



Choose  
UMSL

And your major.

# Actuarial Science BS

*Actuaries use the tools of economics, finance, and mathematics to evaluate and price risk. The UMSL BS Actuarial Science degree is an interdisciplinary program which provides students with the quantitative skills used by actuaries. Students take coursework in calculus, financial mathematics, statistics, economics, econometrics, and finance. The program is designed to provide students with a solid preparation to take exams and to complete validation by educational experience requirements needed to begin a career as an actuary.*

## Career Outlook

The actuarial profession has consistently been ranked as one of the most desirable professions in which to be employed. Actuarial graduates are employed by insurance companies, pension funds, consulting firms, and a variety of financial institutions.

Actuarial training is also transferable to broader jobs in data science and analytics. According to the Bureau of Labor Statistics, job prospects for those with actuarial degrees are expected to remain strong over the next decade.

## Future Career Options

- Insurance Actuary
- Retirement Actuary
- Healthcare Actuary
- Actuarial Consultant
- Insurance Consultant
- Business Analyst
- Risk Analyst
- Budget Analyst
- Data Scientist
- Compensation/Benefits Administrator

## Skills developed by degree completion

- Understand programming techniques and financial math for actuarial science
- Possess fundamental probability skills and understand actuarial theories for assessing risk
- Use statistics for estimation and hypothesis testing in actuarial science
- Use regression models to analyze and forecast time series data
- Use economic reasoning to explain individuals' behavior and the economy
- Understand and apply accounting concepts

*Additional career options are taken from the Bureau of Labor Statistics. **Contact an advisor to discuss additional future career options.***

4-YEAR ACADEMIC MAP

# Bachelor of Science in Actuarial Science

Year

1

## FALL SEMESTER (15 credit hours)

ENGL 1100: First-Year Writing (3)  
MATH 1800: Analytical Geometry and Calculus I (5)  
GEN ED CORE: Communication Proficiency (3)  
CMP SCI 1250: Introduction to Computers (3)  
INTDSC 1003: University Studies (1)

## SPRING SEMESTER (14 credit hours)

INFSYS 1800: Computers and Information Systems (3)  
MATH 1320: Introduction to Probability and Statistics (3)  
MATH 1900: Analytical Geometry & Calculus II (5)  
GEN ED EXPLORE: Humanities & Fine Arts (3)

Year

2

## FALL SEMESTER (14 credit hours)

ECON 1001: Principles of Microeconomics (3)  
INFSYS 2800: Information Systems Concepts and Applications (3)  
MATH 2000: Analytical Geometry and Calculus III (5)  
MATH 4010: Financial Mathematics (3)

## SPRING SEMESTER (15 credit hours)

MATH 4020: Financial Mathematics (3)  
MATH 4200: Mathematical Statistics (3)  
ACCTNG 2400: Fundamentals of Financial Accounting (3)  
ECON 1002: Principles of Macroeconomics (3)  
GEN ED EXPLORE: Humanities & Fine Arts (3)

Year

3

## FALL SEMESTER (16 credit hours)

MATH 4210: Mathematical Statistics II (3)  
FINANCE 3500: Financial Management (3)  
ECON 4100: Introduction to Econometrics (4)  
GEN ED CORE: US History & Government (3)  
ENGL 3100: Junior-Level Writing (3)

## SPRING SEMESTER (15 credit hours)

FINANCE 3521: Financial Engineering: Applying Derivatives (3)  
GEN ED EXPLORE: Social Sciences (3)  
GEN ED EXPLORE: Humanities & Fine Arts (3)  
Cultural Diversity (3)  
Recommended Course or Elective (3)

Year

4

## FALL SEMESTER (16 credit hours)

ECON 4130: Business and Economic Forecasting (4)  
FINANCE 3561: Principles of Insurance (3)  
Recommended Course or Elective (3)  
Recommended Course or Elective (3)  
Recommended Course or Elective (3)

## SPRING SEMESTER (15 credit hours)

Recommended Course or Elective (3)  
Recommended Course or Elective (3)  
Recommended Course or Elective (3)  
Recommended Course or Elective (3)  
Recommended Course or Elective (3)



2023-2024

## 4-YEAR ACADEMIC MAP

This is a sample academic map for the courses to take each academic semester/session. ***This map is not a substitute for academic advisement.*** Contact your advisor when making final selections.



### – University Studies

is required for all first-year students and those with less than 24 credit hours.



### – Milestone courses

should be taken in the order shown to ensure you stay on a timely and accurate path toward graduation.



– Summer and Intersession courses Don't forget that summers and winter breaks are a way to fast-track your route to degree completion – and lighten your load during fall and spring!



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an UMSL Triton?  
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