

Department of Mathematical Sciences

Degree Program Assessment Plan

I. Goals

The major goal of our program is to give students seeking degrees in mathematics a broad understanding of the field of mathematics.

- Students should have the ability to read and understand technical mathematical writing, including proofs, in such areas as algebra and analysis.
- Students should have the ability to communicate mathematical ideas, both in written and verbal form, to others.
- Students should be able to model complex problem situations in equivalent mathematical form and, once a solution is found, be able to translate the solution into the original problem context.
- Students should be able to use appropriate technology to explore and solve mathematical problems.
- Students should be able to apply mathematical knowledge in non-academic contexts.

II. Methodology

The Department of Mathematical Sciences uses several methods to assess students of mathematics. A major instrument of assessment is the use of student portfolios, containing representative work from all 400 level Mathematics courses taken by a student. Depending on the desires of the instructor, the representative work may include such items as final examinations, homework assignments, projects, papers, etc. Student research projects are also included in their portfolios.

Two surveys are also chief instruments of assessment. Every third year, a survey is taken of current students majoring in mathematics or secondary mathematics education. The current student survey takes place in the fall of years divisible by three, such as 2001, 2004, etc. The alumni survey takes place the year after the current student survey.

Other components of our assessment plan include records of student applications to graduate schools, and student performances on the Putnam and other competitive examinations.

III. Process

The Department of Mathematical Sciences meets annually, usually in its last meeting of the spring semester, to analyze the assessment information collected. Changes to the department's

degree programs, including curriculum and scheduling of courses, are considered in light of the accumulated assessment data. Further, the assessment plan itself is discussed and, if necessary, revised at this meeting.

IV. Participation

All full-time members of the department participate in the analysis and discussion of assessment data, as well as the revision of the assessment plan. Student surveys are structured in such a way that students are not just objects of assessment but are given the opportunity to suggest changes to the curriculum or degree programs. As noted above, alumni as well as current students are involved in the assessment process.

V. Records

The Department of Mathematical Sciences will keep an archive of student portfolios, student surveys, any other assessment data collected, copies of all assessment reports, and copies of its assessment plan on file in the department office. Copies of the assessment plan and reports will be placed on the departmental web page in a downloadable electronic format.