

## 2021 – 22 Departmental Executive Summary

<b>Department:</b> Robert Hermann	<b>Date:</b> May 19, 2022																																																															
<b>Members involved with analysis of artifacts:</b> Robert Hermann, Brent Royuk, John Jurchen, Kregg Einspahr, Kent Einspahr, Connie Callahan, Kristy Jurchen, Kim Clark, Marcus Gubanyi, Kyle Johnson, Jen Freund																																																																
<b>See #1 Undergraduate Program Assessment Plan: Student Outcomes for:</b> a) Student Outcome; b) Background; c) Question(s); d) Methodology																																																																
<p><b>Analysis of artifacts:</b></p> <p>1). <b>PERFORMANCE CRITERIA*</b> - <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.</p>																																																																
<p><b>Summary of RESULTS*:</b></p> <p>1). <i>Restate the assessment question(s) (from the Assessment plan):</i> Can students demonstrate an appropriate level of knowledge of important facts, concepts, or processes in the scientific area. Specifically, do students know important facts, concepts, and processes of the discipline at a sufficient level to correctly describe them?</p> <p>2). <i>Summarize the assessment results. (A narrative summary is required. Charts, tables or graphs are encouraged but optional.)</i> A total of 46 artifacts were assessed from the following courses: BIO 344 (11 artifacts), BIO 345 (9), CHEM 356 (10), CS 392 (10), PHYS 371 (6). The classes, number of artifacts (N), number receiving each score in the rubric, and the percentages achieving a score greater than 3, and the percentages achieving a score greater than 4 are shown in the table below, along with the aggregate values.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th>Class</th> <th>N</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>% ≥ 3</th> <th>% ≥ 4</th> </tr> </thead> <tbody> <tr> <td>BIO 344</td> <td>11</td> <td>2</td> <td>2</td> <td>1</td> <td>5</td> <td>1</td> <td>63</td> <td>55</td> </tr> <tr> <td>BIO 345</td> <td>9</td> <td>0</td> <td>0</td> <td>2</td> <td>2</td> <td>5</td> <td>100</td> <td>78</td> </tr> <tr> <td>CHEM 356</td> <td>10</td> <td>0</td> <td>0</td> <td>7</td> <td>2</td> <td>1</td> <td>100</td> <td>30</td> </tr> <tr> <td>CS 392</td> <td>10</td> <td>1</td> <td>0</td> <td>2</td> <td>2</td> <td>5</td> <td>90</td> <td>70</td> </tr> <tr> <td>PHYS 371</td> <td>6</td> <td>0</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>100</td> <td>83</td> </tr> <tr> <td>Aggregate</td> <td>46</td> <td>3</td> <td>2</td> <td>13</td> <td>13</td> <td>15</td> <td>89</td> <td>61</td> </tr> </tbody> </table> <p>3). <b>INTERPRETATION*</b> - <i>Discuss how the results answer the assessment question(s).</i> Overall we met our goal of 80% of artifacts meeting the criteria to receive a score of 3 or greater, and individually all but one class achieved the goal. We did not meet our aspirational goal of 80% of artifacts achieving a score of 4 or better, though one class individually did so, and one other came very close. In each class, the items assessed were things that were emphasized and practiced in some form or another during the semester, so we were very hopeful that students would achieve our goal. In many cases what prevented us from achieving our aspirational goal of 80% over a score of 4 was students' difficulty in communicating the information - they may have known it, but often misspelled words or used slightly incorrect words, or did not fully communicate the knowledge. The department noted that the level and amount of knowledge communicated this year surpassed last year, with significantly more student artifacts meeting both the basic and aspirational goals this year. The department was highly impressed with the level of knowledge displayed in nearly all the artifacts, and at the expectations displayed in the class. The department felt that the level of knowledge displayed was consistent with an upper-level knowledge of the material.</p> <p>4). <i>Observations made that were not directly related to the question(s).</i> It was something of a relief that students performed well in the departmental assessment, after having earlier completed the general education assessment. The department is hopeful that if its majors can show such an impressive display of knowledge in classes within their major, that the same will be true of the students taking our general education courses, that while they may not display exceptional knowledge in a general education course, perhaps those students are able to communicate a level of knowledge in their own majors similar to what our majors display.</p>		Class	N	1	2	3	4	5	% ≥ 3	% ≥ 4	BIO 344	11	2	2	1	5	1	63	55	BIO 345	9	0	0	2	2	5	100	78	CHEM 356	10	0	0	7	2	1	100	30	CS 392	10	1	0	2	2	5	90	70	PHYS 371	6	0	0	1	2	3	100	83	Aggregate	46	3	2	13	13	15	89	61
Class	N	1	2	3	4	5	% ≥ 3	% ≥ 4																																																								
BIO 344	11	2	2	1	5	1	63	55																																																								
BIO 345	9	0	0	2	2	5	100	78																																																								
CHEM 356	10	0	0	7	2	1	100	30																																																								
CS 392	10	1	0	2	2	5	90	70																																																								
PHYS 371	6	0	0	1	2	3	100	83																																																								
Aggregate	46	3	2	13	13	15	89	61																																																								
<p><b>Sharing of Results:</b> <i>When were results shared? Date:</i> May 18, 2022 <i>How were the results shared? (i.e. met as a department)</i> Met as a department and shared via email <i>Who were results shared with? (List names):</i> Robert Hermann, Brent Royuk, John Jurchen, Kregg Einspahr, Kent Einspahr, Connie Callahan, Kristy Jurchen, Kim Clark, Marcus Gubanyi, Kyle Johnson, Jen Freund</p>																																																																

**Discussion of Results – Summarize your conclusions including:**

1. **ACTION\***- *How will what the department learned from the assessment impact:*

- a. *Teaching:* Instructors will continue to emphasize in their classes the need for students to learn (and memorize) important facts and knowledge as a part of their education.
- b. *Assignment/course:* Instructors will continue to practice assessing factual material more on in-class tests and quizzes, and give students opportunity to practice through more questions about facts in in-class discussion.
- c. *Program:* We will continue to consider the extent to which we emphasize and value knowledge versus other areas like analysis and problem-solving.
- d. *Assessment:* We will make sure that we collect artifacts that actually assess knowledge, and knowledge that was actually central to the course.

2. **IMPACT\***- *What is the anticipated impact of the ACTION\* on student achievement of the learning outcome in the next academic year?* We hope that these actions will improve students' ability to correctly present knowledge important to the area, and that we will assess artifacts that reflect knowledge central to the course.

3. **BUDGET IMPLICATIONS** – *Indicate budget requirements necessary for the successful implementation of the ACTION\** 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

**Submitted by:** Robert Hermann

**Reviewed by the Assessment Committee (date):** 6/14/22

**Department Chair notified approved/additional action needed:** Approved 6/14/22

**BUDGET IMPLICATIONS – Assessment Committee Chair notified appropriate Dean:** na