

**Bachelor of Science: Major in MATH
With Certificate in Actuarial Science
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 _____

Humanities: 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.

Recommended courses are in bold.

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 Mathematics _____
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. **MATH 3350** and either **MATH 3850** or **MATH 3870** are recommended.

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 _____

Certificate Requirements

Admission requirements: ECON 1100, ECON 1110, and FINA 3770. See an adviser to enroll in FINA 3770 without first taking ACCT 2010/2020.

Certificate requirements:

ECON 4870 Introduction to Econometrics _____
FINA 4200 Investments _____
FINA 4210 Introduction to Derivatives _____

Plus 3 courses chosen from the following:

FINA 4300, FINA 4310, and FINA 4400
RMIN 2500 or any 4000-level RMIN course
ECON 4030 (recommended), ECON 4180, and ECON 4875

Academic Advising

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

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