

# BS IN COMPUTER ENGINEERING DEGREE IN THREE ACADEMIC MAP

2020-2021 CATALOG YEAR

This is an unofficial simplified checklist effective fall 2017. Degree requirements may change. You may need elective courses to help reach a minimum of 121 Total Hours & 42 Advanced Hours. Check with an advisor.

Must earn at least a grade of “C” in each course above except for most University Core courses.

## COMPUTER ENGINEERING

Bachelor of Science (B.S.) degree with a major in Computer Engineering)

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<p><b>University Core</b></p>	<p><b>Major Requirements</b> (Grades with a C or better)</p>
<p><u>COMMUNICATION</u></p> <ul style="list-style-type: none"> <li>▪ 1 Course (3 Hours)</li> <li>▪ Grade of “C” or better is required</li> </ul> <p><u>AMERICAN HISTORY I</u></p> <ul style="list-style-type: none"> <li>▪ 1 Course (3 Hours)</li> </ul> <p><u>AMERICAN HISTORY II</u></p> <ul style="list-style-type: none"> <li>▪ 1 Course (3 Hours)</li> </ul> <p><u>FEDERAL GOVERNMENT/POLITICAL SCIENCE</u></p> <ul style="list-style-type: none"> <li>▪ 1 Course (3 Hours)</li> </ul> <p><u>STATE GOVERNMENT/POLITICAL SCIENCE</u></p> <ul style="list-style-type: none"> <li>▪ 1 Course (3 Hours)</li> </ul>	<p><u>ADVANCED MATHEMATICS OR SCIENCE ELECTIVE</u></p> <ul style="list-style-type: none"> <li>▪ 1 advanced Math or Science elective course (3 Hours) chosen from MATH 3***, MATH 4***, PHYS 3***, CHEM 3***, BIOL 3***, BIOL 4***, GEOG 3***, or GEOG 4***. Check with your advisor for approved options.</li> </ul> <p><u>ELECTRICAL ENGINEERING</u></p> <ul style="list-style-type: none"> <li>▪ ENGR 2405, Circuit Analysis (3 Hours) &amp; ENGR 2415, Circuit Analysis Lab (1 Hour)</li> <li>▪ ENGR 2720, Digital Logic Design (3 Hours) &amp; ENGR 2730, Digital Logic Lab (1 Hour)</li> <li>▪ EENG 3510, Electronics I (3 Hours)</li> </ul>

CREATIVE ARTS

- 1 Course (3 Hours)

LANGUAGE, PHILOSOPHY, & CULTURE

- 1 Course (3 Hours)

SOCIAL & BEHAVIORAL SCIENCES

- 1 Course (3 Hours)

**Major Requirements** (Grades of C or better)

TECHNICAL COMMUNICATIONS

- TECM 2700, Technical Writing (3 Hours)

MATHEMATICS

- MATH 1710, Calculus I (4 Hours)
- MATH 1720, Calculus II (3 Hours)
- MATH 1780, Probability Models (3 hours)
- MATH 2700, Linear Algebra (3 Hours)
- MATH 2730, Multivariable Calculus (3 Hours)

SCIENCES

- PHYS 1710, Mechanics (3 Hours) & PHYS 1730, Mechanics Lab (1 Hour)
- PHYS 2220, Electricity & Magnetism (3 Hours) & PHYS 2240, Electricity & Magnetism Lab (1 Hour)
- CHEM 1410, General Chemistry I (3 Hours) & CHEM 1430, General Chemistry I Lab (1 Hour)  
or
- CHEM 1415, Chemistry for Engineers (3 Hours) & CHEM 1435, Chemistry for Engineers Lab (1 Hour)

COMPUTER SCIENCE and ENGINEERING

- CSCE 1030, Computer Science I (4 Hours)
- CSCE 1040, Computer Science II (3 Hours)
- CSCE 2100, Computing Foundations I (3 Hours)
- CSCE 2110, Computing Foundations II (3 Hours)
- CSCE 2610, Assembly Lang. & Computer Organization (3 Hours)
- CSCE 3010, Signals & Systems (3 Hours)
- CSCE 3020, Communications Systems (3 Hours)
- CSCE 3600, Principles of Systems Programming (3 Hours)
- CSCE 3612, Embedded Systems Design (3 Hours)
- CSCE 3730, Reconfigurable Logic (3 Hours)
- CSCE 4011, Engineering Ethics (3 Hours)
- CSCE 4910, Senior Design I (3 Hours)
- CSCE 4915, Senior Design II (3 Hours)

