

B.S. MATHEMATICS

OVERVIEW

A bachelor's degree in mathematics can help you achieve a variety of goals. Whether you're wanting to be a teacher, analyst, or researcher, our program is for you. Our quality program offers small classes, and students receive individual attention from faculty both in and out of the classroom. Courses clearly lay out basic theory while also providing exposure to essential practical skills such as quantitative reasoning, analysis, data analytics, use of technology, and programming using state-of-the-art software.

Graduates from the mathematics program have a strong record of successful job placement. Through departmental connections, students have obtained training through paid internships with reputable organizations that provided valuable, real-world experience that opened career doors. Graduates have gained employment in companies such as the State of Texas, Operational Command Center, Fort Hood, JP Morgan, Fidelity, and various software development companies, while many continue on to graduate studies. In addition, recent graduates in the 7-12 certification program have been hired in school districts throughout the region to teach at a variety of grade levels.

Program Level Student Learning Outcomes

The student will be able to:

- Apply abstract mathematical ideas.
- Demonstrate effective problem solving.
- Apply mathematics to solve problems in other academic disciplines.
- Effectively and appropriately utilize mathematical technology to understand mathematical ideas and solve mathematical problems.
- Demonstrate knowledge necessary to earn certification from the State of Texas for students pursuing mathematics teacher certification.

Students interested in completing the B.S. Mathematics with the Secondary Education Minor must apply and receive separate admission to the Educator Preparation Program.

Entry Requirements:

*Successful University Admission

*Completed EPP application

*Minimum 2.50 GPA overall or in the last 60 hours

*Completion of 54 SCH towards degree

*For 7-12 Math or Science concentrations, a completion of 15 credit hours in the certification subject area with a grade of C or better.

*For Music or 7-12 ELAR, Social Studies or History concentrations, a completion of 12 credit hours in the certification subject area with a grade of C or better.

*Content Proficiency Assessment with a passing score

*Interview with the EPP (may be virtual or recorded video)

*TSI complete

Bachelor of Science - Mathematics Program Requirements

Refer to the General Education Core Requirements (<https://catalog.tamuct.edu/undergraduate-information/general-education-core-requirements/>) page for more information on the CORE REQ coursework. The Field of Study (FOS) courses are listed in the footnotes (if applicable). At least 120 credit hours are required for the degree.

Code	Title	Credit Hours
First Year		
Fall		
	CORE REQ Communications (010)	3
MATH 2413	Calculus I (DEG REQ 020) ³	4
	CORE REQ Creative Arts (050)	3
PHYS 2425	University Physics I (DEG REQ 030) ³	4
COSC 1336	Programming Fundamentals I (DEG REQ) ³	3
Spring		
	CORE REQ Language, Philosophy, and Culture (040)	3
	CORE REQ Life and Physical Sciences (030) ¹	3
	CORE REQ Social and Behavioral Sciences (080)	3
MATH 2414	Calculus II (CORE REQ (090)) ³	4
	Any Level Support Field Elective ²	3
Second Year		
Fall		
	CORE REQ Communications (010)	3
	CORE REQ American History (060)	3
	CORE REQ Government/Political Science (070)	3
	Any Level Support Field Elective ²	3
MATH 2415	Calculus III (DEG REQ) ³	4
Spring		
	CORE REQ American History (060)	3
	CORE REQ Government/Political Science (070)	3
MATH 2318	Linear Algebra (3 credit hour version (DEG REQ))	3
MATH 2320	Differential Equations (DEG REQ)	3
	or MATH 3306 Differential Equations	
Third Year		
Fall		
MATH 3350	Principles of Bio-Statistics	3
MATH 3301	Number Theory	3
MATH 3309	Algebraic Function	3
MATH 3315	Mathematics & Technology	3
	Upper-Level Computer Science Elective	3
Spring		
MATH 3310	Discrete Mathematics	3
MATH 3311	Probability & Statistics I	3
MATH 3332	Linear Algebra	3
MATH 3360	Numerical Analysis I	3
MATH 3370	An Introduction to Linear Programming	3
MATH 4302	College Geometry ¹	3
Fourth Year		
Fall		
MATH 4304	Survey of Mathematical Ideas (and)	3
MATH 4304L	Survey of Mathematical Ideas Lab	1

MATH 4309	Advanced Analysis I	3
Upper-Level Support Field Elective ²		3
Upper-Level Support Field Elective ²		3
Spring		
MATH 4332	Abstract Algebra	3
Upper-Level Support Field Elective ²		3
Upper-Level Support Field Elective ²		3
Any Level Support Field Elective ²		4
Total Credit Hours		120

¹ PHYS 2426 University Physics II is recommended. MATH 4302 may be taken in the summer.

