

## Actuarial Science

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An actuary is a mathematician responsible for estimating risks, primarily in the insurance and financial security industries. The Butler program helps to prepare students for the jointly administered CAS/SOA Examinations P, FM, MLC, MFE and C. In addition to the departmental requirements below, a student must complete the University Core Curriculum, the College of Liberal Arts and Sciences language requirement, and other general requirements, including a writing intensive course.

### Requirements for the Major

MA106, 107, 208, Calculus and Analytic Geometry I, II, III  
MA215, Linear Algebra  
MA360, Probability Theory I  
MA361, Statistical Theory  
MA362, Applied Statistical Methods  
MA363, Probability Theory II  
MA372, Loss Models  
MA395, Financial Mathematics  
MA397, Actuarial Mathematics I  
MA398, Actuarial Mathematics II  
MA399, Financial Derivatives

### Requirements for the Minor

MA106, 107, Calculus and Analytic Geometry I, II  
MA360, Probability Theory I  
MA395, Financial Mathematics  
Two of the following courses:  
MA363, Probability Theory II  
MA372, Loss Models  
MA397, Actuarial Mathematics I  
MA398, Actuarial Mathematics II  
MA399, Financial Derivatives

### Recommendation:

Actuarial Science majors should complete the following business courses: AC203, 204 (Introduction to Accounting I, II), MS265 (Information Management), EC231, 232 (Principles of Micro/Macroeconomics), FN340 (Corporation Finance) and FN347 (Investments). CS142 (Programming) is also recommended. In addition, Actuarial Science majors are strongly encouraged to pass the CAS/SOA Exam P (probability) and FM (mathematics of finance), and obtain a summer internship while still an undergraduate.

Students will be required to submit to SOA grades of B- or better for FN340, FN347, EC231, EC232, and MA362 to validate educational experience for these courses.

*Suggested Schedules - First two years with start in MA 106 or MA 107*

	Fall	Spring
First Year	MA106 MS100 (4 weeks) FYS & Foreign Language CS142 or core electives	MA107 EC231 and/or AC 203 MS265 FYS & Foreign Language
Second Year	MA208 MA360 GHS Complete AC203 & EC231 (or continue in AC204, EC232)	MA363 → Exam P MA361 GHS Finish AC203-204 and EC 231-232

*Suggested Schedules - First two years with start in MA 360 + MA 107/208*

	Fall	Spring
First Year	MA107/MA 208 MA360 MS100 (4 weeks) FYS & Foreign Language	MA361 MA363 → Exam P MS265 FYS & Foreign Language Optional: Start EC231 and/or AC 203
Second Year	MA208 MA395 → Exam FM GHS Complete AC203 & EC231 (or continue in AC204, EC232)	MA 215/CS142 GHS Complete AC203-204 and EC 231-232

*Suggested Schedules - Years 3 and 4*

Third Year <i>odd fall/even spring</i>	MA395 → Exam FM MA397 Apply for summer internships Optional: FN 340/347	MA398 MA215 optional: CS142
Fourth Year <i>even fall/odd spring</i>	MA362 Complete CS142, MA215 FN340	MA372 MA399 FN347

Third Year <i>even fall/odd spring</i>	MA395 → Exam FM MA362 Apply for summer internships Optional: FN 340/347	MA372 MA399 CS142 or MA215
Fourth Year <i>odd fall/even spring</i>	MA397-W FN340 Complete CS142 , MA215	MA398 FN347

- Other requirements: 120 credit hours, at least 40 of which are ≥ 300 level; Core, ICR, and C-course requirements.
- Best semesters for study abroad options: Spring of 2<sup>nd</sup> year or during MA397-398 with careful advanced planning.
- Actuarial Science majors are strongly encouraged to pass the jointly administered CAS/SOA Exams P (Probability) and FM (Mathematics of Finance) and obtain a summer internship while still an undergraduate.

