

# ACTUARIAL SCIENCE

*Interdisciplinary Major*

## Co-Directors

Mark Mills and Graham Lemke

## Statement of philosophy

The actuarial science major is specifically designed to prepare students for a career as an actuary. However, combined with the Central liberal arts education, students completing this major have a broad foundation that will prepare them for many different business-oriented careers.

Because an actuary must have both mathematical/technical skills and more general business skills, the major combines components from mathematics and business. Students completing the actuarial science major will have a strong foundation in the material for the actuarial industry's first two preliminary professional exams which cover calculus-based probability and financial mathematics. Ideally, students will have passed at least these two exams prior to graduation. In addition, students will also have completed all three of the actuarial industry's Validation by Educational Experience (VEE) requirements: Economics, Accounting and Finance, and Mathematical Statistics.

Internships are strongly recommended. They may be obtained through local or regional businesses and organizations, or potentially through one of Central's international program sites or the Chicago Metropolitan Center. This experience provides the student with rich learning opportunities and puts course work into practice.

Actuarial Science majors are encouraged to consider the study abroad experience during the spring of their second year or the fall semester of their third or fourth year, depending upon their progression in the major. Some schedule adjustments will need to be made in order to accommodate a semester abroad, so it is important to plan ahead and speak with one of the major's co-directors early.

## Major Communication Skills

Students will complete COMM-160 or COMM-270 with a minimum grade of "C".

## Major/minor restrictions

Actuarial Science majors cannot also declare a major or a minor in either business management or mathematics.

## Actuarial Science Major Requirements (59 credits)

### 1. Complete all of the following:

ACCT 241	Introduction to Financial Accounting (3)
ACCT 242	Introduction to Management Accounting (3)
BMGT 261	Principles of Finance (3)
BMGT 362	Principles of Investment (3)
BMGT 462	Derivative Markets (3)
COSC 110	Introduction to Computer Science (3)
ECON 112	Principles of Microeconomics (3)
ECON 113	Principles of Macroeconomics (3)
ECON 281	Research Methods in Economics (4)
MATH 131	Calculus I (4)
MATH 132	Calculus II (4)
MATH 215	Applied Statistics (4)
MATH 231	Multivariable Calculus (3)
MATH 240	Linear Algebra (4)
MATH 330	Mathematical Modeling (3)
MATH 341	Probability (3)
MATH 342	Statistics (3)

**2. Complete one of the following courses with a grade of at least a "C":**

COMM 160 Communication in Everyday Life (3)

COMM 270 Public Speaking (4)

Note: COMM 270 Public Speaking is the preferred course.

**Additional recommended courses**

Students who want to get additional quantitative experience are encouraged to complete three additional economics courses.

ECON 312 Microeconomic Theory

ECON 313 Macroeconomic Theory

ECON 485 Economics Research Seminar

Students are encouraged to take additional courses as their schedules allow. While the courses below are not required for the major, having them will better prepare students for future job experiences.

BMGT 231 Business Law I

BMGT 311 Principles of Management

BMGT 363 Advanced Financial Management

COSC 109 Intro to Information Management

COSC 130 Data Structures

ECON 324 Monetary Theory and the Financial System

ENGL 244 Professional Writing