

- Students who earn degrees in mathematics readily obtain jobs with high-technology companies and in business, industry, government and teaching. Salaries and working conditions compare with those of engineers and scientists.
- Students who plan to major in mathematics, physics, chemistry, biology or computer science should have had four years of mathematics in high school, including pre-calculus. Students who are required to take mathematics as part of their degree program in college should have had at least two years of algebra and one year of geometry in high school.
- The Bachelor of Arts degree in Mathematics enforces prerequisites for MATH 1314 or 1414, 1325 or 1425, 1350, 1316, 2312 or 2412, and 2313 or 2413 or 2513. These prerequisite courses require completion with grade of "C" or better, or UNT mathematics department approval.
- The College of Arts and Sciences encourages students to explore teaching at the secondary level as a career option. Students seeking secondary teacher certification should contact the Teach North Texas Program in the College of Arts and Sciences.
- The College of Arts and Sciences expects you to have completed the State recommended high school program and be ready to enroll for Language 2040 (TCCNS: Language 2311) and a college level mathematics course. If you are not prepared for this level, the necessary prerequisites will either replace electives or increase the hours required for the degree.

### Courses Recommended for Transfer

The UNT Core requirements, with the exception of U.S. History and Political Science, and the College & Major requirements are shown with Texas Common Course Numbering System values only when UNT offers equivalent courses. There may be other courses in transfer that apply toward the specific degree requirement, but those listed are known to apply.

#### UNT Core: English Composition & Rhetoric

ENGL 1301; and ENGL 1302 or 2311

A grade of 'C' or better is required on courses applied toward this requirement.

*ENGL 2311 is recommended instead of ENGL 1302.*

#### UNT Core: Social & Behavioral Sciences

One course chosen from: ANTH 2346, 2351; COMM 1307; CRIJ 1301; ECON 1301, 2301, 2302; HUMA 2323; PSYC 2301; SOCI 1301; SPCH 1318; TECA 1354

#### UNT Core: Mathematics

This requirement will be met by fulfilling B.A. Mathematics major requirements (see next column).

#### UNT Core: Discovery

This requirement will be met by fulfilling B.A. Mathematics major requirements (see below).

#### UNT Core: Natural Science

This requirement will be met by fulfilling the B.A. Mathematics laboratory science requirement (see page two).

#### UNT Core: Capstone

The Capstone Core requirement is unique to UNT and will be fulfilled by an advanced course at UNT.

#### UNT Core: U.S. History

Two courses chosen from: HIST 1301, 1302, 2301

#### College of Arts & Sciences Core: Foreign Language

Any foreign language 2311 and 2312.

#### UNT Core: Political Science

As of Fall 2013, only the following courses are offered at the two-year level:

- GOVT 2305 and 2306

Other acceptable combinations are:

- GOVT 2301 and 2302
- GOVT 2301 and 2305
- GOVT 2301 and 2306
- GOVT 2302 and 2306

Courses must be taken in the same language.

NOTE: Prerequisites for foreign language 2311 and 2312 courses are 1311 and 1312 or 1411 and 1412 or 1511 and 1512. Placement exams may be available; see your community college academic advisor for details.

#### UNT Core: Visual & Performing Arts

One course chosen from: ARTS 1301, 1303, or 1304; DRAM 1310; MUSI 1306 or 1307; SPCH 2341

#### B.A. Mathematics: Major Requirements

Lower-level TCCNS options:

- MATH 2313 or 2413 or 2513 (fulfills both university mathematics core and major requirements)
- MATH 2314 or 2414
- MATH 2318 or 2418
- MATH 2315 or 2415
- MATH 2305 or MATH 2405 (can be used to satisfy the UNT Core Discovery requirement and may be used toward the 6 hours of required math course electives)

#### UNT Core: Humanities

One course chosen from: ENGL 2322, 2323, 2327, 2328, 2332, or 2333; PHIL 1304 or 2316

*Courses listed above are TCCNS options and do not include all courses required for the UNT B.A. Mathematics major.*

#### B.A. Mathematics: Other Course Requirements

##### Laboratory Sciences

Three laboratory science courses are required as follows (these also fulfill university core laboratory science requirements):

##### Option I

Group I: Complete the following course:

- BIOL 1406 or 1106/1306

Group II: Complete one of the following laboratory courses:

- PHYS 2425 or 2325/2125
- CHEM 1411 or 1111/1311

Group III: Complete one of the following Laboratory courses.

