

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

Course: CHEM 115 Alternative Format: Other Explain "Other" if selected: Dual Credit

Department: Natural Sciences Date: 10/5/16

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

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). The scores on the multiple-choice American Chemical Society (ACS) First Semester General Chemistry final exam were gathered from all instructors and averaged separately for the on-campus and Dual Credit students.

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). If the average scores are similar between the Dual Credit and on-campus students, or if the Dual Credit students outperform the on-campus students, the outcomes are considered to be comparable.

Summary of **RESULTS***:

1). Restate the assessment question(s) (from the Assessment plan): Are students able to understand and apply the general principles of chemistry?

2). Summarize the assessment results. A narrative summary is required. Charts, tables or graphs are encouraged but optional. The average final exam score for the on-campus students during the 2015-16 school year was 36.9 points out of 70 (52.7%). The average score for all Dual Credit students was 42.8 points out of 70 (61.1%). Broken down by school, the average scores were: DC1 55.5 points (79.3%); DC2 38.0 points (54.3%); DC 3 points (46.8%); and DC 4 41.8 points (59.7%).

3). **INTERPRETATION*** - Discuss how the results answer the assessment question(s). With the exception of DC3, students at all of the Dual Credit sites outperformed the on-campus CUNE students on the final exam. Anecdotal evidence from DC3 suggests that theirs was a weaker and less motivated cohort of students than normal, and their average score was still well within the standard deviation (12.9 points) of the on-campus CUNE student scores. The national average score on this version of the ACS exam is 40.35 points, with a standard deviation of 12.26 points. The Dual Credit student scores, on average, exceed both the on-campus CUNE students and the national average. The Dual Credit students are able to understand and apply the general principles of chemistry as well as the average General Chemistry student in the nation.

4). Observations made that were not directly related to the question(s). (i.e. interrater reliability of the scoring tool was low) na

5). **How did the outcomes of the traditional and alternative format analysis compare?** (note "na" if delivery modes were not compared). **The Dual Credit scores were higher than the on-campus scores, on average.**

Sharing of Results:

When were results shared? Date: October 5, 2016

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

Who were results shared with? (List names): Robert Hermann, John Jurchen, Connie Callahan, Jennifer Freund, Kent Einspahr, Kregg Einspahr, Brent Royuk, Tim Huntington, 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? The Dual Credit instructors have been successful in

teaching their students the general principles of chemistry. No adjustment will be imposed on the Dual Credit instructors. The DC3 scores will be monitored next year to determine if this was an isolated lower-performing cohort of students.

2. **IMPACT***- *What is the anticipated impact of the **ACTION*** on student achievement of the learning outcome in the next academic year?* We expect the outcome to be similar 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 via email to Assessment Committee Chair by: Kristy Jurchen

Reviewed by the Assessment Committee (date): 10/13/16

Submitter notified/additional action needed: na

BUDGET IMPLICATIONS – Assessment Committee Chair notified appropriate Dean: na

Approved & Posted to Assessment site: 10/13/16