

# Bachelor of Arts with a major in Mathematics

## 2022 - 2023 Degree Requirements Checklist

### College of Science Admission Requirement

Students must demonstrate proficiency in College Algebra by placing into Math Level 2 or higher through the UNT Math Placement Exam **OR** completing College Algebra or higher with a grade of C or higher.

### Math Foundation Requirements

- **MATH 1710:** Calculus I (4hrs) (*C or higher*)
- **MATH 1720:** Calculus I (3hrs) (*C or higher*)
- **MATH 2000:** Discrete Math (3hrs) (*C or higher*)
- **MATH 2700:** Linear Algebra and Vector Geometry
- **MATH 2730:** Multivariable Calculus (3hrs)
- **MATH 3000:** Real Analysis I (3hrs)
- **MATH 3510:** Intro. to Abstract Algebra I (3hrs) or **MATH 3610:** Real Analysis II (3hrs) (*can double-dip with depth or breadth course*)

### Major Depth Requirements

Students must complete two courses from one of the following areas

- Analysis area
  - **MATH 3350:** Intro. to Numerical Analysis (3hrs)
  - **MATH 3410:** Differential Equations I (3hrs)
  - **MATH 3420:** Differential Equations II (3hrs)
  - **MATH 3610:** Real Analysis II (3hrs)
  - **MATH 3740:** Vector Calculus (3hrs)
  - **MATH 4080:** Differential Geometry (3hrs)
  - **MATH 4100:** Fourier Analysis (3hrs)
  - **MATH 4200:** Dynamical Systems (3hrs)
  - **MATH 4520:** Intro. to Functions of a Complex Variable (3hrs)
- Algebra area
  - **MATH 3400:** Number Theory (3hrs)
  - **MATH 3510:** Intro. to Abstract Algebra I (3hrs)
  - **MATH 4010:** Intro. to Metamathematics (3hrs)
  - **MATH 4430:** Intro. to Graph Theory (3hrs)
  - **MATH 4450:** Intro. to the Theory of Matrices (3hrs)
  - **MATH 4510:** Abstract Algebra II (3hrs)
- Probability & Statistics area
  - **MATH 3680:** Applied Statistics (3hrs)
  - **MATH 4610:** Probability (3hrs)
  - **MATH 4650:** Statistics (3hrs)
- Geometry & Topology area
  - **MATH 3740:** Vector Calculus (3hrs)
  - **MATH 4060:** Foundations of Geometry (3hrs)
  - **MATH 4080:** Differential Geometry (3hrs)
  - **MATH 4500:** Intro. to Topology (3hrs)

### Major Breadth Requirements

Students must complete one course in each of the three areas above not used to satisfy the depth requirement. (9hrs)

### Other Major Requirements

- **Three** hours of advanced math electives numbered 3350 or above
- Minimum of 2.0 GPA in math courses numbered 3350 or above

### Other Required Courses for Degree

- **One** physical science course with lab intended for science majors (4hrs)

- **One** life or physical science course with lab intended for science majors (4-5hrs)
- **One** additional lab science course that meets the university core requirement (3-5hrs)
- **Six** hours of technical writing courses or **six** hours of a foreign language
- **CSCE 1010:** Discovering Computer Science (3hrs) or **CSCE 1030:** Computer Science I (4hrs)

### Minor Requirements

- **One** of the following is required:
  - Minor of at least 18 hours; *cannot* minor in Statistics
  - Completion of a second major in addition to Mathematics
  - Completion of the Actuarial Science, Data Analytics, or Secondary Teaching certificate

### College Requirements

- **One** of the following:
  - **COS Breadth** – Students can complete 12 hours from any subject outside of the College of Science. (*May not also apply to University Core*)
  - **Foreign Language** – Students must demonstrate proficiency through the 2050 level in one language: Arabic, Chinese, French, German, Italian, Japanese, Latin, Russian, Spanish, or American Sign Language

### University Core Requirements

Communication – English Composition and Rhetoric (6hrs total)  
*C or higher required for English core*

- **ENGL 1310:** First-Year Writing I (3hrs)
- **ENGL 1320:** First-Year Writing II (3hrs) or **TECM 2700:** Technical Writing (3hrs)

Mathematics (at least 3hrs total)

- Double-dips with major requirement

Laboratory Sciences (at least 6hrs total)

- Double-dips with major requirement

Creative Arts (3hrs total)

- See catalog or online degree audit for acceptable options

Language, Philosophy, & Culture (3hrs total)

- See catalog or online degree audit for acceptable options

American History (6hrs total)

- **HIST 2610:** US History to 1865 (3hrs)
- **HIST 2620:** US History since 1865 (3hrs)

Government/Political Science (6hrs total)

- **PSCI 2305:** (3hrs)
- **PSCI 2306:** (3hrs)

Social & Behavioral Sciences (3hrs total)

- See catalog or online degree audit for acceptable options

Component Area Option (6hrs total)

- Double-dips with major requirement

### Additional University Requirements

- Minimum of 120 total hours
- Minimum of 36 advanced hours
  - Elective requirements vary by path
- Minimum 2.000 UNT GPA and Overall GPA

College of Science Advising Center; Hickory Hall 283; (940) 369-8606; COSAdvising@unt.edu

This is an unofficial simplified checklist effective Fall 2022. Degree requirements and pre-requisites are subject to change, please check with an advisor for any updates. Online catalog - <http://catalog.unt.edu/>