

2021– 22 Alternative Delivery Executive Summary

Submit to the BlackBoard Assessment Site.

Department: Natural & Computer Sciences **Date:** 6/23/22 **Course(s):** Phys 110
Alternative Format(s) – select as many as are applicable: Dual Credit Select Select

Members (must include more than course instructor only) **involved with analysis of artifacts:** Robert Hermann, Kyle Johnson, Kristy Jurchen, Jen Freund

See Alternative Delivery Assessment Plan for:

a) Course requirement evaluation; b) Student Outcome; c) Question(s); e) Methodology

Analysis of artifacts:

- 1). Student Outcome: **PERFORMANCE CRITERIA*** - How was data analyzed? (attach rubrics/scoring tools if used). Scores (means and distributions from a 40 question multiple choice comprehensive final exam) were analyzed.
- 2). **COMPARABILITY** – How did you determine if the outcomes of the traditional and alternative delivery modes were comparable? (note “na” if delivery modes were not compared). Scores from the single dual credit site that was able to deliver the assessment were compared with scores from the results when the course is taught face-to-face on Concordia's campus

Summary of RESULTS*:

- 1). Restate the assessment question(s) (from the Assessment plan): Are students able to analyze natural situations and communicate understanding and information about the world in verbal, graphical, and analytical languages.
- 2). Summarize the assessment results. A narrative summary is required. Charts, tables or graphs are encouraged but optional.

The averages and p-values (from CUNE scores) for the three schools teaching Phys 110 are shown below:

School	Mean Percent Score	P-Value (from CUNE)
DC1	88.2	0.00036
DC2	51.5	0.248
DC3	78.6	0.0216

The results are very similar to past years, and they compare favorably to the scores from the section taught on the Seward campus, where the average was 61%. The overall average for the DC schools was 75%, higher than CUNE (and individually higher, except for DC2). DC2 was lower than CUNE (though not statistically significantly so), but that is consistent with this school, which administers the assessment somewhat differently to the other schools.

- 3). **INTERPRETATION*** - Discuss how the results answer the assessment question(s).
- 4). Observations made that were not directly related to the question(s). (i.e. interrater reliability of the scoring tool was low)

The assessment instrument consists of 40 multiple choice questions from the test bank for the standard textbook for the course. The questions require students to analyze physical situations and answer questions about them from a physics perspective. Several of the questions involve analyzing graphs of motion or other types of graphs, and many involve using equations and calculations. The fact that students overall average over 70% on this exam is solid evidence that students are indeed able to analyze natural situations and to communicate their understanding

5). **How did the outcomes of the traditional and alternative format analysis compare?**

The scores from the dual credit sites are similar to and often better than those scored by the students in the course offered on Seward's campus. It is worthwhile noting that while the CUNE scores are consistently lower than most of the dual credit sections, (a) the CUNE section has very few students (five this term), and (b) the students taking the course on campus are generally non-science students taking it instead of a more rigorous physics course, while students taking it dual credit are generally highly-motivated and successful students taking it as a means of taking the most advanced course available. So the populations are very different.

Sharing of Results: *When were results shared? Date: 6/23/22 How were the results shared? (i.e. met as a department)* Emailed *Who were results shared with? (List names):* Connie Callahan, Kent Einspahr, Gregg Einspahr, Jen Freund, Marcus Gubanyi, Robert Hermann, Tim Huntington, Kyle Johnson, John Jurchen, Kristy Jurchen, Brent Royuk, Kim Clark

Discussion of Results –Summarize your conclusions including:

1. **ACTION***- *How will what was learned from the assessment impact the alternative format teaching of this course starting the next academic year?*

Since the dual credit students are demonstrating admirable mastery of the concepts, we will try not to do too much to change this. Each year dual credit instructors are asked for ideas on improving the assessment instrument, and there are fewer and fewer comments, so the instrument seems to be reaching a point where it is doing what it needs to do.

2. **IMPACT***- *What is the anticipated impact of the ACTION* on student achievement of the learning outcome in the next academic year?* Hopefully it will not deter from the learning that students are demonstrating.

3. **BUDGET IMPLICATIONS** – *Indicate budget requirements necessary for the successful implementation of the ACTION* (i.e. an additional staff person, new equipment, additional sections of a course).* None

Submitted by: Robert Hermann **Assessment Committee Reviewed (date):** 7/1/22

Submitter notified approval/additional action needed: Approved 7/1/22

BUDGET IMPLICATIONS – Assessment Committee Chair notified appropriate Dean: na