

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

Course: Math 122, Intro to Stats Alternative Format: Other Explain "Other" if selected: Dual Credit

Department: Math Date: Fall 2022 – Spring 2023

Members (must include more than course instructor only) involved with analysis of artifacts: Brian Albright, Ed Reinke

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). Each dual credit teacher submitted responses to a Chi-square hypothesis testing problem given on a test or quiz. These problems were graded using a rubric. The same problem from face-to-face students were also graded using the rubric. Scores for each category were averaged on a Likert-type scale. Scores from the dual credit students were compared to those from face-to-face students using a 2-sample T-test.

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 were compared using a 2-sample T-test

Summary of **RESULTS***:

1). Restate the assessment question(s) (from the Assessment plan): Can students properly perform a Chi-square hypothesis test?

2). Summarize the assessment results. A narrative summary is required. Charts, tables or graphs are encouraged but optional. Detailed scores are shown in the attached Excel workbook. The scores are summarized below

Face-to-Face Students

Category	n	Mean	StDev
States Hypotheses	34	2.58	0.857
Calculates Test Stat	34	2.62	0.739
Conclusion	34	2.56	0.704

Dual Credit Students

Category	n	Mean	StDev
States Hypotheses	23	2.56	0.788
Calculates Test Stat	23	2.74	0.645
Conclusion	23	2.78	0.498

The results of the 2-sample T-tests are shown below (we tested the hypotheses that means are equal vs means are not equal)

Category	P-value
States Hypotheses	0.892
Calculates Test Stat	0.409
Conclusion	0.113

3). **INTERPRETATION*** - Discuss how the results answer the assessment question(s). We conclude that there is not a statistically significant difference between scores in any of the categories.

4). Observations made that were not directly related to the question(s). (i.e. interrater reliability of the scoring tool was low) Dual credit students did an excellent job this year, especially in the category of stating the hypotheses.

5). **How did the outcomes of the traditional and alternative format analysis compare?** (note “na” if delivery modes were not compared). **They were not significantly different.**

Sharing of Results:

When were results shared? Date: 6/13/2023

How were the results shared? (i.e. met as a department) Shared via email.

Who were results shared with? (List names): Brian Albright, Ed Reinke

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?* Dual credit students did an excellent job this year, so no change is required.

2. **IMPACT***- *What is the anticipated impact of the ACTION* on student achievement of the learning outcome in the next academic year?* N/A

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: 6/13/2023

Reviewed by the Assessment Committee (date): 6/15/23

Submitter notified/additional action needed: BUDGET IMPLICATIONS – Assessment Committee Chair notified appropriate Dean: na **Approved & Posted to Assessment site:** Approved 6/15/23