

## DEPARTMENT OF MATHEMATICS

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### Graduate Study

The Mathematics Department offers programs covering a broad range of topics leading to the Doctor of Philosophy or Doctor of Science degree. Candidates are admitted to either the Pure or Applied Mathematics programs but are free to pursue interests in both groups. Of the roughly 120 doctoral students, about two thirds are in Pure Mathematics, one third in Applied Mathematics.

The programs in Pure and Applied Mathematics offer basic and advanced classes in analysis, algebra, geometry, Lie theory, logic, number theory, probability, statistics, topology, astrophysics, combinatorics, fluid dynamics, numerical analysis, theoretical physics, and the theory of computation. In addition, many mathematically oriented subjects are offered by other departments. Students in Applied Mathematics are especially encouraged to take subjects in engineering and scientific subjects related to their research.

All students pursue research under the supervision of the faculty and are encouraged to take advantage of the many seminars and colloquia at MIT and in the Boston area.

### *Doctor of Philosophy or Doctor of Science*

The requirements for these degrees are described on the department's website (<http://math.mit.edu/academics/grad/timeline>). In outline, they consist of an oral qualifying examination, a thesis proposal, completion of a minimum of 96 units (8 graduate subjects), experience in classroom teaching, and a thesis containing original research in mathematics.

### *Interdisciplinary Programs*

#### **Computational Science and Engineering**

Students with primary interest in computational science may also consider applying to the interdisciplinary Computational Science and Engineering (CSE) program, with which the Mathematics Department is affiliated. For more information, see the CSE website (<http://cse.mit.edu/programs>).

#### **Mathematics and Statistics**

The Interdisciplinary Doctoral Program in Statistics provides training in statistics, including classical statistics and probability as well as computation and data analysis, to students who wish to integrate these valuable skills into their primary academic program. The program is administered jointly by the departments of Aeronautics and Astronautics, Economics, Mathematics, Mechanical Engineering, Physics, and Political Science, and the Statistics and Data Science Center within the Institute for Data, Systems, and Society. It is open to current doctoral students in participating departments. For more information, including department-specific requirements, see the

full program description (<http://catalog.mit.edu/interdisciplinary/graduate-programs/phd-statistics>) under Interdisciplinary Graduate Programs.

### **Financial Support**

Financial support is guaranteed for up to five years to students making satisfactory academic progress. Financial aid after the first year is usually in the form of a teaching or research assistantship.

### **Inquiries**

For further information, see the department's website (<http://math.mit.edu/academics/grad>) or contact Math Academic Services, 617-253-2416.