

**DEPARTMENT OF MATHEMATICS**  
**SOUTHEAST MISSOURI STATE UNIVERSITY**  
**REQUIREMENTS FOR A MATHEMATICS MAJOR - BACHELOR OF SCIENCE**

Major: Mathematics (Applied Mathematics and Statistics Option)

Degree: Bachelor of Science

	<b>Prereq.</b>	<b>Hours</b>
<b>University Studies<sup>1</sup> (includes EN100)</b>		<b>48</b>
<b>Mathematics Major</b>		<b>43</b>
<u>Required courses</u>		22
MA 138 Discrete Mathematics I	MA134	3
MA 140 Analytic Geometry and Calculus I	MA133, MA134	5
MA 145 Analytic Geometry and Calculus II	MA140	4
MA 223 Elementary Probability and Statistics	MA134	3
MA 240 Analytic Geometry and Calculus III	MA145	3
MA 250 Foundations of Mathematics	MA140	3
MA 448 Mathematics Seminar	MA240	1
<u>Theoretical Component</u>		3
MA 445 Modern Algebra	MA250	3
MA 523 Probability & Statistics I	MA240	3
MA 546 Advanced Calculus I	MA240, MA250	3
<u>Applied Component</u> (Not more than two courses outside of Mathematics)		15
MA 245 Vector Calculus	MA240	2
MA 334 Computer Programming	MA140	3
MA 338 Discrete Mathematics II	MA138	3
MA 345 Linear Algebra	MA140	3
MA 350 Differential Equations I	MA240	3
MA423 Statistical Analysis for Forensic Science	MA140	3
MA464 Mathematical Cryptography	MA223, MA250, MA338 MA345 or MA443	3
MA 523 Probability & Statistics I	MA240	3
MA 524 Probability & Statistics II	MA523	3
MA 544 Numerical Analysis	MA240, MA334	3
MA 545 Linear Algebra and Matrices	MA445	3
MA 546 Advanced Calculus I	MA240, MA250	3
MA 547 Advanced Calculus II	MA546	3
MA 550 Differential Equations II	MA350	3
MA 580 Experimental Design and Analysis of Variance	MA223	3
UI 388 Mathematical Modeling	MA140	3
CH 311 Physical Chemistry I	MA240, CH271, & PH230/030	4
CH 312 Physical Chemistry II	CH311	3
CS 345 Discrete Structures II	CS265, MA138, MA140	3
EP 261 Engineering Mechanics Statics	MA240, PH230/030	3
EP 262 Engineering Mechanics Dynamics	EP261	3
EP 361 Thermal Analysis	MA245, PH231/031	3
EP 372 Signals and Systems	EP260, MA350	3
EP 374 Control Systems	EP372	3
PH 341 Optics	MA245, PH231/031	3
PH 370 Mechanics	MA245, PH231/031	3
PH 371 Electromagnetics	MA245, PH231/031	3
PH 570 Mathematical Physics	MA350, PH231/031	3
<u>Advanced Component</u>		3
MA 524 Probability and Statistics II	MA523	3
MA 544 Numerical Analysis	MA240, MA334	3
MA 545 Linear Algebra and Matrices	MA445	3
MA 547 Advanced Calculus II	MA546	3
MA 550 Differential Equations II	MA350	3
<b>WP 003 75 Hour Writing Test</b>		<b>0</b>
<b>Electives<sup>2</sup></b>		<b>29</b>
<b>Minimum degree requirement</b>		<b>120</b>

<sup>1</sup> MA140 Will satisfy the Logical Systems Requirement in University Studies.

<sup>2</sup> No minor is required.