MATHEMATICS

www.math.illinois.edu (http://www.math.illinois.edu)

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Director of Graduate Studies: Richard Laugesen
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Major: Applied Mathematics
Degrees Offered: M.S.
Graduate Concentration: Actuarial Science (in Applied Mathematics only)

Major: Mathematics
Degrees Offered: M.S., Ph.D.

Major: Teaching of Mathematics
Degrees Offered: M.S.

Medical Scholars Program: Doctor of Philosophy (Ph.D.) in Mathematics and Doctor of Medicine (M.D.) through the Medical Scholars Program (http://www.med.uiuc.edu/mdphd)

Graduate Degree Programs

The department offers graduate study leading to the Master of Science in Mathematics, the Doctor of Philosophy in Mathematics, the Master of Science in Applied Mathematics, and the Master of Science in the Teaching of Mathematics. Opportunity also exists for specializing in computational science and engineering within the department’s graduate programs via the Computational Science and Engineering (CSE) Option (http://cse.illinois.edu).

Admission

In addition to the University requirements for admission to the Graduate College, there are a number of requirements that are specific to the Department of Mathematics.

GRE (Graduate Record Examination) scores are required by the Department of Mathematics, both the general test and the subject test in mathematics, for admission from all applicants to the PhD program who live in the United States or Canada. The tests are not required from other applicants, but students’ chances of admission and of receiving financial aid will be better if they submit these test scores. GRE scores are also required for all fellowship applications.

All students admitted to the PhD program must have full financial support, either from the Department of Mathematics (teaching assistantship or fellowship) or from another source (minimum 5 years).

For students whose native language is not English the University admission requirements include proof of proficiency in English, as measured by the TOEFL (Test of English as a Foreign Language) or IELTS (International English Language Testing System). For more information on these requirements for admission see www.grad.illinois.edu/admissions/taengprof.htm (http://www.grad.illinois.edu/admissions/taengprof.htm).

In addition, a minimum TOEFL iBT speak score of 22 (or IELTS 7.0) is required to be considered for the Math Ph.D. program at Illinois.

A minimum TOEFL iBT score of 20 (IELTS 7.0) is required to be considered for the Math M.S. programs at Illinois. The only exceptions will be for those applicants exempt from the English requirement for admission, (see www.grad.uiuc.edu/admissions/instructions/04c (http://www.grad.uiuc.edu/admissions/instructions/04c)).

In addition, International Teaching Assistants must demonstrate proficiency in spoken English, as measured by the Internet Based TOEFL (IBT), the IELTS, the TSE (Test of Spoken English), or the university-administered EPI (English Proficiency Interview) test. For more information on these requirements for appointment as an International TA see cte.illinois.edu/testing/oral_eng/main.html (http://cte.illinois.edu/testing/oral_eng/main.html). Students who do not satisfy these requirements are not eligible to receive appointments as Teaching Assistants in the classroom.

International students who have studied in the United States may be exempt from the English admission requirement, but must still submit the TOEFL or equivalent to qualify as a teaching assistant.

The submission deadline for applications for Fall Semester that include a request for financial aid is January 7. The deadline for supplemental materials (including letters of recommendation and transcripts) is January 7. Only applications which are complete will be reviewed. Applications for admission to M.S. programs without funding can be considered up to March 1. The deadline for all applications for spring semester is the preceding October 1. The Department of Mathematics reserves the right to close the acceptance of applications at any time.

Medical Scholars Program

The Medical Scholars Program permits highly qualified students to integrate the study of medicine with study for a graduate degree in a second discipline, including mathematics. Students may apply to the Medical Scholars Program prior to beginning graduate school or while in the graduate program. Applicants to the Medical Scholars Program must meet the admissions standards for and be accepted into both the doctoral graduate program and the College of Medicine. Students in the dual degree program must meet the specific requirements for both the medical and graduate degrees. On average, students take eight years to complete both degrees. Further information on this program is available by contacting the Medical Scholars Program, 125 Medical Sciences Building, (217) 333-8146 or at www.med.illinois.edu/msp (http://www.med.illinois.edu/msp).

Graduate Teaching Experience

Although teaching is not a general Graduate College requirement, experience in teaching is considered an important part of the graduate experience in this program.

Financial Aid

Financial aid is available in the form of teaching assistantships, research assistantships, and fellowships. The same application is used for decisions on admission, assistantships, and fellowships. The deadline for equal consideration for fellowships and assistantships is January 7, but later applications for assistantships will be considered if positions are available.

The master’s degree programs can be completed in one-and-one-half years of full-time study by students entering without deficiencies.
• Master of Science in Applied Mathematics, Actuarial Science Concentration (http://catalog.illinois.edu/graduate/graduate-majors/math/ms-applied=math-conc-actuarial-science)
• Master of Science in Applied Mathematics, Applications to the Sciences option (http://catalog.illinois.edu/graduate/graduate-majors/math/ms-applied-math-apps-sciences)
• Master of Science in Applied Mathematics, Computational Science and Engineering option (http://catalog.illinois.edu/graduate/graduate-majors/math/ms-applied-math-science-applied-math-compute-science-eng)
• Master of Science in Applied Mathematics, Optimization and Algorithms option (http://catalog.illinois.edu/graduate/graduate-majors/math/ms-applied-math-optimiz-algo)
• Master of Science in Mathematics (http://catalog.illinois.edu/graduate/graduate-majors/math/ms-math)
• Master of Science in Teaching of Mathematics (http://catalog.illinois.edu/graduate/graduate-majors/math/ms-teaching-math)

Doctor of Philosophy in Mathematics
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.

Students must demonstrate competence in five core courses. Two of these are required to be MATH 500 (Abstract Algebra) and MATH 540 (Real Analysis). Students must also demonstrate proficiency in undergraduate complex analysis.

<table>
<thead>
<tr>
<th>Master’s equivalency</th>
<th>32</th>
</tr>
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<tbody>
<tr>
<td>MATH 599 Thesis Research</td>
<td>0</td>
</tr>
<tr>
<td>Total Hours</td>
<td>96</td>
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Other Requirements
Other requirements may overlap
MATH 405, MATH 406, MATH 415, MATH 444, and MATH 499 cannot be counted toward graduate degrees in Math.

64 hours in residence

Masters Degree Required for Admission to PhD? | No
Comprehensive Exam Required | Yes
Preliminary Exam Required | Yes
Final Exam/Dissertation Defense Required | Yes
Dissertation Deposit Required | Yes
Minimum GPA: | 3.25

1 For additional details and requirements refer to the department’s Guide to Graduate Studies (http://www.math.illinois.edu/GraduateProgram) and the Graduate College Handbook (http://www.grad.illinois.edu/gradhandbook).