SPECIALTY AREA

Choose a specialty area & complete 3 courses from the approved options below:

- Specialty Elective (3 Hours)
- Specialty Elective (3 Hours)
- Specialty Elective (3 Hours)

Real-time & Embedded Systems Specialty Area (Choose 3 courses):

- ELET 3750, CSCE 3610, 4440, 4444, 4600, 4610, 4620, 4730, 4890

VLSI & Electronics Specialty Area: (Choose 3 courses)

- ELET 3750, 4300, 4340, CSCE 3610, 4610, 4730, 4890

Communications & Networks Specialty Area (Choose 3 courses):

- CSCE 3420, 3530, 4510, 4520, 4530, 4550, 4560, 4890

Computer Systems Specialty Area (Choose 3 courses):

CSCE 3030, 3610, 4050, 4240, 4600, 4610, 4620, 4650,  
4730, 4890

### Year 1 at UNT

FALL	Hrs.
CSCE 1030	4
TECM 2700	3
ENGR 2720	3
ENGR 2730	1
MATH 1720	3
<i>Total Hours</i>	14

SPRING	Hrs.
CSCE 1040	3
MATH 2730	3
PHYS 2220	3
PHYS 2240	1
ENGR 2405 (see note 3)	3
ENGR 2415 (see note 3)	1
<i>Total Hours</i>	14

SUMMER	Hrs.
CSCE 2100	3
<i>Total Hours</i>	3

### Year 2 at UNT

FALL	Hrs.
MATH 1780	3
CSCE 2110	3
CSCE 2610	3
EENG 3510	3
CSCE 3010	3
<i>Total Hours</i>	15

SPRING	Hrs.
MATH 2700	3
CSCE 3600	3
CSCE 3020	3
CSCE 3612	3
CSCE Specialty Area Elective course (see note 1)	3
<i>Total Hours</i>	15

## Year 3 at UNT

FALL	Hrs.
CSCE 3730	3
CSCE 4910	3
CSCE Specialty Area Elective course (see note 1)	3
CSCE Specialty Area Elective course (see note 1)	3
<i>Total Hours</i>	<i>12</i>

SPRING	Hrs.
CSCE 4915	3
CSCE 4011	3
Advanced Math or Science Elective	3
Advanced Level General Elective (see note 2)	3
<i>Total Hours</i>	<i>12</i>

**Required prerequisite (s) indicated in parentheses**

Notes:

Note 1: See curriculum page for options. Most specialization courses are offered fall only or spring only. Must meet prerequisite for specialization courses.

Note 2: Advanced level general elective may be needed to reach 42 total advanced hours. Please check with an advisor.

Note 3: ENGR 2405 & ENGR 2415 requires completion of MATH 1720 & either completion of or co-enrollment in PHYS 2220 & 2240 as prerequisite.

**Must earn at least a grade of "C" and a minimum 2.5 GPA in CSCE 1030, CSCE 1040, CSCE 2100, CSCE 2110, & MATH 1710 as foundations to enroll in advanced courses.**

<p><i>Credits Which Could Be Earned Prior to Enrollment at UNT – AP, IB, CLEP, DC, Transfer:</i></p> <p>Communications Core TECM 2700 CHEM 1410, 1430 HIST 2610 HIST 2620 PSCI 2305 PSCI 2306 Creative Arts Core Language Philosophy Culture Core Social Behavioral Sciences Core</p>	<p><i>Credits Which Should Be Earned Prior to Enrollment at UNT – AP, IB, CLEP, DC, Transfer:</i></p> <p>MATH 1710 PHYS 1710 &amp; 1730</p>
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**This is an unofficial sample schedule. Requirements, prerequisites, etc. may change. Students should meet with an advisor each semester for individual scheduling, program decisions, etc. Engineering admissions requirements must be met & a degree audit must be created in order to progress in the program to a timely graduation.**