

Mathematics: Applied Mathematics and Statistics Option

Bachelor of Science (BS)

Applied Mathematics and Statistics Option

The Bachelor of Science in Mathematics with an option in applied mathematics and statistics gives students the opportunity to focus in statistics, industrial mathematics, or computational mathematics.

The core of this program is composed of calculus, discrete mathematics, probability, and statistics, which complement the theoretical and applied components chosen by students. During the first two years of the program, students gain a solid background in mathematics.

Applied mathematics and statistics students will...

- Study with our qualified, diverse faculty.
- Interact with accessible faculty who will prepare them for a diverse workforce.
- Be prepared for careers in business and industry.
- Be prepared to enter graduate school.
- Have an opportunity to work with the Applied Statistics Center to analyze real-world data sets.
- Have access to modern computer labs with mathematical and statistical software.
- Be encouraged to join the Math Club.
- Have the opportunity to work with faculty to present research results at conferences.

Career Planning

Career preparation is part of the mission of Southeast. 100% of programs offer our students an internship, study-abroad program, clinical opportunity, student teaching or research internship.

The Office of Career Services in Academic Hall 057 can provide students with professional career counseling and coaching, resume critiques, practice interviews, job search strategies, career events, networking opportunities, and more.

Demonstrated Career Proficiency is a Requirement of all Southeast Students		
CL001	First Semester	Students connect academic career planning by completing an online career assessment
CL002	Second Semester	Students learn more about resources available to enhance academic and career planning
CL003	Junior Year	Students learn about continued career planning, job search strategies, and networking
CL004	Senior Year	Students learn about resume development, professional communication, interviewing, and transitioning to the first job from college

Internship and Employment Opportunities of Recent Graduates

- Boeing
- MasterCard
- Visa
- Johns Hopkins School of Public Health

Special Options with Mathematics

Southeast offers a Master of Natural Science in Mathematics.

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

To explore
 the College
 of Science, Technology and
 Agriculture online, visit
www.semo.edu/costa

For advising
 Center for Academic Advising - North
 (573) 651-5090
www.semo.edu/advising
advisingnorth@semo.edu

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This is a guide based on the 2017-2018 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 DegreeWorks to monitor their individual progress.

Degree Map 2017-2018

CURRICULUM CHECKLIST

Mathematics: Applied Mathematics and Statistics Option – 43 hours – no minor required

- ___ 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)
- ___ MA449 Mathematical Problem Solving (3)

Choose 3 Hours From:

- ___ MA445 Modern Algebra (3)
- ___ MA523 Probability & Statistics I (3)
- ___ MA546 Advanced Calculus I (3)

Choose 15 Hours From (include at least 3 MA courses):

- ___ CH311 Foundations of Physical Chemistry (4)
- ___ CH312 Advanced Physical Chemistry (3)
- ___ CS345 Discrete Structures II (3)
- ___ EP261 Engineering Mechanics Statics (3)
- ___ EP262 Engineering Mechanics Dynamics (3)
- ___ EP361 Thermal Analysis (3)
- ___ EP372 Signals & Systems (3)
- ___ EP374 Control Systems (3)
- ___ MA338 Discrete Math II (3)
- ___ MA345 Linear Algebra (3)
- ___ MA350 Differential Equations I (3)
- ___ MA423 Statistical Analysis for Forensic Science (3)
- ___ MA425 Applied Regression Analysis (3)
- ___ MA443 Elementary Number Theory (3)
- ___ MA464 Mathematical Cryptography (3)
- ___ MA523 Probability & Statistics I (3)
- ___ MA524 Probability & Statistics II (3)
- ___ MA545 Linear Algebra & Matrices (3)
- ___ MA546 Advanced Calculus I (3)
- ___ MA547 Advanced Calculus II (3)
- ___ MA550 Differential Equations II (3)
- ___ MA580 Experimental Design & Analysis of Variance (3)
- ___ PH341 Optics (3)
- ___ PH370 Mechanics (3)
- ___ PH371 Electromagnetics (3)
- ___ PH570 Mathematical Physics (3)

Choose 3 Hours From:

- ___ MA524 Probability & Statistics II (3)
- ___ MA532 Foundations of Geometry (3)
- ___ MA545 Linear Algebra & Matrices (3)
- ___ MA547 Advanced Calculus II (3)
- ___ MA548 Enumerative Combinatorics (3)
- ___ MA549 Graph Theory (3)
- ___ MA550 Differential Equations II (3)

University Studies Requirements (not already listed above):

UI100 First Year Seminar, EN100 English Composition, Artistic Expression, Written Expression, Oral Expression, Literary Expression, Behavioral Systems, Living Systems, Physical Systems, Development of a Major Civilization, Economic Systems, Political Systems, Social Systems

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

SAMPLE FOUR-YEAR PLAN

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
FIRST YEAR	UI100	3	MA145	4
	EN100	3	MA223	3
	MA140	5	Economic Systems	3
	Behavioral Systems	3	Physical Systems	3
	Living Systems	3	Written Expression	3
Total	17	Total	16	
SECOND YEAR	MA138	3	MA250	3
	MA244	4	Required elective	3
	Artistic Expression	3	Oral Expression	3
	Literary Expression	3	Social Systems	3
	Political Systems	3	Elective	3
Total	16	Total	15	
<i>(summer courses are encouraged to avoid 18 hour semesters)</i>				
THIRD YEAR	Required elective	3	Math Elective	3
	MA445/523/546	3	Elective	3
	Elective	3	Elective	3
	Elective	3	Elective	3
	Elective	3	Elective	2
Total	15	Total	14	
FOURTH YEAR	MA449	3	MA003	0
	Required elective	3	Required elective	3
	Elective	3	Develop of a Major Civ	3
	Elective	3	Elective	3
	Elective	3		
Total	15	Total	12	

Degree requirements for all students: a minimum of 120 credit hours, completion of University Studies program, completion of 39 senior division hours (300-599), career proficiencies (CL001-004), Writing Proficiency Exam (WP003), and completion of the Measure of Academic Proficiency and Progress (MAP) at the senior level. Refer to the Undergraduate Bulletin or Degree Works for additional graduation requirements for your program.

Revised
3/31/2017

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