

# College of Arts & Sciences

## B.S. Mathematics Option II

### 2016-2017 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
	MATH 1710	MATH 2313 or 2413 or 2513	TECM 2700	ENGL 2311
	UNT Core: Government/Political Science	<a href="#">See list of approved courses</a>	MATH 1720	MATH 2314 OR 2414
	UNT Core: Language, Philosophy and Culture	<a href="#">See list of approved courses</a>	UNT Core: Government/Political Science	<a href="#">See list of approved courses</a>
	Elective	Consult UNT advisor	Elective	Consult UNT advisor

YEAR	FALL SEMESTER		SPRING SEMESTER	
	UNT Requirement	TCCNS Option	UNT Requirement	TCCNS Option
SOPHOMORE	UNT Core: American History	<a href="#">See list of approved courses</a>	UNT Core: American History	<a href="#">See list of approved courses</a>
	MATH 2700	MATH 2318 or 2418	MATH 3000	None
	MATH 2730	MATH 2315 or 2415	MATH Breadth or Depth requirement (advanced)	
	B.S. Math: Lab Science	<a href="#">See list of approved courses</a>	B.S. Math: Lab Science	<a href="#">See list of approved courses</a>
	Minor	Consult UNT advisor	MATH 2000 (counts as UNT CAO Category I and Math elective)	MATH 2305 or 2405

YEAR	FALL SEMESTER		SPRING SEMESTER	
	UNT Requirement	TCCNS Option	UNT Requirement	TCCNS Option
JUNIOR	MATH 3510 or MATH 3610 (Breadth or Depth)	None	MATH Breadth or Depth requirement (advanced)	None
	Minor	Consult UNT advisor	MATH Breadth or Depth requirement (advanced)	
	B.S. Math: Laboratory Science	<a href="#">See list of approved courses</a>	Minor (advanced)	
	Minor	Consult UNT advisor	Minor (advanced)	
	Minor	Consult UNT advisor	UNT Core: Social & Behavioral Sciences	<a href="#">See list of approved courses</a>

YEAR	FALL SEMESTER		SPRING SEMESTER	
	UNT Requirement	TCCNS Option	UNT Requirement	TCCNS Option
SENIOR	MATH Breadth or Depth requirement (advanced)	None	MATH Elective (3350 or higher)	None
	MATH Elective (3350 or higher)		MATH Breadth or Depth requirement (advanced)	
	Elective (advanced)		Technical Writing Elective (advanced)	
	Elective (advanced)		Elective	Consult UNT advisor
	UNT Core: Creative Arts	<a href="#">See list of approved courses</a>		

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.

### Courses Recommended for Transfer

The UNT Core requirements, with the exception of American History and Government/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: Communication

ENGL 1301; and ENGL 1302 or 2311

*ENGL 2311 is recommended.*

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

#### UNT Core: Mathematics

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

#### UNT Core: Life & Physical Sciences

This requirement will be met by fulfilling B.S. Mathematics laboratory science requirement (see next column).

#### UNT Core: American History

Two courses chosen from: HIST 1301, 1302, 2301

#### UNT Core: Political Science

GOVT 2305 and 2306

#### UNT Core: Creative Arts

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

#### UNT Core: Language, Philosophy and Culture

One course chosen from: ENGL 2332 or 2333; HIST 2321 or 2322; PHIL 1301, 1304, 2303, 2306, or 2316

#### UNT Core: Social & Behavioral Sciences

One course chosen from: ANTH 2346 or 2351; COMM 1307; CRIJ 1301; ECON 2301 or 2302; GEOG 1303; PSYC 2301; SOCI 1301; SOCW 2361; SPCH 1318; TECA 1354

#### UNT Core: Component Area Option Category I

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

#### UNT Core: Component Area Option Category II

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

#### B.S. Mathematics: Laboratory Sciences

Three laboratory science courses for science majors are required as follows:

