

MATHEMATICS

Associate of Science

The Associate of Science degree with a field of study in Mathematics offers students the opportunity to take a core curriculum of general education with an emphasis in Mathematics. Mathematics majors learn foundational mathematical skills that can be applied in various professions, especially the traditional sciences. The Associate Degree of Science in Mathematics serves as a two-year transferable block to a four-year university for a Mathematics minor or Bachelor of Science in Mathematics. Many potential career opportunities exist for Mathematics majors, including careers in actuarial sciences, aerospace, business, economics and finance, engineering, insurance, medical sciences, education, computer science and the physical sciences. Potential careers include:

- Actuary
- Data Analyst
- Data Scientist
- Forecast Analyst
- Game Designer
- Researcher
- Statistician
- Sales Analyst
- Consultant
- Systems Analyst
- Logistics
- Investment Analytics
- Educator
- Operations Research
- Computer Programming and Development

Program Learning Outcomes

1. Students will be able to apply quantitative skills to synthesize, analyze and evaluate mathematical equations.
2. Students will be able to read and construct mathematical arguments and proofs.
3. Student will be able to identify, formulate and analyze real-world problems with quantitative and statistical reasoning or mathematical techniques.
4. Student will be able to utilize technological and computer skills appropriately as an effective tool in investigating, analyzing and solving problems.
5. Students will be able to clearly communicate mathematical ideas in appropriate contexts visually, orally and in writing to a range of audiences.

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Field of Study - 18-19 credit hours

Required Courses

MATH 2305	Discrete Mathematics	3-4
	or MATH 1442	
MATH 2414	Calculus II	4
MATH 2415	Calculus III	4
MATH 2418	Linear Algebra ¹	4
MATH 2420	Differential Equations	4

STC Core Curriculum - 42 credit hours

Complete 42 credit hours of required Core Curriculum including the following: ²

Mathematics

MATH 2413	Calculus I
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Life and Physical Sciences

CHEM 1411	General Chemistry I
CHEM 1412	General Chemistry II
BIOL 1406	Biology for Science Majors I
BIOL 1407	Biology for Science Majors II
BIOL 2401	Anatomy and Physiology I
BIOL 2402	Anatomy and Physiology II
PHYS 1401	College Physics I
PHYS 1402	College Physics II
PHYS 2425	University Physics I
PHYS 2426	University Physics II

Total Credit Hours **60-61**

¹ For MATH 2418 Linear Algebra, 3 hours are scheduled for the field of study and 1 hour is scheduled to meet the general core education requirement for the Component Area Option.

² In addition to the courses in the Field of Study, the student is required to take 42 credit hours from the **STC Core Curriculum**.

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Recommended Course Sequence

Course	Title	Credit Hours
First Year		
Fall		
Creative Arts Elective - Core Curriculum		3
ENGL 1301	Composition I	3
MATH 2413	Calculus I	4
Life and Physical Sciences Elective - Core Curriculum ¹		4
Credit Hours		14
Spring		
ENGL 1302	Composition II - Rhetoric	3
HIST 1301	United States History I	3
	or HIST 2327 or Mexican-American History I	
	or HIST 2381 or African American History I	
MATH 2414	Calculus II	4
Life and Physical Sciences Elective - Core Curriculum ¹		4
Credit Hours		14
Summer		
HIST 1302	United States History II	3
	or HIST 2328 or Mexican-American History II	
	or HIST 2382 or African American History II	
Language, Philosophy & Culture Elective - Core Curriculum		3
Credit Hours		6
Second Year		
Fall		
MATH 2415	Calculus III	4
GOVT 2305	Federal Government	3
MATH 2305	Discrete Mathematics	3 or 4
	or MATH 1442	
Social and Behavioral Sciences Elective - Core Curriculum		3
Credit Hours		13-14
Spring		
GOVT 2306	Texas Government	3
MATH 2418	Linear Algebra ²	4
MATH 2420	Differential Equations	4
Component Area Option - Core Curriculum		2
Credit Hours		13
Total Credit Hours		60-61

¹ Mathematics majors must choose from CHEM 1411 General Chemistry I & CHEM 1412 General Chemistry II, BIOL 1406 Biology for Science Majors I & BIOL 1407 Biology for Science Majors II, BIOL 2401 Anatomy and Physiology I & BIOL 2402 Anatomy and Physiology II, PHYS 1401 College Physics I & PHYS 1402 College Physics II, or PHYS 2425 University Physics I & PHYS 2426 University Physics II to fulfill the Life and Physical Sciences component of the Core Curriculum.

² For MATH 2418 Linear Algebra, 3 hours are scheduled for the field of study and 1 hour is scheduled to meet the general core education requirement for the Component Area Option.