

2018 – 2019/2019 – 2020 General Education Executive Summary

Department: Natural & Computer Sciences Date: 5/8/19
Members involved with analysis of artifacts: Robert Hermann, John Jurchen, Kristy Jurchen, Marcus Gubanyi, Dennis Brink, Gregg Einspahr, Kyle Johnson, Connie Callahan, Jen Freund.
General Education Assessment Plan: a) Learning Outcome; b) Background; c) Question(s); d) Methodology
Analysis of artifacts: 1). PERFORMANCE CRITERIA* - <i>How was data analyzed? (attach rubrics/scoring tools if used).</i> Artifacts were analyzed according to the attached rubric. Rubrics were sent to the faculty beforehand for review, and the departmental faculty met together and scored the artifacts through discussion and consensus.
Summary of RESULTS*: 1). <i>Restate the assessment question(s) (from the Assessment plan):</i> Can students apply scientific analysis to “real world” situations to arrive at an appropriate response? (Specifically: can students identify the key idea or concept underlying a problem? Can students correctly identify the knowns and unknowns of the problem? Can students apply appropriate methods to solve a problem? 2). <i>Summarize the assessment results. A narrative summary is required. Charts, tables or graphs are encouraged but optional.</i> Overall, 37 artifacts were assessed, from CS 131, Chem 115, and Phys 109. (Bio 110 artifacts were packed away during the move.) Of those, 31 scored a 9 or better, for an aggregate average of 84%. However, these results varied by class – in CS 131, 5 of 8 (63%) achieved a 9 or above; in Chem 115 13 of 13 (100%) did so; in Phys 109 13 of 16 (81%) achieved at least a 9. 3). INTERPRETATION* - <i>Discuss how the results answer the assessment question(s).</i> As an average over the department, we achieved our goal of 80% of the artifacts scoring at least a 9. We interpret this to mean that generally our students are able to correctly apply scientific analyses to real world problems. However there are some qualifications. Not every course achieved this score, and the two that did explicitly told the students what concept to apply in solving the problem (and even then not all students were able to identify the correct concept). We also did not have an artifact from Biology, due to circumstances surrounding the move out of the Science building. 4). <i>Observations made that were not directly related to the question(s). (i.e. interrater reliability of the scoring tool was low) Click or tap here to enter text.</i>
Sharing of Results: <i>When were results shared? Date:</i> 5/10/19 <i>How were the results shared? (i.e. met as a department)</i> Results were shared at a department meeting and via email. <i>Who were results shared with? (List names):</i> Robert Hermann, Brent Royuk, Kristy Jurchen, John Jurchen, Gregg Einspahr, Tim Huntington, Connie Callahan, Kyle Johnson, Jen Freund, Kent Einspahr, Marcus Gubanyi, Dennis Brink.
Discussion of Results –Summarize your conclusions including: 1. ACTION* - <i>How will what the department learned from the assessment impact:</i> a. <i>Teaching:</i> Because we met our goal, we are not going to change our teaching significantly, however, in some classes we will evaluate how to better emphasize the underlying concept involved in solving standard problems. b. <i>Assignment/course:</i> We will make sure that we have a number of similar problems in a variety of assignments throughout the semester, so students have adequate practice. c. <i>Program:</i> We will continue to emphasize appropriate problem-solving throughout the department. d. <i>Assessment:</i> We will probably use a different assignment for CS 131, and a different problem in Phys 109. 2. IMPACT* - <i>What is the anticipated impact of the ACTION* on student achievement of the learning outcome in the next academic year?</i> We hope to continue to improve students’ ability to solve analytical problems. 3. BUDGET IMPLICATIONS – <i>Indicate budget requirements necessary for the successful implementation of the ACTION* (i.e. an additional staff person, new equipment, additional sections of a course).</i> None
If action is taken – it is recommended that the same learning outcome and assessment plan be used for a second assessment cycle.
What assessment questions related to the learning outcome would the program like to investigate in the future? Same as this year; contingent on the goals of the General Ed committee.

Submitted by:Rob Hermann **Assessment Committee Reviewed:** 5/10/19

Department Chair notified – approval/additional action needed:na

BUDGET IMPLICATIONS – Assessment Committee Chair notified appropriate Dean: na