

**#2. Executive Summary: Undergraduate Program Assessment:  
Student Outcomes – GEN ED**

To be completed by Departments and submitted by the Department Chair to the Assessment Blackboard Site.

<b>Department:</b>	<b>Business &amp; Mathematics</b>	<b>Date:</b> 5/12/2017
<b>Members involved with analysis of artifacts:</b> Brian Albright, John Snow, Ed Reinke, Andy Langewisch		
<b>See #1 Undergraduate Program Assessment Plan: Student Outcomes for:</b> a) <i>Student Outcome</i> ; b) <i>Background</i> ; c) <i>Question(s)</i> ; d) <i>Methodology</i>		

**Analysis of artifacts:**

1). **PERFORMANCE CRITERIA\*** - *How was data analyzed? (attach rubrics/scoring tools if used). A four point rubric was applied to each of the outcomes. The four categories are "Exceeds Expectations", "Meets Expectations", "Needs Improvements", and "Unacceptable".*

**Summary of RESULTS\*:**

1). *Restate the assessment question(s) (from the Assessment plan):*

Are students able to effectively communicate a correct mathematical argument?

2). *Summarize the assessment results. A narrative summary is required. Charts, tables or graphs are encouraged but optional.*

There were 19 students in Math 252 this past semester. Of these 19 students, 11 exceeded expectations and 2 met expectations. 68% met or exceeded expectations. Overall they presented very effective proofs. Another 3 of the students were scored as needing improvements. There was a mixture of incorrect arguments as well as poor communication. Lastly, 3 of the students submitted unacceptable work. It should be noted 2 of these individuals were international students who are not native speakers of English.

3). **INTERPRETATION\*** - *Discuss how the results answer the assessment question(s).*

There is progress being made towards our goal. Although we fell short of 80% the students who at least met expectations did very well on proof writing. There was a significant gap between the students who at least met expectations and the other students in the class.

4). *Observations made that were not directly related to the question(s). (i.e. interrater reliability of the scoring tool was low)* The performance of students who are not native speakers of English indicates that intentional efforts should be made to assist these students earlier in the semester.

**Sharing of Results:**

*When were results shared? Date:* 5/12/17

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

*Who were results shared with? (List names):* Brian Albright, John Snow, Ed Reinke, Andy Langewisch

**Discussion of Results –Summarize your conclusions including:**

1. **ACTION\***- *How will what the department learned from the assessment impact the teaching process/course/program etc. in your department starting the next academic year?*

In the future, the instructor will intervene earlier in the semester with students who seem to be struggling with proof writing.

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

At least 80% of students in Math 252 will be proficient in proof writing. According to our rubric they will meet or exceed expectations.

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

*If action is taken – it is recommended that the same learning outcome and assessment plan be used for a second assessment cycle.*

*What assessment questions related to the learning outcome would the program like to investigate in the future? We will continue to assess the same outcome.*

Submitted by: Andy Langewisch  
(date): 5/16/17

Reviewed by the Assessment Committee

Department Chair notified/additional action needed: na

BUDGET IMPLICATIONS – Assessment Committee Chair notified appropriate Dean: na

Approved & Posted to Assessment site: 5/16/17