college of ARTS & SCIENCES

UNT® UNIVERSITY OF NORTH TEXAS™

Bachelor of Science: Major in MATH 2014-2015 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.
Discovery: 3 hours from approved list
    Note: MATH 2000 is recommended _____
Capstone: 3 hours from approved list _____

    Note: MATH 3850, MATH 3870 and MATH 4951 are recommended.

Laboratory Science Requirements

    Three laboratory sciences intended for science majors are required.
Option 1, Biology Emphasis:
    BIOL 1710 and 1730 Principles of Biology I and Laboratory _____
    BIOL 1720 and 1740 Principles of Biology II and Lab _____
    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 3520	Abstract Algebra II	_____
MATH 4010	Introduction to Mathematics	_____
MATH 4430	Introduction to Graph Theory	_____
MATH 4450	Introduction to the Theory of Matrices	_____

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 coursers 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: 4 hours chosen from

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. Students must take MATH 3680, 4610 and 4650 for fulfilling major requirements. Students are also encouraged to take MATH 3350 and 3740. No mathematics course may be chosen in fulfilling the elective requirements of the certificate program.

Academic Advising

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

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

Updated 4/29/2014

BS IN MATHEMATICS (WITHOUT SECONDARY TEACHING CERTIFICATION)
FOREIGN LANGUAGE OPTION
ACADEMIC MAP
CATALOG YEAR: 2014-15

FALL	Hrs.
ENGL 1310/1313 or TECM 1700*	3
MATH 2000	3
MATH 1710	4
PSCI 1040	3
Social and Behavioral Science	3
Total Hours	16

Milestones
Maintain at least a 2.0 UNT and overall GPA.

SPRING	Hrs.
ENGL 1320/1323 or TECM 2700*	3
Lab Science	4
MATH 1720	3
PSCI 1050	3
CSCE 1020 or 1030	4
Total Hours	17

Milestones
Maintain at least a 2.0 UNT and overall GPA.

FALL	Hrs.
HIST 2610	3
MATH 2700	3
MATH 2730	3
Lab Science***	4
Minor	3
Total Hours	16

Milestones
Maintain at least a 2.0 UNT and overall GPA.

SPRING	Hrs.
HIST 2620	3
MATH 3000	3
MATH Breadth or Depth	3
Lab Science***	4
Minor	3
Total Hours	16

Milestones
Maintain at least a 2.0 UNT and overall GPA.

FALL	Hrs.
MATH 3510 or 3610	3
MATH Breadth or Depth	3
Minor	3
Minor	3
Language, Philosophy, and Culture*	3
Total Hours	15

Milestones
Maintain at least a 2.0 UNT and overall GPA.
 Maintain at least a 2.0 GPA in all math courses
   numbered 3350 and higher

SPRING	Hrs.
MATH Breadth or Depth	3
MATH Breadth or Depth	3
LANG 1010	3
Minor (advanced)	3
Minor (advanced)	3
Total Hours	15

Milestones
Maintain at least a 2.0 UNT and overall GPA.
 Maintain at least a 2.0 GPA in all math courses numbered
   3350 and higher

FALL	Hrs.
MATH Breadth or Depth	3
MATH Elective (3350 or higher)	3
Capstone (MATH 3870 suggested)	3
LANG 1020	3
Creative Arts*	3
Total hours	15

Milestones
Maintain at least a 2.0 UNT and overall GPA.
 Maintain at least a 2.0 GPA in all math courses
   numbered 3350 and higher

SPRING	Hrs.
MATH Elective (3350 or higher)	3
Technical Writing Elective	3
Elective (advanced)	3
Elective	1
Total hours	10

Milestones
Maintain at least a 2.0 UNT and overall GPA.
 Maintain at least a 2.0 GPA in all math courses numbered
   3350 and higher

*See the University Core Curriculum section of this catalog for approved list of course options.
**See Arts and Sciences degree requirements section of this catalog for approved list of course options.
***See the mathematics major requirements for an approved list of courses.

BS IN MATHEMATICS (WITHOUT SECONDARY TEACHING CERTIFICATION)
TECHNICAL WRITING OPTION
ACADEMIC MAP
CATALOG YEAR: 2014-15

FALL	Hrs.
ENGL 1310/1313 or TECM 1700*	3
MATH 2000	3
MATH 1710	4
PSCI 1040	3
Social and Behavioral Science	3
Total Hours	16

Milestones
Maintain at least a 2.0 UNT and overall GPA.

SPRING	Hrs.
TECM 2700	3
Lab Science	4
MATH 1720	3
PSCI 1050	3
CSCE 1020 or 1030	4
Total Hours	17

Milestones
Maintain at least a 2.0 UNT and overall GPA.

FALL	Hrs.
HIST 2610	3
MATH 2700	3
MATH 2730	3
Lab Science***	4
Minor	3
Total Hours	16

Milestones
Maintain at least a 2.0 UNT and overall GPA.

SPRING	Hrs.
HIST 2620	3
MATH 3000	3
MATH Breadth or Depth	3
Lab Science***	4
Minor	3
Total Hours	16

Milestones
Maintain at least a 2.0 UNT and overall GPA.

FALL	Hrs.
MATH 3510 or 3610	3
MATH Breadth or Depth	3
Minor	3
Minor	3
Language, Philosophy, and Culture*	3
Total Hours	*15*

Milestones
Maintain at least a 2.0 UNT and overall GPA.
Maintain at least a 2.0 GPA in all math courses
   numbered 3350 and higher

SPRING	Hrs.
MATH Breadth or Depth	3
MATH Breadth or Depth	3
Elective	3
Minor (advanced)	3
Minor (advanced)	3
Total Hours	*15*

Milestones
Maintain at least a 2.0 UNT and overall GPA.
Maintain at least a 2.0 GPA in all math courses numbered
   3350 and higher

FALL	Hrs.
MATH Breadth or Depth	3
MATH Elective (3350 or higher)	3
Capstone (MATH 3870 suggested)	3
Elective	3
Creative Arts	3
Total hours	*15*

Milestones
Maintain at least a 2.0 UNT and overall GPA.
Maintain at least a 2.0 GPA in all math courses
   numbered 3350 and higher

SPRING	Hrs.
MATH Elective (3350 or higher)	3
Technical Writing Elective	3
Elective	3
Elective	1
Total hours	*10*

Milestones
Maintain at least a 2.0 UNT and overall GPA.
Maintain at least a 2.0 GPA in all math courses numbered
   3350 and higher

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