- |                          |                          |
|--------------------------|--------------------------|
| • ANTH 2401 or 2101/2301 | • CHEM 1412 or 1112/1312 |
| • ASTR 1403 or 1103/1303 | • GEOL 1401 or 1101/1301 |
| • ASTR 1404 or 1104/1304 | • GEOL 1403 or 1103/1303 |
| • BIOL 1407 or 1107/1307 | • PHYS 1401 or 1101/1301 |
| • BIOL 1411 or 1111/1311 | • PHYS 1402 or 1102/1302 |
| • BIOL 1413 or 1113/1313 | • PHYS 1403 or 1103/1303 |
| • BIOL 2401 or 2101/2301 | • PHYS 1404 or 1104/1304 |
| • BIOL 2402 or 2102/2302 | • PHYS 1410 or 1110/1310 |
| • BIOL 2406 or 2106/2306 | • PHYS 1415 or 1115/1315 |
| • CHEM 1411 or 1111/1311 | • PHYS 2425 or 2125/2325 |
|                          | • PHYS 2426 or 2126/2326 |

Mathematics majors with a minor in geography or geology may also choose GEOL 1403 and GEOL 1401.

##### Option II

Group I: Complete two of the following Laboratory courses.

- CHEM 1411 OR 1311/1111
- CHEM 1412 OR 1312/1112
- PHYS 2425 OR 2325/2125
- PHYS 2426 OR 2326/2146

Group II: Complete one of the following Laboratory courses.

- |                          |                          |
|--------------------------|--------------------------|
| • ANTH 2401 or 2101/2301 | • BIOL 2401 or 2101/2301 |
| • BIOL 1406 or 1106/1306 | • BIOL 2402 or 2102/2302 |
| • BIOL 1407 or 1107/1307 | • BIOL 2406 or 2106/2306 |
| • BIOL 1411 or 1111/1311 | • GEOL 1401 or 1101/1301 |
| • BIOL 1413 or 1113/1313 | • GEOL 1403 or 1103/1303 |

##### Option III

Students double majoring in mathematics and another discipline (typically biology, chemistry, physics or engineering) that requires at least 12 hours of laboratory science intended for science and engineering majors may use the same laboratory science courses that satisfy the requirements for the other major to satisfy the laboratory science requirement for the mathematics major.

#### B.A. Mathematics: Other Course Requirements (continued)

##### Computer Programming

COSC 1315 or COSC 1336 is required. Students taking mathematics courses at the 2000-level or above are expected to be competent in computer programming, using languages such as BASIC, C, C++, Fortran, PASCAL or Java. Students are encouraged to complete the programming requirement during their freshman or sophomore year. Students who have acquired a solid programming competency in a non-academic setting, such as through work experience, may demonstrate their programming competency by passing a departmental exam in place of the COSC 1315 or 1415; or COSC 1336 or 1436 course requirement.

##### Minor

One of the following is required:

- A minor of at least 18 hours (6 advanced).
- Completion of a second major in addition to mathematics.
- Completion of the certificate program in actuarial science. (advanced)

#### Teacher Certification Option

The College of Arts and Sciences encourages students to explore teaching at the secondary level as a career option. A higher GPA may be required for the certification option. For more information contact the College of Arts and Sciences Office of Student Advising at 940-565-2051.

