

MATHEMATICS (PHD)

Graduate School

Program Website (<https://math.cornell.edu/>)

CIP: 27.0101 | HEGIS: 1701.00 | NYSED: 14745

Graduate Field

Mathematics (<https://catalog.cornell.edu/graduate-school/mathematics/>)

Program Description

The graduate program in the field of mathematics at Cornell leads to the Ph.D. degree, which takes most students five to six years of graduate study to complete. Students are not accepted for an M.S. degree. One feature that makes the program at Cornell particularly attractive is the broad range of interests of the faculty (<https://math.cornell.edu/research/>). The department has outstanding groups in the areas of algebra, algebraic geometry, analysis, applied mathematics, combinatorics, dynamical systems, geometry, logic, Lie groups, number theory, probability, and topology. The field also maintains close ties with distinguished graduate programs in the fields of applied mathematics (<http://www.cam.cornell.edu/>), computer science (<http://www.cs.cornell.edu/>), operations research (<http://www.orie.cornell.edu/>), and statistics (<http://www.stat.cornell.edu/>) and data science.

Ph.D. students in the field of mathematics may earn a Special Master's of Science in Computer Science (<https://math.cornell.edu/phd/>).

The field also offers a math minor and a math concentration (<https://math.cornell.edu/math-minor-and-math-concentration/>) to students in certain fields.

Concentrations

- Mathematics

Program Information

- Instruction Mode: In Person
- Location: Ithaca, NY
- Minimum Credits for Degree: 88

Program Requirements

- 6 semesters of GRAD Research Course
- 4 core courses
- Minimum Semesters for Degree: 6

Graduate School Milestones

- Responsible Conduct of Research Training: Required
- Open Researcher and Contributor ID (ORCID): Required
- Student Progress Reviews (SPR) begin: Second Year
- Examination for admission to candidacy (A Exam): Second year, before the beginning of third year
- Defense of Dissertation (B Exam): Spring of fifth year

Field Specific Milestones

- One semester of teaching assistantship recommended but not required

Course Requirements

Additional course requirements may be set by the student's Special Committee. Program specific requirements that apply to all students are included below.

Core Courses

- MATH 6110 Real Analysis
- MATH 6120 Complex Analysis
- MATH 6310 Algebra
- MATH 6320 Algebra
- MATH 6510 Algebraic Topology
- MATH 6520 Differentiable Manifolds

Year 1

- At least three core courses completed or satisfied

Year 2

- At least four core courses completed or satisfied
- GRAD 9010 Graduate-Level Research (Spring)

All Subsequent Terms

- GRAD 9011 Doctoral Dissertation Research

University Graduation Requirements Requirements for All Students

In order to receive a Cornell degree, a student must satisfy academic and non-academic requirements.

Academic Requirements

A student's college determines degree requirements such as residency, number of credits, distribution of credits, and grade averages. It is the student's responsibility to be aware of the specific major, degree, distribution, college, and graduation requirements for completing their chosen program of study. See the individual requirements listed by each college or school or contact the college registrar's office (<https://registrar.cornell.edu/service-resources/college-registrar-directory/>) for more information.

Non-academic Requirements

Conduct Matters. Students must satisfy any outstanding sanctions, penalties or remedies imposed or agreed to under the Student Code of Conduct (Code) or Policy 6.4. Where a formal complaint under the Code or Policy 6.4 is pending, the University will withhold awarding a degree otherwise earned until the adjudication process set forth in those procedures is complete, including the satisfaction of any sanctions, penalties or remedies imposed.

Financial Obligations. Outstanding financial obligations will not impact the awarding of a degree otherwise earned or a student's ability to access their official transcript. However, the University may withhold issuing a diploma until any outstanding financial obligations owing to the University are satisfied.

Learning Outcomes

- Complete under the guidance of an advisor a dissertation that makes an original and substantial contribution to its subject matter; disseminate results of the dissertation in the form of journal articles and conference presentations
- Prepare for careers as professional mathematicians in a variety of settings including academia, business, and government
- Develop the oral and written communication skills expected of a professional mathematician
- Undergo teaching assistant training and participate in the teaching mission of the mathematics department