ACTUARIAL SCIENCE, BSLAS

for the degree of Bachelor of Science in Liberal Arts and Sciences Major in Actuarial Science

This major is sponsored by the Department of Mathematics, and is an interdisciplinary subject involving mathematics, statistics, and financial economics. It is designed to prepare students to enter the actuarial profession, as well as to provide a background in quantitative finance and risk management.

Undergraduate programs in Mathematics

Actuarial Science, BSLAS (p. 1)

Mathematics, BSLAS (http://catalog.illinois.edu/undergraduate/las/mathematics-bslas/#text)

Mathematics & Computer Science, BSLAS (http://catalog.illinois.edu/undergraduate/eng_las/mathematics-computer-science-bslas/)

for the degree of Bachelor of Science in Liberal Arts & Sciences, Major in Actuarial Science

Departmental distinction: To qualify for distinction, the student must have a grade point average in ASRM courses of at least 3.25, and pass at least two examinations offered by the professional actuarial societies. To qualify for high or highest distinction, the student must have passed at least three professional exams, with highest distinction going to those whose grade point averages in mathematics are at least 3.75. Finance courses and additional professional exams may also be given consideration in close decisions.

General education: Students must complete the Campus General Education requirements including the campus general education language requirement.

Minimum required major and supporting course work: normally equates to 57-61 hours including 32-33 hours of actuarial courses beyond calculus. Twelve hours of 300- or 400-level courses in the major must be taken on this campus.

Minimum hours required for graduation: 120 hours. Students will complete 40 hours of upper division coursework (these hours can be drawn from all elements of the degree).

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Calculus through:</td>
<td></td>
<td>11-12</td>
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<tr>
<td>MATH 220</td>
<td>Calculus</td>
<td></td>
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<tr>
<td>or MATH 221</td>
<td>Calculus I</td>
<td></td>
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<tr>
<td>MATH 231</td>
<td>Calculus II</td>
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<tr>
<td>MATH 241</td>
<td>Calculus III (or equivalent)</td>
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<tr>
<td>Select one of the following:</td>
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<td>3-4</td>
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<tr>
<td>ASRM 195</td>
<td>Foundations of Data Management</td>
<td></td>
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<tr>
<td>CS 101</td>
<td>Intro Computing: Engr &amp; Sci</td>
<td></td>
</tr>
<tr>
<td>CS 105</td>
<td>Intro Computing: Non-Tech</td>
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<tr>
<td>CS 124</td>
<td>Introduction to Computer Science I</td>
<td></td>
</tr>
<tr>
<td>CS 125</td>
<td>Introduction to Computer Science</td>
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Select one of the following sequences (ASRM preferred):

- ASRM 401 & ASRM 402: Actuarial Statistics I and Actuarial Statistics II
- OR
- STAT 400 & STAT 410: Statistics and Probability I and Statistics and Probability II
- ASRM 406: Linear Algebra with Financial Applications
- ASRM 450: Methods of Applied Statistics

Select four of the following:

- ASRM 409: Stochastic Processes for Finance and Insurance
- ASRM 410: Investments and Financial Markets
- ASRM 451: Basics of Statistical Learning
- ASRM 461: Loss Models
- ASRM 469: Casualty Actuarial Mathematics
- ASRM 471: Life Contingencies I
- ASRM 472: Life Contingencies II
- FIN 221: Corporate Finance

Three additional courses from:

- ACCY 200: Fundamentals of Accounting
- ECON 302: Inter Microeconomic Theory
- ECON 303: Inter Macroeconomic Theory
- FIN 230: Introduction to Insurance
- FIN 300: Financial Markets
- FIN 321: Advanced Corporate Finance
- FIN 431: Property-Liability Insurance
- FIN 432: Managing Market Risks for Financial Institutions
- FIN 434: Employee Benefit Plans

Total Hours: 57-61

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Student Learning Outcomes

1. Have sufficient exposure to actuarial and financial mathematics to be familiar with at least 80% of the material on five of preliminary Society of Actuaries credentialing exams.
2. Be familiar with the role of insurance in society, basic economic theory, and the basics of how insurance and financial markets operate.
3. Have familiarity with several of the technical tools, computer languages or software packages used by actuaries.
4. Develop communication, leadership and teamwork skills, and understand their importance in the actuarial industry.
5. Be able to apply this knowledge and these skills in new combinations and to new problems.

Information listed in this catalog is current as of 12/2023
program website: Actuarial Science (https://math.illinois.edu/academics/actuarial-science/)
program faculty: Actuarial Science Faculty (https://math.illinois.edu/research/faculty-research/actuarial-science/)
department website: https://math.illinois.edu/
email: ASRM-advising@illinois.edu
overview of college admissions & requirements: Liberal Arts & Sciences (http://catalog.illinois.edu/schools/las/)
college website: https://las.illinois.edu/