



Degree Map

CATALOG YEAR: 2023-2024

Degree: BSCmpE

MAJOR: Computer Engineering

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and course schedule. This document provides general direction.

| Course | Cr. Hrs. | Course | Cr. Hrs. |
|---------------------------------------|----------|---|----------|
| FIRST YEAR | | | |
| Semester: Fall Total Credit Hours: 17 | | Semester: Spring Total Credit Hours: 15 | |
| ENGL 1010 Writing Composition I | 3 | ENGL 1020 Writing Composition II | 3 |
| MATH 1910 Calculus I | 4 | MATH 1920 Calculus II | 4 |
| CHEM 1110 General Chemistry I | 4 | CSC 1300 Intro to Problem Solving & Comp Prog | 4 |
| ECE 1000 Explorations in ECE | 3 | ECE 2140 Intro to Digital Systems | 4 |
| Humanities/Fine Arts Elective | 3 | | |
| Course | Cr. Hrs. | Course | Cr. Hrs. |
| SOPHOMORE YEAR | | | |
| Semester: Fall Total Credit Hours: 17 | | Semester: Spring Total Credit Hours: 17 | |
| ENGL 2130, 2235, or 2330 Literature | 3 | COMM 2025 or PC 2500 Communication | 3 |
| MATH 2120 Differential Equations | 3 | MATH 2610 Discrete Structures or CSC 2700 Discrete Structures for Comp Sci | 3 |
| MATH 2010 Intro to Linear Algebra | 3 | CSC 2400 Design of Algorithms | 3 |
| CSC 1310 Data Structures & Algorithms | 4 | ECE 3050 Circuits & Electronics II | 4 |
| ECE 2050 Circuits & Electronics I | 4 | PHYS 2110 Calculus-based Physics I | 4 |
| Course | Cr. Hrs. | Course | Cr. Hrs. |
| JUNIOR YEAR | | | |
| Semester: Fall Total Credit Hours: 15 | | Semester: Spring Total Credit Hours: 16 | |
| ECE 3130 Microcomputer Systems | 4 | ECE 3920 Professional Issues in ECE | 1 |
| PHYS 2120 Calculus-based Physics II | 4 | MATH 3470 Intro to Prob and Statistics | 3 |
| ECE 3330 Signals & Systems | 4 | CSC 4100 Operating Systems | 3 |
| ECE 3140 Digital System Design | 3 | CMPE Breadth Elective ¹ | 3 |
| | | CMPE Breadth Elective ¹ | 3 |
| | | Humanities/Fine Arts Elective | 3 |
| Course | Cr. Hrs. | Course | Cr. Hrs. |
| SENIOR YEAR | | | |
| Semester: Fall Total Credit Hours: 15 | | Semester: Spring Total Credit Hours: 16 | |
| ECE 4961 Capstone Design I | 3 | ECE 4971 Capstone Design II | 3 |
| ECE 4140 Embedded System Design | 3 | ECE 4120 Fundamentals of Computer Design | 3 |
| CmpE Depth Elective ² | 3 | CSC 4200 Computer Networks | 3 |
| CmpE Depth Elective ² | 3 | Career Elective ³ | 3 |
| Social/Behavioral Science Elective | 3 | Social/Behavioral Science Elective | 3 |
| | | Free Elective | 1 |

Notes:

A detailed list of electives is available: <https://www.tntech.edu/engineering/programs/ece/undergraduate/electives-23.php>

- CmpE Breadth Electives: ECE 3210, ECE 3260, ECE 3270, ECE 3710, ECE 3760, CSC 2310, CSC 3220, or CSC 3300
- CmpE Depth Electives: ECE 4010, ECE 4020, ECE 4130, CSC 4220, CSC 4240, CSC 4260, CSC 4400, CSC 4450, CSC 4575, CSC 4580, CSC 4585, CSC 4610, CSC 4710, CSC 4750, CSC 4760, CSC 4770, CSC 4780
- Career Electives can be chosen from any of the following:
 - ECE: Any 3000-level ECE course except 3850; any 4000-level ECE course.
 - Engineering: CHE 2015, CEE 2110, CEE 3110, CEE 3413, CEE 3710, CSC 2310, CSC 2400, CSC 2510, CSC 2570, CSC 2700, CSC 2770, CSC 3020, CSC 3710, CSC 4100, CSC 4200, CSC 4240, CSC 4575, CSC 4750, CSC 4760, CSC 4780, ENGR 3020, ENGR 3710, ENGR 4500, ENGR 4510, ME 2330, ME 3210, ME 3610, ME 4140, VE 3400, VE 3500, VE 4050, VE 4500

- c. Mathematics: MATH 2110, MATH 2610, MATH 3070, MATH 3080, MATH 3400, MATH 3810, or any 4000-level MATH course except 4610 and 4620.
- d. Science: ASTR 1010, ASTR 1020, BIOL 1113, BIOL 1123, BIOL 2310, BIOL 2350, CHEM 1120, CHEM 2010, PHYS 1100, PHYS 2420, PHYS 2920
- e. Business: ACCT 3720, BMGT 3510, ECON 2010, ECON 2020, FIN 3210, LAW 2810, MKT 3400, MKT 3900
- f. Foreign Language: FREN 1010, FREN 1020, FREN 2010, FREN 2020, GERM 1010, GERM 1020, GERM 2010, GERM 2020, SPAN 1010, SPAN 1020, SPAN 2010, SPAN 2020
- g. Only one of CSC 3020 (ENGR 3020) and MATH 4210 may be taken for elective credit.