

Expected Educational Outcomes, Methods of Assessment, Results of Assessment, and Assessment Results Utilization

Department: Mathematics and Statistics

College: Arts and Sciences

Program: Mathematics and Statistics

Degree: MS

Expected Educational Outcome (Student Learning Objectives)	Method of Assessing Learning Objectives	Results of Assessments	Description of Ways Programs Were Improved as a Result of Assessments
Core knowledge of subject matter: analysis, algebra. Students with a deficient undergraduate mathematics background may be required to take one or more of MA 316 (Linear Algebra II), MA 413-4 (Algebra), MA 334-335 (Advanced Calculus). MA 535-536 (Real Analysis) is required for all students, and is a mandatory topic on the comprehensive exam. Mastery of core material is essential to success in subsequent courses, where it is evaluated and strengthened.	By a comprehensive written exam. This is normally taken in the student's final semester. The examination covers real analysis and two other subjects chosen by the student subject to approval of the Graduate Coordinator. It is graded by a committee of graduate faculty. A passing grade on each section is required for graduation. Students who do not pass the exam on the first attempt may be given a second opportunity if their coursework is satisfactory.	The department regularly assesses the program requirements and department activities such as colloquia and seminars to see if they are consistent with learning objectives. This is chiefly the responsibility of the Graduate Committee but also falls under the purview of the department's annual self-assessment.	
In-depth knowledge of several areas of modern mathematics and statistics. Elective coursework including at least one additional 2-course sequence. Comprehensive exam (exam topics must include an additional 2-course sequence). Ability to formulate conjectures and construct proofs or	By a comprehensive written exam.		

<p>counterexamples. Covered throughout the curriculum and in the comprehensive exam. A master's thesis usually includes the formulation and proof of new results.</p>			
<p>Ability to communicate advanced material in oral and written presentations at an expository or technical level. Oral presentation is addressed particularly in the Graduate Seminar (MA 592), which students must take in at least two semesters.</p> <p>Written communication is a major part of the thesis option and is also addressed throughout the curriculum, especially in project-oriented advanced courses. Faculty colloquia and seminars provide additional models of presentation, and there are opportunities for students to present their research in seminars and conferences.</p>	<p>In the context of courses, through written assignments, presentations and exams. Most graduate courses require students to submit extensive written work that is carefully evaluated for both content and clarity of presentation. Exams are given in most courses, but a final project may be required instead.</p> <p>Thorough evaluation by faculty of research done for a thesis or other directed study. Completion of a thesis is an option that is encouraged, particularly for stronger students and those planning to pursue an advanced degree.</p>		

<p>Ability to teach or tutor mathematics at the undergraduate level. This is important for students preparing for academic employment or a teaching assistantship in a Ph.D. program. Most students on assistantship work as teaching assistants for undergraduate courses and/or tutors in the department tutoring lab.</p>	<p>Acquisition of teaching skills is assessed by the faculty members the students are assisting.</p>		