

Mathematics: Pure Mathematics Option

Bachelor of Science (BS)

Pure Mathematics Option

The Bachelor of Science in mathematics with an option in pure mathematics provides students with an opportunity to study pure mathematics and related fields that lead to graduate studies or to careers in industry or government.

The required core of this program is composed of calculus, algebra, discrete mathematics, probability and statistics. In addition, the student can choose from algebra, geometry, discrete or any other upper level mathematics courses to complete the program.

Pure Mathematics students will...

- Have an opportunity to study and do research with faculty.
- Have the opportunity to work with faculty to present research results at conferences.
- Interact with other mathematics majors through study groups.
- Be prepared to enter graduate school.
- Be encouraged to join Math Club.
- Have access to modern computer labs with mathematical and statistical software.
- Work with other students who are studying for student competitions like the Putnam Exam and the Missouri Collegiate Mathematics Competition.

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

- Department of Defense
- National Security Agency
- Boeing
- Attorney
- Web Page Designer

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
www.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.

CURRICULUM CHECKLIST

Mathematics: Pure Mathematics Option – 46 Hours – no minor required

Required Courses:

- ___ MA003 Math Major Field Achievement Test (0)
- ___ MA138 Discrete Mathematics I (3)
- ___ MA140 Analytic Geometry & Calculus I (5)
- ___ MA145 Analytic Geometry & Calculus II (4)
- ___ MA244 Analytic Geometry & Calculus III (4)
- ___ MA250 Foundations of Math (3)
- ___ MA345 Linear Algebra (3)
- ___ MA445 Modern Algebra (3)
- ___ MA449 Mathematical Problem Solving (3)
- ___ MA523 Probability & Statistics I (3)
- ___ MA546 Advanced Calculus I (3)

Choose 12 Hours MA courses higher than MA 250:

One course must be chosen from:

- ___ MA524 Probability and Statistics II (3)
- ___ MA532 Foundations of Geometry (3)
- ___ MA540 Projective Geometry (3)
- ___ MA545 Linear Algebra and Matrices (3)
- ___ MA547 Advanced Calculus II (3)
- ___ MA548 Enumerative Combinatorics (3)
- ___ MA549 Graph Theory
- ___ 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	Living Systems	3
	MA140	5	Oral Expression	3
	Behavioral Systems	3	Physical Systems	3
			Written Expression	3
Total	14		Total	16
SECOND YEAR	MA138	3	MA250	3
	MA244	4	MA345	3
	Develop of a Major Civ	3	Artistic Expression	3
	Economic Systems	3	Political Systems	3
	Literary Expression	3	Social Systems	3
Total	16	Total	18	
<i>(summer courses are encouraged to avoid 18 hour semesters)</i>				
THIRD YEAR	MA523	3	MA445	3
	MA546	3	MAxxx ¹ Mathematics	3
	Elective	3	Elective	3
	Elective	3	Elective	3
	Elective	3	Elective	3
Total	15	Total	15	
FOURTH YEAR	MA449	3	MA003	0
	MAxxx ¹ Mathematics	3	MAxxx ¹ Mathematics	3
	MAxxx ¹ Mathematics	3	Elective	3
	Elective	3	Elective	3
	Elective	2	Elective	3
Total	14	Total	12	

¹Unspecified mathematics courses must be numbered above MA250, and must include one of the following courses: MA524, MA532, MA540, MA545, MA547, MA548, MA549 or MA550.

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 (MAPP) at the senior level. Refer to the Undergraduate Bulletin or Degree Works for additional graduation requirements for your program.

Revised
3/31/2017