Actuarial Science

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 professional examinations administered by the Casualty Actuary Society and the Society of Actuaries. 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
MA 215, Linear Algebra
MA 360, Probability Theory I
MA 361, Statistical Theory
MA 362, Linear Regression and Time Series
MA 363, Probability Theory II
MA 372, Loss Models
MA 395, Financial Mathematics
MA 397, Actuarial Mathematics I
MA 398-W, Actuarial Mathematics II
MA 399, Financial Derivatives

Recommendation: Actuarial Science majors should complete the following courses:
AC 203, AC 204 Introduction to Accounting I, II
MS 100 Basic Excel Skills for Business Applications
MS 265 Information Technology
EC 231, EC 232 Principles of Micro/Macroeconomics,
FN 340, Corporation Finance
CS 142 Introduction to Computer Science
MA 495, Mathematics for Investment Portfolios

Students will be required to submit to SOA grades of B- or better for FN 340, AC 203, EC 231, EC 232, and MA 361 to receive “validation by educational experience” credit for these courses.

In addition, Actuarial Science majors are strongly encouraged to pass the CAS/SOA Exams 1/P (probability) and 2/FM (mathematics of finance) and to obtain a summer internship while still an undergraduate.

Requirements for the Minor

MA 106, 107, Calculus and Analytic Geometry I, II
MA 360, Probability Theory I
MA 395, Financial Mathematics
Two of the following courses:
- MA 363, Probability Theory II
- MA 372, Loss Models
- MA 397, Actuarial Mathematics I
- MA 398-W, Actuarial Mathematics II
- MA 399, Financial Derivatives

Suggested Schedules

First two years – Starting 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

First two years – Starting in MA 360 and MA 107 or MA 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

Years 3 and 4

Third Year *odd fall/even spring*	MA395 → Exam FM MA397 CS142 Apply for summer internships Optional: FN 340; MA362	MA398-W MA215 optional: CS142
Fourth Year *even fall/odd spring*	MA362 MA215 FN340	MA372 MA399 Optional: MA495
Third Year *even fall/odd spring*	MA395 → Exam FM MA362 CS142 Apply for summer internships Optional: FN 340	MA372 MA399 CS142 or MA215 Optional: MA495
Fourth Year *odd fall/even spring*	MA397 FN340 MA215	MA398-W

•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 2nd year or during MA397-398 with careful advanced planning.

For more information, visit the Mathematics, Statistics, and Actuarial Science Department website at:
www.butler.edu/math-actuarial