



ACTUARIAL SCIENCE | COLLEGE OF ARTS AND SCIENCES

B.S. IN ACTUARIAL SCIENCE

An actuary is a business professional who analyzes the financial consequences of risk. Actuaries use mathematics, statistics and financial theory to study uncertain future events, especially those of concern to insurance and pension programs.

Students pursuing a Bachelor of Science in Actuarial Science degree study mathematics, including calculus, probability, statistics, theory of interest, and life contingencies. They also take several business and computer science courses. Students learn skills for problem-solving and decision-making, and the program is excellent for anyone preparing to apply mathematics in a business environment.

DEGREE REQUIREMENTS

Completion of a B.S. in Actuarial Science requires 120 credit hours (105 credit hours with the College of Arts and Sciences).

COURSEWORK

Mathematics Core Courses:

- Calculus I, II and III
- Applied Linear Algebra
- Probability
- Statistical Inference

Actuarial Science Core Courses:

- Theory of Interest
- Life Contingencies

Computer Science Core Courses:

- Introduction to Computer Science
- Applied Programming Techniques

Economics and Business Core Courses:

- Microeconomics
- Macroeconomics
- Financial Accounting
- Managerial Accounting

In addition to the listed courses, the student is responsible for fulfilling the general requirements of the bachelor's degree as established by the College of Arts and Sciences.

Students should consult with the department and their advisor for additional information concerning prerequisites, course content and academic counseling.

PROGRAM HIGHLIGHTS

Actuarial exams are administered by the actuarial credentialing societies, which include the Casualty Actuarial Society (CAS) and the Society of Actuaries (SOA). Topics for these exams include Mathematics, Probability, Statistics, Economics, Finance, Insurance, and Law. Typically, students will need to pass one or two exams to find employment as an actuary. Further exams lead to the designation of Associate or Fellow.

The coursework of IU Northwest's Actuarial Science program will provide the student with a solid background for the actuarial exams. Some of the courses are designed specifically to fit the requirements of the actuarial exams, thus better preparing the student to pass the exams. The Department offers a problem-solving seminar course for actuarial science students that prepares them for actuarial exams. Our faculty have actuarial exam experience, and can therefore better advise the student in preparing for the exams. The faculty have obtained the grant for SOA that reimburses exam fees for students if they pass the SOA exams.

Validation by Educational Experience (VEE) is a requirement for the actuarial exams by both actuarial credentialing societies. Students in the program can take VEE-approved courses at the IU Northwest campus and thus avoid independent online courses with high fees.

WHAT CAN I DO WITH A B.S. IN ACTUARIAL SCIENCE?

Graduates of the actuarial science program have obtained excellent starting positions in Chicago and Indiana. The field of actuarial science offers exciting executive careers for strong mathematics students. Opportunities include life, health, and casualty insurance, pension plan management, investment, and consulting.

The actuary applies theories of probability and statistics and the principles of finance to the problems of insurance, pensions, social insurance, population studies, and related fields.

HANDS-ON LEARNING

Students in the actuarial science program are encouraged to seek internship opportunities after passing one or more actuarial exams. Many students are afforded opportunities to work in such environments as insurance companies, consulting firms, private companies, and government departments.

CLUBS AND ACTIVITIES

The Department of Mathematics sponsors the Actuarial and Math Club. The purpose of the Club is to attract students to mathematics programs and promote awareness about importance and applications of mathematics and its relation to other disciplines. IU Northwest is selected as one of 15 colleges nationwide to participate in a new developed pilot program of Society of Actuaries (SOA). Through this program, our students will have an opportunity to meet with SOA fellow actuaries and discuss the actuarial profession and the SOA's educational pathways.

FOR MORE INFORMATION

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