The purpose of the graduate program in mathematics is to provide students desiring to go beyond the undergraduate level with the means for becoming capable and scholarly individuals. Students who have completed a graduate degree should have a comprehensive knowledge of their fields, the ability to communicate mathematics, and, in the case of Ph.D. students, an ability to engage in productive original research.

The goals of the Master’s program are to develop within the candidates the ability to read and understand mathematical writing, to analyze intricate mathematical problems, to write and communicate mathematics clearly, and to understand and formulate mathematical proofs. The extent to which these goals have been met are assessed in connection with the Masters oral examination; the examiners are asked to assess the student’s attainment of these goals independently of whether the student passes or fails the exam.

The goals for the Ph.D. program include all those for the Master’s program, plus the ability to find, read, and understand mathematical research papers in the candidate’s speciality and also the ability to create original mathematics. Attainment of these goals is assessed by the student’s committee in connection with the doctoral comprehensive examination and the Ph.D. dissertation defense.

At the time of each oral examination a questionnaire is given to the examining committee. With the Master’s oral and comprehensive exam, the committee is asked to rate evidence of the breadth of the student’s mathematical training, on a scale from 1 to 5, with 1 narrow and 5 broad. With the dissertation defense, the committee again uses 5 points scales, but addresses the originality of the student’s contribution and the student’s demonstrated ability to access the relevant literature.

To obtain more useful assessment data, the department recently developed a questionnaire which is distributed partway through the semester. For each Master’s or Ph.D. student, each instructor of the student receives a copy of the questionnaire to fill out and return. The questions for Master’s students are:

What is this student’s learning ability (average, above average, below average, barely keeping up with the course, going beyond the course)?
Can this student express a mathematical argument?
Motivation of this student: for this course: for mathematical sciences:
Would you encourage this student to pursue a Ph.D. in mathematical sciences?
Does the student perform well on written in-class exams?
The questions for Ph.D. students are:

What is student’s learning ability (average, above average, below average, barely keeping up with the course, going beyond the course)?
Can this student express a mathematical argument?
Motivation of this student: for this course: for mathematical sciences:
In your opinion, can this student complete a Ph.D. thesis?
Does the student perform well on written in-class exams?
If this course is part of a comprehensive sequence, can the student pass a comprehensive examination in this area?

(Question 5 for Master’s students and Questions 5, 6 for Ph.D students were added for Spring 2007. The Fall 2006 questionnaires did not include them.)

Faculty respond to these questions on a scale from 1 to 5, with 1 corresponding to weakest and 5 to best. Faculty include written comments and indicate what upon which evaluation instruments their answers are based.

Results are reported to the faculty in general faculty meetings and to the department’s Graduate Studies Committee, where further discussion takes place, as needed. Results are also posted on the department’s internal webpage.