DEPARTMENT OF
MATHEMATICS
Doctoral Program

THE OHIO STATE UNIVERSITY

COLLEGE OF ARTS AND SCIENCES

Academic Profile

About eighty active graduate faculty on the Columbus and regional campuses are available to guide or help with dissertation research. Virtually every area of theoretical mathematics is represented in our program, including number theory, ergodic theory, algebraic and differential geometry, combinatorics, probability, real and complex analysis, differential equations, topology, and various algebraic subfields.

Prominent areas in applied mathematics are mathematical biology, data science, scientific computing, fluid dynamics, as well as our new specialization in actuarial science.

Preparations and Tracks

Prospective students can choose between the *theoretical track* and the *applied track* in their applications to our PhD program. Our department is also proud to introduce *actuarial mathematics* as our newest subfield of specialization in the applied track, having hired three professors in the last few years.

The tracks differ in their first- and second- year course requirements but later merge to provide the same research opportunities. Applicants for the theoretical track should have completed year-long sequences in real analysis and abstract algebra, and those for the applied track are expected to have had at least one-semester courses in real analysis, advanced linear algebra, and computational science.

Training and Outcomes

Our graduate program fosters a highly active research environment in which students are introduced to cutting edge research topics, routinely publish papers, forge collaborations, travel to conferences and organize their own research seminars. The majority of our recent PhD graduates have placed in competitive post-doctoral positions at strong research schools. Examples from recent years include Baylor, CUNY, Duke, Florida State University, McGill, Northwestern, Purdue and UIUC, as well as many other renowned state and international universities in recent years. Students interested in non-academic careers benefit from an industry-oriented lecture series as well. Recent non-academic placements include Meta, NSA, Pandora Bio, Siemens, Upstart, and prestigious financial institutions.

PhD students in our actuarial mathematics specialization are also encouraged to engage with risk management professionals and gain insights into industry practices through the *Ohio State Risk Institute*.

Mentoring and Student Community

Our program places a strong emphasis on mentoring at all levels. Besides their formal academic advisors, beginning doctoral students are assigned faculty and peer mentors as desired who will coach them through their transition into graduate school. Our lively and collaborative graduate student community includes active student chapters of the AWM and SIAM2I, local student groups such as our Math Grad Student Association and our LGBTQ+ Math Alliance, as well as numerous student organized seminars and working groups.

Support

All doctoral students in good standing are typically supported as Graduate Teaching Associates for six years. Numerous funding opportunities without teaching duties include university and departmental fellowships as well as grant-funded research associateships.

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