

Date

Academic Affairs –Review & Feedback

B.S. Biological Sciences

The B.S. in Biological Sciences program demonstrated flexibility in adjusting its cadre of carefully crafted measures of student learning outcomes. The program uses a core course assignment (professional poster), a pre- and post-test of key concepts in two different courses, and an exit survey. Even as the exit survey provides a clear picture of student participation in biology clubs, volunteer activities, research experience, and graduate school applications, the program could identify other, more precise, measures for realizing gains in professional development for its students. For instance, the focus on research preparation could be tied to a specific research course assignment (applications for internal and external research opportunities).



VPAA Office Dr. Suzie Park

3/8/23

Date