#4. Executive Summary: Undergraduate Program Assessment: Alternative Delivery

Submit to the Assessment Committee Chair via email.

Department: Natural & Computer Sciences **Date: 6/8/17** **Course(s): Phys 110**

Alternative Format(s) – select as many as are applicable:

Dual Credit **Select** **Select** **Select** **Select** **Select**

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

See #3 Assessment Plan: Alternative Delivery: Student Outcomes 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 final exam) were analyzed.

2). **COMPARABILITY** – *How did you determine if the outcomes of the traditional and alternative deliver modes were comparable?* (note "na" if delivery modes were not compared). Scores from the various dual credit sites were compared with each other and with scores from when the course was last taught on the Seward 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 for the three schools teaching Phys 110 were: DC1 92.5%, DC2 63.3%, DC3 85.3%. These results are very similar to each other, and to past years. They compare favorably to the last round of scores from when Phys 110 was taught on the Seward campus, when the average was 62%.

*3). **INTERPRETATION*** - Discuss how the results answer the assessment question(s).* 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 average nearly 75% on this exam is solid evidence that students are indeed able to analyze natural situations and to communicate their understanding.

4). Observations made that were not directly related to the question(s). (*i.e. interrater reliability of the scoring tool was low*) There is a large range of individual scores on the exam. This gives me confidence that instructors are not "teaching to the test". DC1 also has a mix of dual credit and non-dual credit students, and the scores for the dual credit students were significantly higher than those not taking the class for credit (though with a small number of students to compare). This gives weight to the idea that students making the effort to take the course for credit are generally more high-achieving.

5). ***How did the outcomes of the traditional and alternative format analysis compare*?** See #3. The scores from the dual credit sites are similar to and in fact better than those scored by the students in the course offered on Seward's campus in the spring of 2014. Hopefully the course will be offered in Seward again soon, to help validate the results with more data.

Sharing of Results:

When were results shared? Date: 6/14/17

How were the results shared? (i.e. met as a department) Met as a department

Who were results shared with? (List names): Rob Hermann, John Jurchen, Kristy Jurchen, Tim Huntington, Kyle Johnson, Connie Callahan, Jen Fruend, Kent Einspahr, Kregg Einspahr

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.

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 via email to Assessment Committee Chair by: Rob Hermann
Reviewed by the Assessment Committee (date): 6/15/17

Submitter notified/additional action needed: na

BUDGET IMPLICATIONS – Assessment Committee Chair notified appropriate Dean: na

Approved & Posted to Assessment site: 6/15/17