

# ACTUARIAL SCIENCE

*Interdisciplinary Major*

## Co-Directors

Mark Mills, Jessica Schuring 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 good foundation in the material for the actuarial industry's Exam P (Probability), will have some background in the material for Exam FM (Financial Mathematics), and will have completed the actuarial industry's Validation by Educational Experience (VEE) requirements in Economics, Corporate Finance, and Applied Statistical Methods (Regression). In addition, students may fulfill the VEE requirement in Applied Statistical Methods (Time Series) by taking three additional economics courses not contained in the actuarial science major. (See Additional recommended courses section below.)

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 or third 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.

## Transfer Policy for the Actuarial Science Major

All 300 – 400 level courses offered by the Economics/Accounting/Management (EAM) Department to fulfill requirements for Accounting, Actuarial Science, Business Management, and Economics majors and Accounting, Business Management, Economics, Entrepreneurship and Not-for-Profit minors will be taken in residence or on an approved Central College off-campus program. Exceptions to this are allowed with departmental approval.

## 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 (56 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	311	Principles of Management (3)
BMGT	362	Principles of Investment (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)

**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 (3)

**Additional recommended courses**

Students pursuing the Actuarial Science major are encouraged to take three additional economics courses to fulfill the VEE requirement in Applied Statistical Methods (Time Series). These courses are:

ECON 312 Microeconomic Theory

ECON 313 Macroeconomic Theory

ECON 485 Economics Research Seminar

In addition, 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 actuarial exams and job experiences.

BMGT 231 Business Law I

BMGT 332 Business Law II

BMGT 363 Advanced Financial Management

COSC 130 Data Structures

ECON 324 Monetary Theory and the Financial System

MATH 342 Statistics

MATH 370 Numerical Analysis