

MATHEMATICS PH.D.

General Graduate Program Requirements

Graduate School policies and standards can be found on the Graduate School Policies page (<https://catalog.umn.edu/graduate/school-policies/>).

The minimum GPA for any graduate program is 3.0. Individual programs may require more than a 3.0 to remain in good standing.

The minimum grade for a course to be accepted toward any master's or doctoral requirement is C. The minimum grade for a course to be accepted toward a certificate program is B-. Individual programs may require higher grades for specific courses.

Doctor of Philosophy - Mathematics

- The regular (Option 1) Ph.D. program prepares research specialists in the mathematical sciences. The department offers research training in algebra, analysis, applied mathematics, combinatorics & optimization, computer science, and topology.
- Our non-traditional (Option 2) Ph.D. program prepares college mathematics teachers and other "general practitioners" of mathematics. It emphasizes greater breadth in course work and less specialization than in the regular program. An emphasis in mathematics education is available under this option.
- A dissertation is required.
- Students must complete preliminary examinations in two areas.
- Students must complete a comprehensive examination emphasizing their area of specialization.

Course Requirements

Code	Title	Hours
Complete the following course:		
M 600	Mathematics Colloquium	1
M 590	Research	3
or M 699	Dissertation	
Complete 2 credits of the following courses in your area of research training:		2
M 504	Topics in Mathematics Education	
M 610	Graduate Seminar in Applied Mathematics	
M 620	Graduate Seminar in Algebra	
M 650	Graduate Seminar in Analysis	
M 680	Graduate Seminar in Combinatorics and Optimization	
Electives		54
Complete 54 credits of graduate-level Mathematics (M) or Statistics (STAT) courses.		
Total Hours		60