

**Bachelor of Science: Major in MATH  
2016-2017 Catalog Year**

**BSM in MATH Requirements  
Without 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
- A GPA of 2.0 in MATH courses numbered 3350 and above

**University Core Requirements**

**English:** 6 hours

ENGL 1310/1313, TECM 1700 \_\_\_\_\_  
ENGL 1320/1323, **TECM 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 & Culture:** 3 hours from approved list \_\_\_\_\_

**American History:** 6 hours

HIST 2610 \_\_\_\_\_  
HIST 2620 \_\_\_\_\_

**Government/Political Science:** 6 hours

PSCI 1040 \_\_\_\_\_  
PSCI 1050 \_\_\_\_\_

**Social and Behavior Sciences:** Completed by finishing the certificate.

**Component Area Option:**

- Category 1: MATH 2000 is recommended \_\_\_\_\_
- Category 2: Will be completed by completing the 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.

**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 TECM 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	_____

**Breadth and Depth Requirements:** 18 hours

Pick three courses from one area and one course from the others.

**1. Analysis (Math 3610 required if chosen for depth)**

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	_____

**2. Algebra (Math 3510 required if chosen for depth)**

MATH 3400	Number Theory	_____
MATH 3510	Introduction to Abstract Algebra I	_____
MATH 4010	Introduction to Metamathematics	_____
MATH 4430	Introduction to Graph Theory	_____
MATH 4450	Introduction to the Theory of Matrices	_____
MATH 4510	Abstract Algebra II	_____

**3. Probability/Statistics**

MATH 3680	Applied Statistics	_____
MATH 4610	Probability	_____
MATH 4650	Statistics	_____

**4. Geometry/Topology**

MATH 3740	Vector Calculus	_____
MATH 4060	Foundations of Geometry	_____
MATH 4500	Introduction to Topology	_____

**Mathematics Elective Requirement:** 9 hours

Three additional mathematics courses chosen from among MATH 2000 or MATH 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**

One of the following is required:

- A minor of 18 hours (6 advanced). A minor in statistics does not fulfill this requirement.
- Completion of a second major in addition to mathematics.
- Completion of the Actuarial Science certificate. See separate advising sheet for details.

**Academic Advising**

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

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