Mathematics: Applied Mathematics and Statistics Option
Bachelor of Science (BS)

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**

A St. Louis Outreach Office, located in Chesterfield, Mo., provides career exploration assistance, resume critiques, interview tips, job search strategies and more.

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<th>Demonstrated Career Proficiency is a Requirement of all Southeast Students</th>
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<tr>
<td><strong>CL001/CL002</strong></td>
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<td><strong>CL003</strong></td>
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<td><strong>CL004</strong></td>
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**Career Services**, located in Academic Hall 057, provides professional career advising to guide students in their career development.

**Internship and Employment Opportunities of Recent Graduates**

- Boeing
- MasterCard
- Visa
- Johns Hopkins School of Public Health
This is a guide based on the 2014-2015 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: Applied Mathematics and Statistics Option – 43 hours
- 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)
- MA240 Analytic Geometry & Calculus III (3)
- MA250 Foundations of Mathematics (3)
- MA448 Mathematics Seminar (1)

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):
- CH111 Foundations of Physical Chemistry (4)
- CH121 Advanced Physical Chemistry (3)
- CS345 Discrete Structures II (3)
- EP262 Engineering Mechanics Dynamics (3)
- EP361 Thermal Analysis (3)
- EP372 Signals & Systems (3)
- EP374 Control Systems (3)
- MA245 Vector Calculus (2)
- MA338 Discrete Math II (3)
- MA345 Linear Algebra (3)
- MA350 Differential Equations I (3)
- MA423 Statistical Analysis for Forensic Science (3)
- MA464 Mathematical Cryptography (3)
- MA466-488 Internship in Mathematics (1-3)
- 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)

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, two IU/UI3XX, and one IU4XX

**SAMPLE FOUR-YEAR PLAN**

**Fall Semester** | **Spring Semester**
--- | ---
UI100 | MA145<br>EN100 | MA223<br>MA140 | Economic Systems<br>Behavioral Systems | Physical Systems<br>Living Systems | Written Expression | Total | Total | 16 | 15

Choose 3 Hours From:
- MA003<br>MA445<br>MA523<br>MA546<br>Choose 15 Hours From (include at least 3 MA courses):
- MA138<br>MA240<br>Artistic Expression | Required electives<br>Literal Expression | Social Systems | Total | 15 | 15

(summer courses are encouraged to avoid 18 hour semesters)

**SECOND YEAR**

**Third Year**

**Fall Semester** | **Spring Semester**
--- | ---
MA445/523/546 | Required elective<br>UI/UIJ/3XX<br>Elective | Required elective<br>Elective | Total | 15 | 14

Choose 3 Hours From:
- MA524<br>MA545<br>MA547<br>MA550

**Fourth Year**

**Fall Semester** | **Spring Semester**
--- | ---
MA448 | MA003<br>Required elective<br>UI4XX | Develop a Major Civ<br>Elective<br>Elective | Total | 16 | 12

Degree requirements for all students: a minimum of 120 credit hours, completion of University Studies program, career proficiencies (CL001-004), Writing Proficiency Exam (WP003), and completion of the Measure of Academic Proficiency and Progress (MAPP) at the freshman and senior levels.

Refer to the Undergraduate Bulletin or DegreeWorks for additional graduation requirements (i.e., minimum GPA and course work) for your program of study.

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