



Bachelor of Science (BS)

Actuarial Science Option

Actuarial science includes the study of areas such as mathematics, probability, statistics, finance and economics. An actuary applies these areas of study to assess risk in business and industrial settings. Actuaries assess financial risks as diverse as natural disaster, insurance premiums and the impact of climate change. The most common areas studied are insurance and finance.

Students will have a strong foundation in calculus and probability will having access to modern computer labs with mathematical and statistical software. The Actuarial Science curriculum uses software to model and predict risk behaviors. Students will also take business courses, which is a unique feature on our program. Students are encouraged to join the Math Club.

Becoming Career Ready...

/ Faculty with diverse backgrounds work closely with students exposing them to practical projects in actuarial risk, financial time series and regression modeling.

/ Actuarial Science graduates generally become professional actuaries, working with private or public-sector employers. In addition to the specialized actuary careers, graduates can find career opportunities in the fields of finance, management, statistician and education. Examples of job titles include actuary, risk analyst or consultant, finance analyst, statistician and insurance underwriter.

/ Students are prepared for professional examinations through the Actuarial Science curriculum. Curriculum guidance and study sessions are part of the program core.

/ 100% of Southeast programs offer real-world experience. Actuarial Science students earn this experience through opportunities to intern with corporations in metropolitan areas such as St. Louis and Memphis.

/ The path to a successful career starts with you! You can maximize your career development by working closely with Career Services and Southeast faculty – they are here to help you connect your passions, interests and skills to jobs and opportunities in the field. Career Services provides professional career counseling and coaching, resume critiques, practice interviews, job search strategies, career events, networking opportunities and more.

Internship and Employment Opportunities of Recent Graduates:

- All-State Insurance
- New York Stock Exchange
- The Hartford
- State Farm
- Lockton Companies

Special Options with Mathematics

Southeast offers a Master of Natural Science in Mathematics.

Transfer and Dual Credit Students

If you have dual credit or transfer credit, please visit our transfer course equivalencies guide at semo.edu/transfercredit.

To learn more
 Office of Admissions
 (573) 651-2590
admissions@semo.edu
semo.edu

To explore
 the College of Science,
 Technology, Engineering and
 Mathematics online, visit
semo.edu/stem

For advising
 Center for Academic Advising
semo.edu/advising



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This is a guide based on the 2019-2020 Undergraduate Bulletin and is subject to change. The time it takes to earn a degree will vary based on several factors such as dual enrollment, remediation, and summer enrollment. Students will meet with an academic advisor each semester and use Degree Works to monitor their individual progress.

CURRICULUM CHECKLIST

Mathematics: Actuarial Science Option – 76-77 hours – No minor required

- ___ AC221 Principles of Accounting I (3)
 - ___ AC222 Principles of Accounting II (3)
 - ___ EC215 Principles of Microeconomics (3)
 - ___ EC225 Principles of Macroeconomics (3)
 - ___ FI361 Financial Management (3)
 - ___ FI362 Advanced Financial Management (3)
 - ___ MA003 Math Major Field Achievement Test (0)
 - ___ MA138 Discrete Mathematics I (3)
 - ___ MA140 Analytic Geometry & Calculus I (5)
 - ___ MA145 Analytic Geometry & Calculus II (4)
 - ___ MA223 Elem Probability & Statistics (3)
 - ___ MA244 Analytic Geometry & Calculus III (4)
 - ___ MA250 Foundations of Math (3)
 - ___ MA345 Linear Algebra (3)
 - ___ MA375 Theory of Interest (3)
 - ___ MA385 Financial Mathematics (3)
 - ___ MA425 Applied Regression Analysis (3)
 - ___ MA523 Probability & Statistics I (3)
 - ___ MA524 Probability & Statistics II (3)
 - ___ MA526 Actuarial Seminar (3)
 - ___ MA575 Time Series and Forecasting (3)
 - ___ MA585 Introduction to Life Contingencies (3)
- Choose one of the following: 3-4 Hours**
- ___ CS155 Computer Science I (4)
 - ___ CS177 Programming for Scientists and Engineers (3)
 - ___ MA334 Mathematical Programming (3)
- Choose 6 hours from the following:**
- ___ EC351 Applied Economic Models (3)
 - ___ EC490 Business Forecasting (3)
 - ___ FI351 Principles of Insurance (3)
 - ___ FI368 Investments (3)
 - ___ MA350 Differential Equations I (3)
 - ___ MA546 Advanced Calculus I (3)
 - ___ MA550 Differential Equations II (3)
 - ___ MA580 Experimental Design and Analysis of Variance (3)

General Education Requirements – some requirements may be fulfilled by coursework in major program

- Social and Behavioral Sciences – 6 hours
- Constitution Requirement – 3 hours
- Written Communication – 6 hours
- Oral Communication – 3 hours
- Natural Sciences – 7 hours (from two disciplines, one to include a lab)
- Mathematics – 3 hours
- Humanities & Fine Arts – 9 hours (from at least two disciplines)
- Additional requirements – 5 hours (to include UI100 for native students)
- Civics examination

SAMPLE FOUR-YEAR PLAN

◆	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
FIRST YEAR	UI100	3	AC222	3
	EN100	3	MA138	3
	AC221	3	MA145	4
	MA140	5	General Education	3
	General Education	3	Elective	3
	Total	17	Total	16
SECOND YEAR	EC215	3	EC225	3
	MA244	4	MA345	3
	MA250	3	MA385	3
	MA375	3	Computer Programming ¹	3
	General Education	3	General Education	3
	Total	16	Total	15
THIRD YEAR	MA523	3	FI361	3
	Major elective ²	3	MA524	3
	General Education	3	MA526	3
	General Education	3	MA585	3
	Elective	2	General Education	3
	Total	14	Total	15
FOURTH YEAR	FI362	3	MA003	0
	MA425	3	MA575	3
	Major elective ²	3	General Education	3
	General Education	3	General Education	3
	Elective	3	Elective	3
	Total	15	Total	12

¹Select one: CS155 or CS177 or MA334

²Major Electives include two of the following courses: MA350, MA546, MA550, MA580, EC351, EC490, FI351 or FI368.

Degree requirements for all students: a minimum of 120 credit hours, completion of the General Education program, completion of 39 senior division hours (300-599), and the Writing Proficiency Exam (WP003).

Refer to the Undergraduate Bulletin or Degree Works for additional graduation requirements for your program.