



Academic Program Assessment Report for AY 2019-2020

(Due: June 1, 2020)

Program: Biology BS

Date report completed: 6/3/2020

Completed by: Jeff Smith

Assessment contributors (other faculty involved): _____

Brief statement of Program mission and goals:

I. Assessment of Student Learning Outcomes (SLOs) in this cycle. Including processes, results, and recommendations for improved student learning. Use Column H to describe improvements planned for 2019-2020 based on the assessment process.

A. Which of the program SLOs were assessed during this cycle? Please include the outcome(s) verbatim from the assessment plan.	B. When was this SLO <u>last</u> reported on prior to this cycle? (semester and year)	C. What method was used for assessing the SLO? Please include a copy of any rubrics used in the assessment process.	D. Who was assessed? Please fully describe the student group(s) and the number of students or artifacts involved (N).	E. What is the expected proficiency level and how many or what proportion of students should be at that level?	F. What were the results of the assessment? (Include the proportion of students meeting proficiency.)	G. What were the department's conclusions about student performance?	H. What changes/improvements to the <u>program</u> are planned based on this assessment?
SLO1. Students will develop a broad-based knowledge and application of concepts, techniques and terminology in molecular, cellular, organismal, evolutionary	AY 18-19 presented in 2019 report.	SLO 1. Administer the GRE to each class of First Year Seminar (BIOL 171) for baseline assessment. Administer the GRE and MFAT exam	Twenty nine graduating seniors (2020) received the MFAT exam at the end of spring semester BIOL171 GRE, n = 17, 1 section. BIOL	Our goal is to have 75% of our senior students score at or above 50% of National percentile on the MFAT exam and to have 75% of our senior	For the MFAT exam, 55% of students (16 of 29) scored at or above 50th percentile. The first year BIO 171 students scored 28.5% (50 questions) on the GRE exam.	We met our goal when using the the MFAT exam, but did not come close to the stated goals using the GRE results.	The department will discuss the result in the fall 2020 and determine whether the goals are too high, or whether there is a deficiency that needs to be addressed.

and ecological biology.		to each class of Senior Seminar (BIOL 493).	493 section n = 14.	students score at 70% or higher on the GRE in the BIOL 493 class and show improvement over BIOL171.	Graduating seniors scored 42+/-2.5%. None scored at or above the 70% level.		
SLO3. Students will develop skills in reading and interpreting the scientific literature and in presenting a synthesis of it accurately in oral and written form.	This SLO has not been assessed in the previous 5 assessment cycles.	Assess the reading, writing and presentation skills of our students during their second year in Botany (BIOL 201) or Zoology (BIOL 202) and compare to the same skills during their junior or senior year in Evolutionary Biology and Ecology (BIOL 352).	Botany: n = up to 38 students, 2 instructors, 2 sections, and a great deal of disparity between the 2 instructor's assessments overall. Only one of the 2 instructors evaluated reading. Zoology, 1 instructor assessed performance over 7 different semesters, n = 182. BIO352: n = 17, 1 instructor,	Our goal is to have 75% of our junior or senior students show increased proficiency in BIOL 352. In addition, faculty will complete a rubric for each student in Senior Seminar (BIOL 493) that will assess their literature interpretation based on their Senior Capstone Oral Presentation. Our goal is to have at least 80% of our senior	Botany instructors rated writing skills at 77 +/-2.6 %, presentation skills at 75+/-2.4%, and reading at 85+/-1.8%. The Zoology instructor rated presentation skills at 80% and literature reading at 47% proficiency respectively. The BIOL 352 instructor rated writing and presentation skills at 87+/-4.3% and 84.5+/-1.6% respectively. Literature interpretation was scored from the rubric at 71%	Improvement was apparent... Writing: 77->87 Pres: 75/80->84.5 Reading: 47/85->? however, the first method is subjective since it is not normalized to individual instructor biases in grading. Also, a linear analysis to show that "75%" increased proficiency was confounded by the lack of a true time-locked cohort of students. No rubric was generated.	None at this time as the assessment method poorly informs student performance in the SLO. The method will be revised in the fall to address the subjectiveness and linearity problem (lack of internal controllability). Also need to include reporting from all sections. We will also discuss the rubric.

			1 section. 493 Literature interpretation n= 6.	students be at Proficient level.	proficient or higher (100%=excellent, 75%=proficient, 50%=developmt'l, 25%= ineffective).		
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Comments on part I:

II. Closing the Loop. Describe at least one data-informed change to your curriculum during the 2019-2020 cycle. These are those that were based on, or implemented to address, the results of assessment from previous cycles.

A. What SLO(s) or other issues did you address in this cycle? Please include the outcome(s) verbatim from the assessment plan.	B. When was this SLO last assessed to generate the data which informed the change? Please indicate the semester and year.	C. What were the recommendations for change from the previous assessment column H and/or feedback?	D. How were the recommendations for change acted upon?	E. What were the results of the changes? If the changes were not effective, what are the next steps or the new recommendations?
SLO1. Students will develop a broad-based knowledge and application of concepts, techniques and terminology in molecular, cellular, organismal, evolutionary and ecological biology.	AY 18-19 presented in 2019 report.	We will continue to have freshmen and seniors take GRE and compare these scores.	We continued with the current plan unchanged.	The previous assessment cycle for this SLO (2019), was the first year that this method was in place, and was in response to recommended changes from the 2018 cycle. Therefore, the method is in its 2 nd year of implementation and is successfully informing the biology department of its performance in meeting this SLO.
SLO3. Students will develop skills in reading and interpreting the scientific literature and in presenting a synthesis of it accurately in oral and written form.	This SLO has not been assessed in the previous 5 assessment cycles, therefore, no change has thus far been informed.	N/A	N/A	N/A