

# ACTUARIAL SCIENCE, MS

for the Master of Science in Actuarial Science

The Master of Science in Actuarial Science prepares students with quantitative undergraduate degrees for actuarial professional careers. The program offers a unique blend of coursework for both professional training and advanced techniques and opportunities for experiential learning.

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For additional details and requirements refer to the department's Guide to Graduate Studies (<https://files.webservices.illinois.edu/7917/GraduateGuide18-19.pdf>) and the Graduate College Handbook (<https://grad.illinois.edu/gradhandbook/>).

## Non-Thesis Option

Code	Title	Hours
Two courses chosen from the following:		8
ASRM 510	Financial Mathematics	
ASRM 561	Loss Data Analytics & Credibility	
ASRM 569	Extreme Value Theory and Catastrophe Modeling	
ASRM 575	Life Insurance and Pension Mathematics	
MATH 563	Risk Modeling and Analysis	
Electives chosen in consultation with the faculty advisors. These electives may include additional courses from the list above.		24
<b>Total Hours</b>		<b>32</b>

## Other Requirements

Requirement	Description
MATH 405, MATH 406, MATH 415, MATH 444, and MATH 499 cannot be counted toward this graduate degree.	
Minimum hours required within ASRM:	20
Minimum GPA:	3.0
Minimum 500-level hours required overall:	12

## Thesis Option

Code	Title	Hours
Two courses chosen from the following:		8
ASRM 510	Financial Mathematics	
ASRM 561	Loss Data Analytics & Credibility	
ASRM 569	Extreme Value Theory and Catastrophe Modeling	
ASRM 575	Life Insurance and Pension Mathematics	
MATH 563	Risk Modeling and Analysis	
Electives chosen in consultation with the faculty advisors. These electives may include additional courses from the list above.		20

Thesis Research (min/max applied toward degree)	4
<b>Total Hours</b>	<b>32</b>

## Other Requirements

Requirement	Description
MATH 405, MATH 406, MATH 415, MATH 444, and MATH 499 cannot be counted toward this graduate degree.	
Minimum hours required within ASRM:	20
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1. Acquire a broad foundation of actuarial knowledge.
2. Develop actuarial modeling skills.
3. Be able to utilize actuarial knowledge to address various technical problems arising from a variety of areas of actuarial practice.

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## Graduate Degree Programs in Mathematics

- Actuarial Science, MS (p. 1)
- 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 (<http://catalog.illinois.edu/graduate/las/mathematics-phd/>)
- 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/>)

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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/>)

Actuarial Science faculty research (<https://math.illinois.edu/research/faculty-research/actuarial-science/>)  
273 Altgeld Hall, 1409 West Green Street, Urbana, IL 61801  
(217) 333-5749  
Mathematics email ([math-grad@illinois.edu](mailto: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/#MS-ActSci>)  
Graduate College Admissions & Requirements (<https://grad.illinois.edu/admissions/apply/>)