



Mathematics | 2014-2015 Assessment Report

Please give a brief overview of the assessment data you collected this year.

The assessment data was collected through MATH 385 Foundations of Geometry for spring 2015.

1. It is a required course for Mathematics majors with a Mathematics emphasis and an elective course for Mathematics minors with a Mathematics emphasis.
2. It includes interdisciplinary contents that explores many topics of mathematics including Calculus, Linear Algebra, Analysis, Number Theory, Topology, and Geometry (Euclidean and Non-Euclidean). Students will apply them to the areas of History (Mathematics), Hyperbolic Space (Physics & Astronomy), transformation (picture distortion), Chaos Theory, Projective geometry (drawings), etc. So, several questions span across of the semester. It is problem-focused and students will write a lot of (mathematical) proofs.
3. There were 4 senior students who started the course for spring 2015 and all 4 students finished the course successfully with grade A or AB.
4. All 4 students were Mathematics majors with 1 or more other majors (Environmental Science, Bachelor of Science, Human Development, Business Administration, Computer Science).
5. The assessment includes a combination of 3 midterms, and the final.
6. All the exam problems are free-response, mostly consisting of proofs.
7. The following outcomes were assessed:

LO1. Mathematics majors will be able to understand the important mathematical/statistical concepts, theorems, formulas, computational techniques and axiomatic systems in the required courses.

LO2. Mathematics majors will be able to demonstrate the ability to follow, construct, and write mathematical proofs.

LO4. Mathematics majors will be able to pose mathematical/statistical problems, and select and apply appropriate mathematical/statistical theories, models and tools to solve and/or analyze the problems.

How will you use what you've learned from the data that was collected?

1. The students achieved an average score of 94.3%
2. The data shows that all of the students successfully demonstrated their understanding of most of the important concepts and skills. Their skills at proof writing were more than sufficient.
3. All LO1, LO2, LO4 were successfully implemented for spring 2015.