

Bachelor of Arts: Major in MATH
2016-2017 Catalog Year

BA 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, and 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 Behavioral Sciences: Completed by finishing 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

Natural and Life Sciences: 5 hours

BIOL 1710 and 1760 Biology for Science Majors I and Lab _____

Physical Sciences: 4 hours, chosen from

CHEM 1410 and 1430 General Chemistry for Science _____
Majors and Laboratory _____
PHYS 1710 and 1730 Mechanics and Laboratory _____

One Additional Science Course: 3 or 4 hours

See an advisor for a list of approved courses _____

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

Foreign Language: 6 hours in one language. Prerequisites for 2040 and 2050 courses are LANG 1010 and 1020 courses or placement (Arabic, Chinese, French, German, Italian, Japanese, Latin, Russian, Spanish, or American Sign Language)

2040 _____ 2050 _____

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.

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: 15 hours

Pick two courses from one area and one course from the other three areas.

1. Analysis

| | | |
|-----------|---|-------|
| 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 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: 6 hours

Two 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 a faculty advisor, please e-mail MathAdvising@unt.edu.

Dr. Jianguo (Jay) Liu, jgliu@unt.edu
Dr. John Quintanilla, John.Quintanilla@unt.edu

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