

Graduate Program Information

Courses: Students are required to complete the following core courses:

Real Analysis I, Real Analysis II, Complex Variables I, Algebra I, Algebra II, Topology I, Topology II, and Differentiable Manifolds. Students who have a Master's Degree and have completed equivalent course work, may have the above mentioned courses waived.

Additionally, all students are required to complete at least 12 credits of **advanced elective courses**. These electives are chosen in consultation with the student's Advisor, the Advisory Committee, and with the permission of the Graduate Program Director.

Written Qualifying Examination: The Ph.D. Qualifying Examination consists of three parts with each part covering the basic topics in a particular discipline:

Part 1 - Real and Complex Analysis

Part 2 - Algebra

Part 3 - Topology and Geometry

The exams are usually given right after the student finishes the course covering the particular topic. Students are expected to pass all Qualifying Exams no later than **January of their third year**.

Foreign Language Requirement: None

Dissertation: After successful completion of the Qualifying Exam, students begin their doctoral research under the direction of a faculty member. All students are required to take at least 24 credits of **doctoral dissertation research**. Upon completion, the dissertation is presented to the Thesis Committee which conducts a final oral examination.

The dissertation itself must be a single entity and a clearly written account of the student's original research. In addition to a description of the details and results of the research, it should contain an appropriate general and contextual introduction, written at a level accessible to others working in the wider field. If the thesis consists of more than one piece of research, the elements of the dissertation must be related parts of a common research program and should be tied together in the introduction and the conclusion.

The student and his advisor should propose an outside committee member to the Graduate Program Director at least one month before the defense date. The formal

doctoral defense should normally be scheduled at least one month in advance of the defense date. The committee members should all be present at the defense. Sometimes it is infeasible for the outside committee member to attend the defense. In this case, the outside committee member should write a letter to the graduate program director indicating that he or she approves of the thesis.

Reappointment: Teaching Assistants and Graduate Students are reappointed each year. Candidates for reappointment are judged on a combination of Instructional Competence and Scholarly Progress. Reappointments are always subject to availability of funds.

Instructional Competence: Each semester, Teaching Assistants and Graduate Students must show good performance in their teaching assignments to be considered for reappointment. Students may be put on probation, subject to future assessment, and possibly denied further support, if their performance is not deemed adequate.

Scholarly Progress – Year 1: Satisfactory progress for first year Teaching Assistants or Graduate Students should include good performance in all coursework (grades less than B are poor, while grades of B+ and A are considered satisfactory.) If most of a student's work is in advanced courses which offer only Pro-Forma grades (“Satisfactory” or “Unsatisfactory” grades), additional criteria may be used such as certification by faculty members of active and satisfactory participation in these courses. Students may be put on probation, subject to future assessment, and possibly denied further support, if their performance is not deemed adequate.

Scholarly Progress – Year 2: Satisfactory progress for second year Teaching Assistants and Graduate Students should include good performance in all course work (grades less than B are poor, while grades of B+ and A are considered satisfactory.) If most of a student's work is in advanced courses which offer only Pro-Forma grades (“Satisfactory” or “Unsatisfactory” grades), additional criteria may be used such as certification by faculty members of active and satisfactory participation in these courses. Students who have not already taken and passed their Qualifying Exam should show signs that they are preparing to take this exam sometime during the third year of study. Students may be put on probation, subject to future assessment, and possibly denied further support, if their performance is not deemed adequate.

Scholarly Progress - Year 3 and Beyond: Satisfactory progress for students in their third year or beyond should certainly include passing the Qualifying Exam by January of the third year. Students may be denied of support, if the exam has not been done. Students who have taken and passed their Qualifying Exam should be making

progress towards completion of their Ph.D. Such progress should include a choice of a thesis area and an advisor. Departmental evaluation of further progress will depend primarily on the assessment of the student's thesis advisor. Ordinarily, the Mathematics Department hopes to extend support to its students making satisfactory progress at least through the end of five years of study. Beyond that, the Department will consider each student individually and may need to put some students on the waiting list for support. The eventual support decision will be based on the resources available

Tuition Remission Credit/semester: each TAship is eligible for up to **12 credits per semester (24 per year) in tuition remission.**