##### Option I. Biology Emphasis

- BIOL 1406 or 1106/1306\*\*
- BIOL 1407 or 1107/1307\*\*
- PHYS 2425 (2125/2325) or CHEM 1411 (1111/1311)

##### Option II. Chemistry Emphasis

- CHEM 1411 or 1111/1311
- CHEM 1412 or 1112/1312
- Any CHEM numbered at least 2000 or one of the following:

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|----------------------------|--------------------------|
| • ANTH 2401 or 2101/2301   | • GEOL 1401 or 1101/1301 |
| • ASTR 1403 or 1103/1303   | • GEOL 1403 or 1103/1303 |
| • ASTR 1404 or 1104/1304   | • PHYS 1401 or 1101/1301 |
| • BIOL 1406 or 1106/1306** | • PHYS 1402 or 1102/1302 |
| • BIOL 1407 or 1107/1307** | • PHYS 1403 or 1103/1303 |
| • BIOL 1408 or 1108/1308   | • PHYS 1404 or 1104/1304 |
| • BIOL 2401 or 2101/2301   | • PHYS 1410 or 1110/1310 |
| • BIOL 2402 or 2102/2302   | • PHYS 1415 or 1115/1315 |
| • BIOL 2406 or 2106/2306   | • PHYS 2425 or 2125/2325 |
|                            | • PHYS 2426 or 2126/2326 |

##### Option III. Physics Emphasis

- PHYS 2425 or 2125/2325
- PHYS 2426 or 2126/2326
- Any PHYS numbered at least 2000 or one of the following:

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|----------------------------|--------------------------|
| • 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 1406 or 1106/1306** | • PHYS 1401 or 1101/1301 |
| • BIOL 1407 or 1107/1307** | • PHYS 1402 or 1102/1302 |
| • BIOL 1408 or 1108/1308   | • 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   |                          |

\*\* Approved substitution

#### B.S. Mathematics: Laboratory Sciences (continued)

**Option IV.** 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.

**Option V.** Students with a minor in geography or geology may use GEOL 1401 (1101/1301), GEOL 1403 (1103/1303), and either PHYS 2425 (2125/2325) or CHEM 1411 (1111/1311) to satisfy the laboratory science requirement for the mathematics major.

#### B.S. Mathematics: Foreign Language

Students may complete either of two options to satisfy the College of Arts and Sciences foreign language requirement:

**Option I:** Proficiency in a foreign language equivalent to 1312 or 1412 or 1512. Students intending to pursue a graduate degree in mathematics are encouraged to study French, German or Russian.

**Option II:** Complete 6 hours of technical writing courses from the following: ENGL 2311 and one advanced level TECM course option at UNT from approved list.

#### B.S. Mathematics: Major Requirements

- MATH 2305 or 2405 (can be used to satisfy the UNT Core CAO Category I requirement and may be used toward the 9 hours of required math electives)
- MATH 2313 or 2413 or 2513
- MATH 2314 or 2414
- MATH 2315 or 2416
- MATH 2318 or 2418

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

Students must achieve a grade point average of at least 2.0 in all mathematics courses numbered 3350 and above.

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

- COSC 1315 or 1415, or COSC 1336 or 1436

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). A minor in statistics does not fulfill this requirement.
- Completion of a second major in addition to mathematics.
- Completion of the certificate program in actuarial science.

#### 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 Science degree as specified in the [General University Requirements](#) section of the UNT catalog and the College of Arts and Sciences requirements

##### UNT Core Curriculum/Transfer of Core Curriculum:

UNT complies with the [mandates of the 1997 Texas Legislature](#) regarding requirements for state-assisted institutions. Students who successfully complete the common core curriculum (in whole or in part) at a Texas state-assisted institution of higher education are eligible to transfer as "core complete" for those categories in the UNT University Core Curriculum.

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 and Sciences required curriculum and policies are located in the [undergraduate catalog](#) under the corresponding catalog year.

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