

2022 – 23 Departmental Assessment Plan

Department/Program/Unit: Department of Natural Sciences	Date: 9/28/2022
Related: University Goals/Outcomes: Communication Select Select Select	
Members involved with development of Plan: Robert Hermann, Brent Royuk, Kim Clark, John Jurchen, Kristy Jurchen, Kyle Johnson, Connie Callahan, Jen Freund (at department meeting 8/17)	
Departmental/Program/Unit Student Outcome: <i>What student outcome from the departmental matrix will be assessed? (It is suggested that you cut and paste directly from the matrix. Outcomes should represent the absolute priorities for learning- students must be able to do [this] when they finish our program).</i> State as follows: Students should be able to [action verb] [something]. Students will be able to communicate concepts, processes and results in scientifically appropriate ways.	
Background: <i>What factors caused you to choose this particular assessment outcome? If you chose this outcome because of a perceived problem, please explain.</i> This outcome is related to the departmental goal: "Communication: to demonstrate effective communication skills for the presentation of scientific research". The department strongly believes that while students should be able to understand and conduct scientific research, it is equally important to be able to communicate the research in effective ways, whether it is the student's own research or a summary of research conducted by others. This is a significant part of what a scientist does, and so we want to assess whether our students are able to do it. By happy coincidence, this outcome is strikingly similar to the general education outcome being assessed this year, which will make the assessment process go more smoothly.	
Question: <i>What specific question(s) are you attempting to answer through assessing this student outcome? (What are you trying to find out? There may be more than one question, but no more than three.)</i> We will be looking at whether students: (1) accurately explain scientific research (2) using effective and appropriate communication techniques to do so.	
Methodology: 1. OBJECT* - <i>What data (i.e. artifact, exam score, detailed description of assignment) will be collected?</i> Presentations from Agri 215, Papers from Bio 317, Article Reviews from Chem 325, and Final Lab Reports from Phys 382. a. <i>How does this data address the assessment question? Each artifact requires students to explain technical scientific research, albeit in different formats.</i> i. <i>Include/attach a description/example of assessment tool to be used.</i> 2. <i>How will data be collected? Artifacts will come from a random sample (or the entire set, depending on the class size) of papers and presentations turned in during the semester for a grade.</i>	
Analysis of Artifacts: PERFORMANCE CRITERIA* - Discuss: 1) <i>How the artifacts will be analyzed (attach rubrics/scoring tools if used):</i> The artifacts will be assessed using the 5-point Leichert scale (attached), which assigns an assessment value to the quality of each of the points addressed above: (1) the accuracy with which students can explain research, and (2) the effectiveness of their communication of the research. 2) <i>How you will know if it is good (i.e. score required by % of students):</i> If at least 80% of students score at least a 6 or above, we can say that most students can generally communicate scientific research effectively. We would prefer that at least 80% score a 4 or above to show that they have a satisfactory ability.	
Submitted by: Robert Hermann Date: 9/28/22 Assessment Committee Reviewed (Date): 11/1/22	
Department Chair notified of approval/or additional action needed: Approved 11/1/22	