Department: Business Administration and Math   Date: 5-1-17   Course(s): Math 184
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: John Snow, 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).* Students were given a graphical analysis problem divided into 10 quesstions. Each student's score was his or her number of correct or consistent questions out of 10.

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 traditional students and the Dual Credit students taking the exam were treated as two random samples, and a T-Test was used to test the claim that the Dual Credit students come from a population whose average score is at least as high as the average score of the population from which the traditional students come.

Summary of RESULTS*:
1). *Restate the assessment question(s) (from the Assessment plan):* Can students use derivatives to analyze the graph of a function?

2). *Summarize the assessment results. A narrative summary is required. Charts, tables or graphs are encouraged but optional.* The 23 tradiational students taking the assessment had an average score of 9.0 with a standard deviation of 1.2. The 45 Dual Credit students taking the assessment had an average score of 9.4 with a standard deviation of 0.9. A two sample T-Test of the claim that the Dual Credit students score at least as well as the traditional students yields a P-value of 0.92. This indicates no reson to reject the claim that the Dual Credit students do at least as well as the traditional students on this assessment.

3). *INTERPRETATION* - Discuss how the results answer the assessment question(s).* All populations taking the assessment seemed capable of using the derivative to analyze the graph of a function. It appears that the Dual Credit students can use derivatives to analyze graphs of functions at least as well as the traditional students.

4). *Observations made that were not directly related to the question(s). (i.e. interrater reliability of the scoring tool was low)* None

5). ***How did the outcomes of the traditional and alternative format analysis compare? The Dual Credit scores were comparable to the traditional scores.***

Sharing of Results:
When were results shared? Date: May 1, 2017
How were the results shared? (i.e. met as a department) email followed by sub-department conversations
Who were results shared with? (List names): John Snow, 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?*   No action required

2. **IMPACT*-** *What is the anticipated impact of the **ACTION*** on student achievement of the learning outcome in the next academic year?*   None

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: John Snow **Reviewed by the Assessment Committee (date): 5/15/17**
Submitter notified/additional action needed: na **BUDGET IMPLICATIONS – Assessment Committee Chair notified appropriate Dean: na** **Approved & Posted to Assessment site: 5/15/17**