

ACCELERATED BACHELOR OF SCIENCE IN MATHEMATICS / MASTER OF SCIENCE IN MATHEMATICS

Web Site: <https://twu.edu/mathematics/accelerated-bachelor-to-masters-in-mathematics/>

This program will provide strong, qualified undergraduate students a path to accelerate their time to the MS degree. The program allows undergraduate students to begin taking graduate level courses when they have completed 90 credit hours toward their baccalaureate degree, but no undergraduate course may count toward the accelerated Master's degree. This accelerated program is also a financial and time saving degree plan.

Marketable Skills

Defined by the Texas Higher Education Coordinating Board's 60x30 Strategic Plan (<https://reportcenter.highered.texas.gov/agency-publication/miscellaneous/the60x30-strategic-plan/>) as, "Those skills valued by employers that can be applied in a variety of work settings, including interpersonal, cognitive, and applied skills areas. These skills can be either primary or complementary to a major and are acquired by students through education, including curricular, co-curricular, and extracurricular activities."

Degree Skills

- Apply mathematical theories and techniques to the solution of practical problems in business, engineering, the sciences, or other fields.
- Develop mathematical or statistical models of phenomena to be used for analysis or for computational simulation.
- Determine appropriate methods for data analysis.
- Perform computations and apply methods of numerical analysis to data.
- Demonstrate personal accountability and work habits, integrity, and ethical behavior.
- Assemble sets of assumptions and explore the consequences of each set.
- Proficient in the software tools to achieve the skills listed, such as Matlab and R, SAS, SPSS, modeling software.

Admissions

All applicants must meet the general undergraduate admission requirements (<http://catalog.twu.edu/undergraduate/admission-information/>).

Admission Requirements

To apply to the Accelerated Bachelor's to Master's program in Mathematics Teaching, students must:

- Be currently enrolled as a TWU Mathematics major.
- Have a minimum cumulative grade point average of 3.0 or higher.
- Have successfully completed a minimum of 72 but no more than 90 hours of coursework toward the bachelor's degree.

- Have a minimum of 12 hours remaining in mathematics courses toward the major.

How to Apply to the Accelerated Program

To apply, students must:

- Receive approval from the Division Lead.
- Once admitted to the Accelerated Program students must apply to the graduate M.S. in Mathematics Teaching program. Students cannot enroll in graduate-level coursework until accepted by the Graduate School.

Degree Requirements

Total Semester Credit Hours (SCH): 120

Major: 42 SCH **Required Minor:** 18 SCH

Program Code: CIP Code: 27.0101.00

Courses Required for Major

Code	Title	SCHs
Required Mathematics Courses		
MATH 2014	Calculus I	4
MATH 2024	Calculus II	4
MATH 3013	Discrete Mathematics	3
MATH 3053	Abstract Algebra	3
MATH 3104	Calculus III	4
MATH 3123	Differential Equations	3
MATH 5513	Matrix Algebra	3
MATH 5523	Introduction to Number Theory	3
MATH 5483	Theory of Probability and Statistics I	3
MATH 5873	Real Analysis and Topology	3
Mathematics Electives		
Select 9 additional semester credit hours in mathematics.		9
MATH 1013, MATH 1023, MATH 1303, and MATH 1313 may not be counted toward the major		
Total SCHs		42

Departmental Requirements ("C" or higher required)

Code	Title	SCHs
CSCI 2003	Software Systems Design and Tools	3
or CSCI 1203	Computing Skills for a Digital World	
CSCI 3013	Applied Computational Thinking	3
Minor (select courses with advisor)		18
Electives		12

Specializations

Descriptions of specialized programs for mathematics students interested in engineering studies, computational math, statistics, or teacher certification can be found on our website.

Recommended Plan of Study

First Year

Fall		TCCN	SCHs
MATH 1313	Trigonometry	MATH 1316	3
CSCI 1203 or 2003	Computing Skills for a Digital World or Software Systems Design and Tools	COSC 1301	3
ENG 1013	Composition I	ENGL 1301	3
HIST 1013	History of the United States, 1492-1865	HIST 1301	3
UNIV 1231	Learning Frameworks: The First Year Experience	EDUC 1100, EDUC 1200, EDUC 1300	1
Elective			3
SCHs			16
Spring		TCCN	
MATH 1703	Elementary Statistics I	MATH 1342	3
ENG 1023	Composition II	ENGL 1302	3
HIST 1023	History of the United States, 1865 to the Present	HIST 1302	3
Creative Arts Core			3
Elective			3
SCHs			15

Second Year

Fall		TCCN	
MATH 2014	Calculus I	MATH 2413	4
POLS 2013	U.S. National Government	GOVT 2305	3
Life/Physical Sciences Core			3
Language, Philosophy, and Culture Core			3
Social/Behavioral Science Core			3
SCHs			16
Spring		TCCN	
MATH 2024	Calculus II	MATH 2414	4
MATH 2053	Women and Minorities in Engineering, Mathematics, and Science		3
CSCI 3013	Applied Computational Thinking		3
POLS 2023	Texas Government	GOVT 2306	3
Life/Physical Sciences Core			3
SCHs			16

Third Year

Fall		TCCN	
MATH 3053	Abstract Algebra		3
MATH 3104	Calculus III		4
Minor			3
Minor			3
MATH Elective (Major)			3
SCHs			16
Spring		TCCN	
MATH 3013	Discrete Mathematics		3
MATH 3083	Elementary Number Theory		3
MATH 3123	Differential Equations		3
Minor			3

Elective		3
SCHs		15
Fourth Year		
Fall		TCCN
MATH 3063	Linear Algebra	3
MATH 5483	Theory of Probability and Statistics I	3
Minor		3
Minor (Upper Level)		3
MATH Elective (Major)		3
SCHs		15
Spring		TCCN
MATH 5873	Real Analysis and Topology	3
MATH 5513	Matrix Algebra	3
MATH Elective (Major)		3
Minor (Upper Level)		3
Elective		3
SCHs		15
Total SCHs:		124