

**Bachelor of Science in Mathematics
2016-17 Catalog Year**

**BSM in MATH Requirements
With teacher certification**

- 120 Total Semester Hours
- 42 Advanced Hours
 - 24 Advanced Hours must be completed at UNT, including 12 advanced hours in your major
- A minimum of 30 Hours must be completed at UNT
- An overall GPA of 2.75
- A GPA of 2.75 in all UNT courses
- A GPA of 2.75 in all MATH courses
- A GPA of 2.0 in MATH courses numbered 3350 and above

University Core Requirements

English: 6 hours

ENGL 1310/1313, TECEM 1700 _____
ENGL 1320/1323, **TECEM 2700** (recommended) _____

Math: Will be completed by completing the major

Laboratory Sciences: See below for approved courses.

Creative Arts: 3 hours from approved list _____

Language, Philosophy, and Culture: Will be completed by completing the minor

American History: 6 hours HIST 2610 _____

HIST 2620 _____

Government/Political Science: 6 hours PSCI 1040 _____

PSCI 1050 _____

Social and Behavior Sciences: 3 hours from approved list _____

Note: ECON 1100 and 1100 have greater mathematical content and are required for the actuarial certificate.

Component Area Option: Will be completed by completing the major and Laboratory Science requirements below.

Laboratory Science Requirements

Option 1, Biology Emphasis:

BIOL 1710 and 1720 Biology for Science Majors I and II _____
BIOL 1760 Biology for Science Majors Laboratory _____
Either CHEM 1410/1430 or PHYS 1710/1730 _____

Option 2, Chemistry Emphasis:

CHEM 1410 and 1430 General Chemistry for Science _____
Majors and Laboratory _____
CHEM 1420 and 1440 General Chemistry for Science _____
Majors and Laboratory _____
Additional Laboratory Science _____

Option 3, Physics Emphasis:

PHYS 1710 and 1730 Mechanics and Laboratory _____
PHYS 2220 and 2240 Electricity & Magnetism (& Lab) _____
Additional Laboratory Science _____

Notes: Equivalent honors courses can be used. Students with a double major or a minor in geography or geology should see an advisor. Students seeking certification in both math and physics are required to take PHYS 1710/1730, PHYS 2220/2240, and PHYS 3010/3030.

Arts and Sciences Requirements

Complete either option to satisfy the CAS foreign language requirement.

Option 1. 6 hours in one language. (Arabic, Chinese, French, German, Italian, Japanese, Latin, Russian, Spanish, or American Sign Language)
1010 _____ 1020 _____

See attached handout for College of Arts and Sciences Requirements approved course list. Students intending to pursue a graduate degree in mathematics are encouraged to study French, German or Russian.

Option 2. Complete 6 hours of technical writing courses chosen from TECEM 2700, 4180, 4190, 4250, and 4700.

Major Requirements

Mathematics Core: 16 hours

MATH 1710 Calculus I _____
MATH 1720 Calculus II _____
MATH 2700 Linear Algebra and Vector Geometry _____
MATH 2730 Calculus III _____
MATH 3000 Real Analysis I _____

Secondary Teacher Preparation: 21 hours

MATH 2000 Discrete Mathematics _____
MATH 2100 Functions and Modeling for Secondary _____
Mathematics Instruction _____
MATH 3680 Applied Statistics _____
MATH 3850 Mathematical Modeling _____
MATH 4050 Advanced Study of the Secondary _____
Mathematics Curriculum _____

MATH 4060 Foundations of Geometry _____
TNTX 3100 Conceptual Algebra and Geometry _____

Analysis: 3 hours chosen from the following

MATH 3350 Introduction to Numerical Analysis _____
MATH 3410 Differential Equations I _____
MATH 3420 Differential Equations II _____
MATH 3610 Real Analysis II _____
MATH 3740 Vector Calculus _____
MATH 4100 Fourier Analysis _____
MATH 4200 Dynamical Systems _____
MATH 4520 Introduction to Functions of a Complex _____
Variable _____

Algebra: 3 hours chosen from the following

MATH 3400 Number Theory _____
MATH 3510 Introduction to Abstract Algebra I _____
MATH 4430 Introduction to Graph Theory _____
MATH 4450 Introduction to the Theory of Matrices _____
MATH 4510 Abstract Algebra II _____

Mathematics Elective Requirement: 6 hours

Two additional mathematics course numbered 3350 or higher _____

Theory Requirement

At least one of MATH 3510 and 3610 must be chosen above.

Computer Programming: 3 or 4 hours chosen from

CSCE 1010 Introduction to Computer Science _____
CSCE 1020 Program Development _____
CSCE 1030 Computer Science I _____

Minor Requirements

A minor in Mathematics and Science Secondary Teaching is required.

TNTX 1100 Secondary Teacher Preparation I _____
TNTX 1200 Secondary Teacher Preparation II _____
PHIL 2600 Ethics in Science _____
EDSE 3500 Knowing and Learning in Mathematics _____
and Science _____

EDSE 4000 Classroom Interactions _____
EDSE 4500 Project-Based Instruction in Math, Science _____
and Computer Science _____

EDSE 4608/4618 Student Teaching I/II in Mathematics _____
and Science _____

EDSE 4628 Student Teaching Seminar in Math & Science _____

For eligible students, TNTX 1300 may be substituted for both TNTX 1100 and TNTX 1200.

Academic Advising

To schedule an appointment with a faculty advisor, please e-mail MathAdvising@unt.edu.

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