

Mathematics, PhD

LAMATHPHD

Are you interested in understanding the true depth of knowledge in the intradisciplinary subfields within mathematics? Discover important connections between different areas of mathematics and their applications using studies in algebra, topology, geometry, probability, analysis and logic.

Program description

Degree awarded: PHD Mathematics

The PhD program in mathematics is intended for students with exceptional mathematical ability. The program emphasizes a solid mathematical foundation and promotes innovative scholarship in mathematics and its many related disciplines.

The School of Mathematical and Statistical Sciences has very active research groups in analysis, number theory, geometry and discrete mathematics.

At a glance

- **College/School:** [The College of Liberal Arts and Sciences](#)
- **Location:** [Tempe](#)

Degree requirements

84 credit hours, a written comprehensive exam, a prospectus and a dissertation

Required Core (3 credit hours)

MAT 501 Geometry and Topology of Manifolds I (3) or

MAT 516 Graph Theory I (3) or

MAT 543 Abstract Algebra I (3) or

MAT 570 Real Analysis I (3)

Other Requirements (3 credit hours)

MAT 591 Seminar (3)

Electives (24-39 credit hours)**Research (27-42 credit hours)**

MAT 792 Research

Culminating Experience (12 credit hours)

MAT 799 Dissertation (12)

Additional Curriculum Information

Electives are to be chosen from math or related area courses approved by the student's supervisory committee.

Students must pass:

- two qualifying examinations
- a written comprehensive examination
- an oral dissertation prospectus defense

Students should see the department website for examination information.

Each student must write a dissertation and defend it orally in front of five dissertation committee members.

Admission requirements

Applicants must fulfill the requirements of both the Graduate College and The College of Liberal Arts and Sciences.

Applicants are eligible to apply to the program if they have earned a bachelor's or master's degree in mathematics or a closely related area from a regionally accredited institution.

Applicants must have a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in the last 60 hours of their first bachelor's degree program or a minimum cumulative GPA of 3.00 (scale is 4.00 = "A") in an applicable master's degree program.

All applicants must submit:

1. graduate admission application and application fee
2. official transcripts
3. statement of education and career goals
4. resume

5. three letters of recommendation
6. proof of English proficiency

Additional Application Information

An applicant whose native language is not English must provide [proof of English proficiency](#) regardless of their current residency.

Additional eligibility requirements include competitiveness in an applicant pool as evidenced by coursework in linear algebra (equivalent to ASU course MAT 342 or MAT 343) and advanced calculus (equivalent to ASU course MAT 371), and it is desirable that applicants have scientific programming skills.

Tuition information

When it comes to paying for higher education, everyone's situation is different. Students can learn about [ASU tuition and financial aid](#) options to find out which will work best for them.

Application deadlines

Fall

Summer [expand](#)

[expand](#)

Program learning outcomes

Program learning outcomes identify what a student will learn or be able to do upon completion of their program. This program has the following program outcomes:

- Apply advanced mathematical skills in coursework and research.
- Address an original research question in mathematics.
- Able to complete original research in theoretical mathematics.

Career opportunities

Graduates of the doctoral program in mathematics possess sophisticated mathematical skills required for careers in many different sectors, including education, industry and government. Potential career opportunities include:

- faculty-track academic
- finance and investment analyst
- mathematician
- mathematics professor, instructor or researcher
- operations research analyst
- statistician

Contact information

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