

# 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://math.illinois.edu/academics/graduate-program/forms-guidebooks-handbooks-life-resources/>) 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 563	Risk Modeling and Analysis	
ASRM 569	Extreme Value Theory and Catastrophe Modeling	
ASRM 575	Life Insurance and Pension Mathematics	
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 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 563	Risk Modeling and Analysis	
ASRM 569	Extreme Value Theory and Catastrophe Modeling	
ASRM 575	Life Insurance and Pension Mathematics	
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

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1. Acquire the mathematical and statistical foundation needed to assess risks.
2. Devise and implement actuarial models for life and nonlife applications.
3. Use appropriate software to collect, clean and analyze data relevant to actuarial modeling.
4. Communicate technical findings clearly and efficiently.
5. Complement the academic credentials with professional designations.
6. Be acquainted with the Actuarial Code of professional conduct.

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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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## Actuarial Science and Risk Management

Director: Feng Liang

Program website (<https://asrm.illinois.edu/>)

ASRM faculty (<https://asrm.illinois.edu/directory/faculty/>)

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## College of Liberal Arts & Sciences

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

## Admissions

ASRM MS Admissions & Requirements (<https://asrm.illinois.edu/ms-in-actuarial-science/>)

Graduate College Admissions & Requirements (<https://grad.illinois.edu/admissions/apply/>)