A. ACTIONS TAKEN TO IMPROVE STUDENT LEARNING

What actions did you take in 2012-2013, based on previous assessment findings, to improve student learning in your program? (Refer back to plans indicated in “Response to Assessment Findings” in 2011-2012 Assessment Report.)

None in response to the assessment findings. However, the ongoing efforts of faculty to examine and to improve our courses and our curricula continue as usual.

B. STUDENT LEARNING OUTCOMES ASSESSED AND EXAMINED

Which Program Level Student Learning Outcomes did you assess and examine during 2012-2013?

1. Advanced ability to reason logically;
2. Ability to communicate effectively the mathematics they have learned, in both written and oral form;
3. Ability to read junior/senior level mathematical texts and papers;
4. Understanding the principles governing the mathematics they have encountered.

(Please note that due to specialized accreditation requirements, accredited programs may be required to assess and report on all program level student learning outcomes every year; accredited programs should report in a manner that will align with their accreditation. Programs not carrying specialized accreditation may assess all of their learning outcomes every year but may choose to report on 2-3 per year, looking at several years of data.)

C. METHODS FOR COLLECTING DATA

Which students were included in the assessment?

Seniors and juniors enrolled in advanced undergraduate Mathematics courses: Math 4320, Math 4520, and Math 4920.

D. ASSESSMENT MEASURES

- What key assessments/assignments/student work did you examine to directly assess the Program Level Student Learning Outcomes listed above?

  In Math 4320 and Math 4920, student work consisting of homework, quizzes, and exams was used. In Math 4920, students were assessed based on their work in reading, understanding, and presenting (in 15 minutes) a selected topic/paper of mathematics that was approved by the instructor.

- What, if any, indirect assessments (e.g. exit survey, alumni survey, focus groups, etc.) did you use to indirectly assess the Program Level Student Learning Outcomes listed above?

  None.
E. SIGNIFICANT FINDINGS
What did you find from your assessments? What did your data reveal about how well students are achieving the Program Level Student Learning Outcomes that you listed above?

A total of 17 students were surveyed and assessed based on the 4 learning outcomes listed above and here are the findings:
1) Advanced ability to reason logically.
   7 were rated as having satisfied this outcome “fairly well” and 10 were rated “very well”.
2) Ability to communicate effectively the mathematics they have learned, in both written and oral form.
   6 were rated “very well”, 10 “fairly well”, and 1 “not well”.
3) Ability to read junior/senior level mathematical texts and papers.
   6 were rated: “very well”, 10 “fairly well”, and 1 “not well”.
4) Understanding of the principles governing the mathematics and/or statistics they have encountered.
   6 were rated: “very well”, 9 “fairly well”, and 2 “not well”.

Based on these findings, it can be inferred that the majority of the students surveyed have satisfied the following University Learning Outcomes: 1) communicate effectively, 2) demonstrate mathematical literacy, and 3) evaluate arguments and evidence critically.

F. DISCUSSION OF RESULTS
How were results shared? With whom were they discussed?

They were shared with the Chair and the Undergraduate Committee.

G. ACTIONS PLANNED TO IMPROVE STUDENT LEARNING
Based on what you learned from your assessment of the Program Level Student Learning Outcomes, what actions do the faculty in your program plan to take to improve student learning in your program/area? Describe the steps faculty have taken/will take to use information from the assessments for improvement of student performance and the program. List additional faculty meetings or discussions and planned or actual changes to curriculum, teaching methods, approaches, or services that are in response to the assessment findings.

None at this point.

H. SUPPORTING DOCUMENTS (recommended)
Please attach minutes of program faculty meeting where discussion of results and action planning occurred and any other relevant documents.

N/A