MATHEMATICS, PHD

for the Doctor of Philosophy in Mathematics

Graduate Degree Programs in Mathematics

- Actuarial Science, MS (http://catalog.illinois.edu/graduate/las/actuarial-science-ms/)
- Applied Mathematics, MS (http://catalog.illinois.edu/graduate/las/applied-mathematics-ms/)
- Mathematics, MS (http://catalog.illinois.edu/graduate/las/mathematics-ms/)
- Predictive Analytics and Risk Management, MS (http://catalog.illinois.edu/graduate/las/predictive-analytics-risk-management-ms/)
- Enterprise Risk Management (http://catalog.illinois.edu/graduate/las/predictive-analytics-risk-management-ms/enterprise-risk-management/)
- Financial and Insurance Analytics
- Mathematics, PhD (p. 1)

  • optional concentrations:
    - Actuarial Science & Risk Analytics (http://catalog.illinois.edu/graduate/las/mathematics-phd/actuarial-science-risk-analytics/)
    - Computational Science and Engineering (http://catalog.illinois.edu/graduate/engineering/concentration/computational-science-engineering/)
    - Teaching of Mathematics, MS (http://catalog.illinois.edu/graduate/las/teaching-mathematics-ms/)

MATH 500  Abstract Algebra I  4
MATH 540  Real Analysis  4
Plus choose three of the following:  12
MATH 511  Intro to Algebraic Geometry
MATH 518  Differentiable Manifolds I
MATH 525  Algebraic Topology I

Information listed in this catalog is current as of 05/2024


department’s Guide
to Graduate Studies (https://www.math.illinois.edu/directory/faculty-by-type/) and the Graduate College Handbook (http://www.grad.illinois.edu/gradhandbook/).

Requirements

Students working toward a Ph.D. degree usually require from four to six years to complete the requirements. Each student must pass the comprehensive examinations (testing the student’s knowledge of basic graduate-level mathematics in algebra, analysis, and other areas) and the preliminary examination (testing the student’s ability to begin or continue research in a chosen field). Students must also write and defend a research thesis in their field of mathematics.

For additional details and requirements refer to the department’s Guide to Graduate Studies (https://math.illinois.edu/academics/graduate-program-mathematics/) and the Graduate College Handbook (http://www.grad.illinois.edu/gradhandbook/).

Requirements

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Mathematics Department

Department Chair: Vera Hur
Director of Graduate Studies: Yuliy Baryshnikov
Mathematics Department website (http://www.math.illinois.edu/)
Mathematics Department faculty (https://math.illinois.edu/directory/faculty-by-type/)
Mathematics faculty research (https://math.illinois.edu/research/faculty-research/)

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Requirements

Students must demonstrate competence in five core courses including the following:

To demonstrate competence, a student must receive a B+ or higher in the course, or pass a written exam on the topic:

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1. Acquire a foundation in abstract algebra at the graduate level.
2. Acquire a foundation in real analysis at the graduate level.
3. Acquire a suitable breadth of knowledge to provide a foundation for undertaking high-level research.
4. Gain a broad understanding of the range of current research in the mathematical sciences.
5. Demonstrate depth of knowledge in chosen area of research specialization.
6. Gain the ability to conduct independent mathematical research at a professional level.
7. Gain experience and competence in the teaching of mathematics at the college level.
Mathematics, PhD

273 Altgeld Hall, 1409 West Green Street, Urbana, IL 61801
(217) 333-5749
Mathematics email (math-grad@illinois.edu)

College of Liberal Arts & Sciences
College of Liberal Arts & Sciences website (https://las.illinois.edu/)

Admissions
Mathematics Admissions & Requirements (https://math.illinois.edu/admissions/graduate-program-mathematics-admissions/#Math-PhD)
Graduate College Admissions & Requirements (https://grad.illinois.edu/admissions/apply/)

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