ACTUARIAL SCIENCE

Interdisciplinary Major

Faculty
Mark Mills (director)

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). (Students will still have to fulfill the VEE requirement in Applied Statistical Methods (Time Series) elsewhere.)

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.

Major/minor restrictions
Actuarial Science majors cannot also declare a major in mathematics/computer science or a major or a minor in either business management or mathematics.

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, Economics, and International Management majors and Accounting, Business Management, Economics, Not-for-Profit, and International Management minors will be taken in residence or on an approved Central College off-campus program. Exceptions to this are allowed only with departmental approval.

Actuarial Science Major Requirements (52 s.h.)

1. **Complete *all* of the following:**

ACCT	241	Introduction to Financial Accounting (3)
ACCT	242	Introduction to Management Accounting (3)
BMGT	311	Principles of Management (3)
BMGT	361	Corporate Finance (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	Quantitative Methods for Business and Economics (3)
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 all requirements listed below for the Communication Skills Endorsement.**

Communication skills endorsement
The major's communication skills requirement has three components: reading and writing, speaking, and professional development. The following are the requirements in each area.

Reading and Writing
Students satisfy the reading and writing requirements by completing ENGL 201 Technical Writing with a grade of at least "C".

Speaking
Students must complete one of the following courses with a grade of at least "C":
COMM 160 Fundamentals of Human Communication
COMM 270 Public Speaking
or complete significant communication experience approved by the Economics/Accounting/Management Department

Professional development
Students must successfully complete all of the following sessions in the professional development series, offered by the career services office:

1. Job Search Success
2. Resume/Cover Letter Writing
3. Interviewing Strategies
4. Dress for Success
5. Dining Etiquette

It is recommended that students complete the professional development series by the end of their third year.

Final communication skills approval
Successful completion of the aforementioned requirements does not guarantee program approval of a student's communication skills requirements. The program's faculty members retain the right to continuously monitor every student's progress and make appropriate referral(s) to the Center for Academic Excellence or elsewhere for additional work.

Typical sequence of courses for the actuarial science major

First year

ECON 112	Principles of Microeconomics
ECON 113	Principles of Macroeconomics
MATH 131	Calculus I
MATH 132	Calculus II

Central core courses and electives

Second year

ACCT 241	Introduction to Financial Accounting
ACCT 242	Introduction to Management Accounting
COSC 110	Introduction to Computer Science
MATH 215	Applied Statistics

Second year (continued)

MATH 231	Multivariable Calculus
MATH 240	Linear Algebra

Central core courses and electives

Third and/or Fourth years

BMGT 311	Principles of Management
BMGT 361	Corporate Finance
BMGT 362	Principles of Investment
ECON 281	Quantitative Methods for Business and Economics
MATH 330	Mathematical Modeling
MATH 341	Probability

Central core courses and electives

Additional recommended courses
Students pursuing the Actuarial Science major 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	331	Business Law I
BMGT	332	Business Law II
BMGT	363	Advanced Financial Management
COSC	130	Data Structures
ECON	212	Intermediate Microeconomics
ECON	213	Intermediate Macroeconomics
ECON	324	Monetary Theory and the Financial System
MATH	342	Statistics
MATH	370	Numerical Analysis