

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.

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.

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

**Bachelor of Science (BS)**

This is a guide based on the 2018-2019 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: 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 – some requirements may be fulfilled by coursework in major program

- Social and Behavioral Sciences – 3 hours
- Constitution requirement – 3 hours
- US History 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)

SAMPLE FOUR-YEAR PLAN

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
FIRST YEAR	UI100	3	MA145	4
	EN100	3	University Studies	3
	MA140	5	University Studies	3
	University Studies	3	University Studies	3
			University Studies	3
	Total	14	Total	16
SECOND YEAR	MA138	3	MA250	3
	MA244	4	MA345	3
	University Studies	3	University Studies	3
	University Studies	3	University Studies	3
	University Studies	3	University Studies	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), 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
7/10/2018