Doctor of Philosophy

The PhD is a degree of distinction not to be conferred in routine fashion after completion of a specific number of courses or after attendance in Graduate School for a given number of years.

The department offers programs leading to the PhD degree in the areas of algebra, analysis, applied mathematics, combinatorics, geometry, mathematical physics, numerical analysis, probability, statistics, and topology. Advanced graduate courses in these areas are typically offered in Seminar: [Topic] (MATH 607). Each student, upon entering the graduate degree program in mathematics, reviews previous studies and objectives with the graduate advising committee. Based on this consultation, conditional admission to the master’s degree program or the pre-PhD program is granted. A student in the pre-PhD program may also be a candidate for the master’s degree.

Pre-PhD Program
To be admitted to the pre-PhD program, an entering graduate student must have completed a course of study equivalent to the graduate preparatory bachelor’s degree program described above. Other students are placed in the master’s degree program and may apply for admission to the pre-PhD program following a year of graduate study. Students in the pre-PhD program must take the qualifying examination by the beginning of their third year, during the week before classes begin fall term. It consists of examinations on two basic 600-level graduate course sequences, one each from two of the following three categories:

1. algebra
2. analysis and probability
3. topology and geometry

PhD Program
Admission to the PhD program is based on the following criteria:

- satisfactory performance on the qualifying examination
- completion of three courses at a level commensurate with study toward a PhD
- satisfactory performance in seminars or other courses taken as a part of the pre-PhD or PhD program.

Students who are not admitted to the PhD program because of unsatisfactory performance on the fall-term qualifying examination may retake the examination at the beginning of winter term.

A student in the PhD program is advanced to candidacy after passing a language examination and the comprehensive examination. To be eligible to take this examination, a student must have completed the language examination and nearly all the course work needed for the PhD.

Dissertation
PhD candidates in mathematics must submit a dissertation containing substantial original work in mathematics. Requirements for final defense of the dissertation are those of the Graduate School.