# MATHEMATICS, PHD

The Department of Mathematics of the University of Pennsylvania offers a full Graduate Program in Mathematics, conferring the degrees of Master of Arts (A.M.), Master of Philosophy (M.Phil.), and Doctor of Philosophy (Ph.D.). The educational aim of this program is to provide well-rounded mathematical training for a career of research and teaching in mathematics, as well as for other careers which use advanced mathematics in a substantial way. Students are offered the possibility of a dual Ph.D. degree in Mathematics and a Masters degree in other subjects, including physics and computer science.

This program covers a variety of areas, including analysis, geometry-topology, algebra, mathematical physics, combinatorics, logic, and probability. See our Graduate Mathematics Page and our Math Department home page for detailed information about other aspects of this program and of the Penn Math Department as a whole, including its colloquia, seminars and lecture series, and the research interests of the faculty.

Full time Ph.D. students receive financial support for five years, at least two of which are in the form of a fellowship.

In addition, Penn offers an interdisciplinary graduate program in Applied Mathematics and Computational Science (https://catalog.upenn.edu/graduate/programs/applied-mathematics-computational-science-phd/), for which there is separate application process.

**For more information:** https://www.math.upenn.edu/graduate/

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2026 and later. Students should consult with their academic program regarding final certifications and requirements for graduation.

## Curriculum

| Code | Title | Course Units |
|---|---|---|
| MATH 6000 | Topology and Geometric Analysis | 1 |
| MATH 6010 | Topology and Geometric Analysis | 1 |
| MATH 6020 | Algebra | 1 |
| MATH 6030 | Algebra | 1 |
| MATH 6080 | Analysis I | 1 |
| MATH 6090 | Analysis II | 1 |
| Additional coursework chosen in consultation with advisor | | 14 |
| *Teaching Requirement* | | |
| Four semesters of teaching are required | | |
| **Dissertation** | | **3** |
| MATH 9950 | Dissertation | |
| **Total Course Units** | | **23** |

## University PhD Benchmarks

In addition to Program requirements, the following milestones must be completed:

| Code | Title | Course Units |
|---|---|---|
| Qualifying Evaluation | | |
| Candidacy Examination | | |
| Dissertation Defense/Oral Exam | | |
| Dissertation Deposit | | |

For more information view the University's Academic Rules for PhD Programs (https://catalog.upenn.edu/pennbook/academic-rules-phd/).