2018– 19 Alternative Delivery Executive Summary

Submit to the BlackBoard Assessment Site.

Department: Natural Sciences **Date:** 7/1/19 **Course(s):** Bio 111

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:** Kyle Johnson, Robert Hermann, Jennifer Fruend, Kristy Jurchen

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).* Do students understand basic concepts of the process of science, cell biology, biochemistry, genetics, and molecular biology, and can they apply their knowledge of these topics?

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). The results of a multiple choice concept inventory developed and validated by experts in Biology Education Research was compared between schools to see if there was a significant difference in average scores between CUNE and the schools where dual credit was offered.

Summary of RESULTS*:

1). Restate the assessment question(s) (from the Assessment plan): Do students understand basic concepts of the process of science, cell biology, biochemistry, genetics, and molecular biology, and can they apply their knowledge of these topics?

2). Summarize the assessment results. A narrative summary is required. Charts, tables or graphs are encouraged but optional. The means ± standard deviations were: CUNE: 54.67 ± 14.09 %, DC1: 27.84 ± 13.26%, DC2: 73.23 ± 8.65%.

*3). **INTERPRETATION*** *- Discuss how the results answer the assessment question(s).* Overall, on average, both CUNE and DC1 scored lower than we would hope for students who have a basic understanding of the process of science, cell biology, biochemistry, genetics, and molecular biology, and had difficulty applying their knowledge in these areas. DC2 students scores were consistent with what we would expect with students who have a basic understanding of of these topics.

4). Observations made that were not directly related to the question(s). (*i.e. interrater reliability of the scoring tool was low*) Enrollments in the two dual credit schools were significantly lower than CUNE.

5). ***How did the outcomes of the traditional and alternative format analysis compare?*** Based on an unpaired, two-tailed student's t-test, DC1 scored significantly lower than CUNE, and DC2 scored significantly higher.

Sharing of Results: *When were results shared? Date:* 7/1/19 *How were the results shared? (i.e. met as a department)* Via email *Who were results shared with? (List names):* Kristy Jurchen, Jenn Fruend, Robert Hermann, Kyle Johnson

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?* No actions will be taken toward DC2. DC1 will be monitored for improvement, and the instructor will be contacted to see what areas the students are struggling with, and resources will be shared to aid in the teaching of those concepts.

2. **IMPACT*-** *What is the anticipated impact of the* **ACTION*** *on student achievement of the learning outcome in the next academic year?* We expect to have similar outcomes next year.

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: Kyle B. Johnson **Assessment Committee Reviewed (date):** 7/29/19

Submitter notified approval/additional action needed: approved

BUDGET IMPLICATIONS – Assessment Committee Chair notified appropriate Dean: na