#### Special Notes

##### Hours Required and General/College Requirements:

A minimum of 120 semester hours, of which 42 must be advanced, and fulfillment of degree requirements for the Bachelor of Arts degree as specified in the "[General University Requirements](#)" section of the UNT catalog and the College of Information requirements.

**UNT Core Curriculum/Transfer of Core Curriculum:** Complies with the [mandates of the 1997 Texas Legislature](#) regarding requirements for state-assisted institutions. Individual academic programs may require courses contained in parts of the University Core Curriculum. Students who wish to take courses that will fulfill both core and major/program requirements simultaneously should check with academic advisors for assistance in selecting core courses.

**Choice of Catalog:** Any student transferring directly from a Texas public community college to UNT shall have the same choice of catalog designating degree requirements as the student would have had if the dates of attendance at the university had been the same as the dates of attendance at the community college.

The College of Arts & Sciences required curriculum and policies are located in the [Undergraduate Catalog 2013-2014](#).

For additional program and contact information see the College of Arts and Sciences Student Advising website: [www.cas.unt.edu/advising](http://www.cas.unt.edu/advising)

# College of Arts & Sciences

## B.A. Mathematics

### 2013-2014 Texas Common Course Numbering System Transfer Guide



This four-year plan provides a model for on-time completion of this UNT program using as many TCCNS courses as possible. The four-year plan also shows the first point when no TCCNS options are available for this program. See the current [Undergraduate Catalog](#) for course prerequisites. Course availability at UNT is subject to change, and the plan shown below may change based on updates to UNT's course offerings.

YEAR	FALL SEMESTER		SPRING SEMESTER	
	UNT Requirement	TCCNS Option	UNT Requirement	TCCNS Option
FRESHMAN	ENGL 1310	ENGL 1301	CSCE 1020 or CSCE 1030	COSC 1315/1415 or COSC 1336/1436
	Foreign Language 2040	Foreign Language 2311	Foreign Language 2050	Foreign Language 2312
	MATH 1710	MATH 2313 or 2413 or 2513	MATH 1720	MATH 2314 or 2414
	UNT Core: Political Science	See list of approved courses	TECM 2700	ENGL 2311
	UNT Core: Social and Behavioral Sciences	See list of approved courses	B.A. Math Major: Laboratory Science	See list of approved courses

YEAR	FALL SEMESTER		SPRING SEMESTER	
	UNT Requirement	TCCNS Option	UNT Requirement	TCCNS Option
SOPHOMORE	UNT Core: U.S. History	See list of approved courses	UNT Core: U.S. History	See list of approved courses
	MATH 2700	MATH 2318 or 2418	MATH 3000	None
	MATH 2730	MATH 2315 or 2415	MATH Depth requirement (advanced)	
	B.A. Math Major: Laboratory Science	See list of approved courses	MATH 2000 (counts as Discovery and Math elective)	MATH 2305 or 2405
	UNT Core: Humanities	See list of approved courses	UNT Core: Political Science	See list of approved courses

YEAR	FALL SEMESTER		SPRING SEMESTER	
	UNT Requirement	TCCNS Option	UNT Requirement	TCCNS Option
JUNIOR	MATH 3510 or MATH 3610 (Breadth requirement)	None	Minor	Consult UNT advisor
	Elective (advanced)		Elective	Consult UNT advisor
	Minor	Consult UNT advisor	MATH Depth requirement (advanced)	None
	Minor	Consult UNT advisor	Minor (advanced)	
	Minor	Consult UNT advisor	B.A. Math Major: Laboratory Science	See list of approved courses

YEAR	FALL SEMESTER		SPRING SEMESTER	
	UNT Requirement	TCCNS Option	UNT Requirement	TCCNS Option
SENIOR	MATH Breadth requirement (advanced)	None	MATH Elective (3350 or higher)	None
	MATH Breadth requirement (advanced)		UNT Core: Capstone	
	Minor (advanced)		Elective (advanced)	
	Elective (advanced)		Elective (advanced)	
	UNT Core: Visual & Performing Arts	See list of approved courses		