² Courses for the support field should be chosen from an academic area in which mathematics is applicable and must be selected in consultation with the program coordinator or department chair.

³ Lower Level Electives, Any Level Electives, Component Area Options, or Degree Requirements (DEG REQ) may consist of the FOS courses: MATH 2413, MATH 2414, MATH 2415, MATH 2318 or 2418, MATH 2320 or 2420, PHYS 2425 or lecture and lab, choose one from the following: ENGR 2304, COSC 1336 or 1436, COSC 1337 or 1437, COSC 2336 or 2436, COSC 2325 or 2425.

Bachelor Science - Mathematics with Minor in Secondary Education Program Requirements

Refer to the General Education Core Requirements (<https://catalog.tamuct.edu/undergraduate-information/general-education-core-requirements/>) page for more information on the CORE REQ coursework. The Field of Study (FOS) courses are listed in the footnotes (if applicable). At least 120 credit hours are required for the degree.

The program listed is a general guideline for semester coursework, speak with a college advisor for an individualized student education plan.

College of Education application for admission to program and faculty advisement is required prior to enrolling in secondary teacher certification preparation courses.*

Please note the following courses require a grade of 'C' or better: 12 credit hours of English, Calculus, approved Educational Psychology course, and 15 credit hours in the certification subject area.

Code	Title	Credit Hours
First Year		
Fall		
ENGL 1301	Composition I (CORE REQ (010))	3
MATH 2413	Calculus I (CORE REQ (020))	4
PHYS 2425	University Physics I (CORE REQ (030))	4
CORE REQ Creative Arts (050)		3
Spring		
CORE REQ Life and Physical Science (030) ¹		4
ENGL 1302	Composition II (CORE REQ (010))	3
MATH 2414	Calculus II (DEG REQ)	4
Second Year		
Fall		

CORE REQ English Literature (040)		3
HIST 1301	United States History I (CORE REQ (060))	3
GOVT 2305	Federal Government (CORE REQ (070))	3
PSYC 2308	Child Psychology (CORE 080)	3
or TECA 1354	Child Growth & Development	
or PSYC 3303	Educational Psychology	
MATH 2415	Calculus III (DEG REQ)	4
MATH 3306	Differential Equations ^{2,3}	3
or MATH 2320	Differential Equations	
Spring		
HIST 1302	United States History II (CORE REQ (060))	3
GOVT 2306	Texas Government (CORE REQ (070))	3
Any Level CIS Elective		3
Third Year		
Fall		
MATH 3301	Number Theory	3
MATH 3309	Algebraic Function	3
MATH 3315	Mathematics & Technology	3
MATH 4304	Survey of Mathematical Ideas	3
MATH 4304L	Survey of Mathematical Ideas Lab	1
MATH 4309	Advanced Analysis I	3
MATH 3350	Principles of Bio-Statistics	3
Spring		
ENGL 3309	Tech Writing & Document Design	3
MATH 3310	Discrete Mathematics	3
MATH 3311	Probability & Statistics I	3
MATH 4332	Abstract Algebra	3
MATH 3360	Numerical Analysis I	3
MATH 3370	An Introduction to Linear Programming	3
MATH 4302	College Geometry	3
Fourth Year - Admission to Secondary Education Certification Required*		
Fall		
MATH 3332	Linear Algebra	3
READ 3335	Content Area Reading	3
EDUC 4331	Curriculum & Instruction for Secondary Teachers	3
EDUC 4332	Classroom Management for Secondary Teachers	3
EDUC 4317	Assessment & Interpretation for Secondary Teachers	3
EDUC 4337	Educating Secondary Exceptional Learners	3
Spring		
EDUC 4335	Capstone for Educators	3

EDUC 4691	Clinical Teaching	6
Total Credit Hours		120

¹ PHYS 2426 University Physics II is recommended.

² Students may speak with a Math Faculty advisor to have a substitution written for MATH 4305 which can be taken during the summer.