

MATHEMATICS, PH.D.

Degree Requirements (60 Post-Baccalaureate Hours)

The PhD is designed to produce a skilled, professional mathematician who is trained to conduct research in mathematics, function effectively as a classroom teacher at the college level, or become a professional practitioner in an industrial, business, government, or national laboratory setting.

Each candidate for the PhD degree is required to complete a minimum of 60 hours of course work beyond the baccalaureate degree, including 12 credit hours of dissertation research and writing (MATH 899). Students are advised by a doctoral committee. This committee is generally chaired by the major professor (dissertation supervisor) and consists of at least four members, one from outside the department. The core members are writers of the student's Comprehensive Exams.

Students pursuing the PhD degree in mathematics are required to take three examinations: the Admission to Candidacy, Comprehensive, and Doctoral Defense Examinations. These examinations are described in detail in the Graduate Handbook.

To complete the program, the student must write a dissertation, under the direction of a member of the graduate faculty, and defend the content of the dissertation in a final examination before the doctoral committee. It is expected that the content of the student's dissertation will be a significant contribution to the body of current research and will be published in a reputable journal.

To ensure breadth of mathematical training, each student is required to satisfactorily complete (B or better) 12 credit hours of course work in subject areas not covered by the Comprehensive Examination. Directed reading courses (MATH 798) may not be used to satisfy this requirement. Particular courses may be stipulated by the student's doctoral committee. The selection of the courses is subject to approval by the Graduate Director.

Doctor of Philosophy Degree: Concentration in Applied and Computational Mathematics (ACM)

Within the course, exam, and dissertation framework of the PhD, a student may, by selecting courses with some care, complete a program of study with an ACM Concentration; this will be denoted as an "Area of Emphasis" on the final transcript. The concentration is distinguished from the ordinary Ph.D. by three year-long sequences (18 credit hours).

The breadth requirement for the ACM Concentration is the same as for the ordinary PhD (12 credit hours drawn from subjects not covered by the Comprehensive Examination). A well-rounded program of study will normally encompass four different subjects, as listed in the Graduate Handbook. These should be selected in consultation with major professor, doctoral committee, and Graduate Director.