

DOCTOR OF PHILOSOPHY IN APPLIED MATHEMATICS

The Doctor of Philosophy in Applied Mathematics program provides advanced education through coursework (including independent study) and original, creative research in order to prepare students for careers in industrial research and academia.

Curriculum

Core Courses		(15)
A minimum GPA of 3.25 is required in the core courses.		
MATH 500	Applied Analysis I	3
MATH 577	Computational Mathematics I	3
Select a minimum of three courses from the following:		9
MATH 501	Applied Analysis II	3
MATH 540	Probability	3
MATH 553	Discrete Applied Mathematics I	3
MATH 563	Mathematical Statistics	3
MATH 578	Computational Mathematics II	3
Concentration Outside of Math		(6-12)
Select two to four classes		6-12
General Electives		(9-27)
Select 9 to 27 credits ¹		9-27
Ph.D. Research		(24-36)
MATH 691	Research and Thesis Ph.D.	24-36
Math Seminar		(0)
MATH 593	Seminar in Applied Mathematics ²	0

Minimum degree credits required: 72

¹ The remaining courses in each student's program are selected in consultation with, and approval of, the director of graduate studies. The program may include at most three courses at the 400-level and at most two courses outside the department.

² Students must take the colloquium/seminar course MATH 593 at least six times with a satisfactory grade.

Students must pass three written qualifying exams at the Ph.D. level on: MATH 500 Applied Analysis I, MATH 577 Computational Mathematics I, and one of the following: MATH 540 Probability, MATH 553 Discrete Applied Mathematics I, or MATH 563 Mathematical Statistics.

Students must pass one qualifying exam by the end of their third semester, and must pass all three by the end of their fifth semester. Students can attempt each exam twice, if needed. The exams will be offered twice every year, one in the fall and the other in spring. Students can take one, two, or three exams each semester.

Besides the courses in the core areas of study, the remaining courses in the program are selected in consultation with the student's academic adviser. The program may include at most three MATH courses at the 400-level. The program requires the student take the colloquium/seminar course MATH 593 at least six times with a satisfactory grade. The program must include at least two to four courses in an area of concentration outside of the department, as approved by the director of graduate studies; these may include 400-level courses.

The comprehensive examination consists of an oral examination based on the student's research proposal. The exam aims to ensure that the student has the background to carry out successful research in his/her chosen area and the proposed research has sufficient scholarly merit.

The dissertation (thesis) is expected to contain a distinct and substantial, original, and publishable contribution to the field of study. The credit hours devoted to thesis research (MATH 691) must total between 24 and 36. An oral examination in defense of the thesis constitutes completion of the degree.

Exceptions to these general rules require approval by the departmental graduate studies committee.