



## Degree Map

**CATALOG YEAR:** 2025-2026

**Degree:** BSEE

**MAJOR:** Electrical Engineering

**CONCENTRATION:** Mechatronics

*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.
<b>FIRST YEAR</b>			
Semester: Fall	Total Credit Hours: 17	Semester: Spring	Total Credit Hours: 17
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	ENGR 1110 Engineering Graphics	2
Course	Cr. Hrs.	Course	Cr. Hrs.
<b>SOPHOMORE YEAR</b>			
Semester: Fall	Total Credit Hours: 18	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 2110 Calculus III	4
ECE 2050 Circuits & Electronics I	4	ECE 3050 Circuits & Electronics II	4
PHYS 2110 Cal Based Physics I	4	CEE 2110 Statics	3
CSC 1310 Data Structures & Algorithms	4	MATH 2010 Intro to Linear Algebra	3
Course	Cr. Hrs.	Course	Cr. Hrs.
<b>JUNIOR YEAR</b>			
Semester: Fall	Total Credit Hours: 18	Semester: Spring	Total Credit Hours: 12
MATH 3470 Intro to Probability & Statistics	3	ECE 3920 Professional Issues in ECE	1
ECE 3130 Microcomputer Systems	4	ECE 3510 Electromagnetic Fields I	3
ME 2330 Dynamics	3	ME 3610 Dynamics of Machinery	3
ECE 3330 Signals & Systems	4	ECE 3210 Control Systems Analysis	3
PHYS 2120 Calculus-based Physics II	4	ECE 3260 Control Systems Lab	1
		ECE 3270 Programmable Logic Controller Lab	1
Course	Cr. Hrs.	Course	Cr. Hrs.
<b>SENIOR YEAR</b>			
Semester: Fall	Total Credit Hours: 15	Semester: Spring	Total Credit Hours: 14
ECE 4961 Capstone Design I	3	ECE 4971 Capstone Design II	3
ECE 4050 Circuits & Electronics III	3	EE Mechatronics Concentration Elective <sup>1</sup>	3
ME 4140 Intro to Robotics & Intelligent Mach Engr	3	EE Mechatronics Concentration Elective <sup>1</sup>	3
Social/Behavioral Science Elective	3	Social/Behavioral Science Elective	3
Humanities/Fine Arts Elective	3	Free Elective	2

### Notes:

A detailed list of electives is available: <https://www.tntech.edu/engineering/programs/ece/electives-25.php>

1. EE Mechatronics Concentration Electives: ECE 3610, ECE 3660, ECE 4010, ECE 4140, ECE 4210, ECE 4630, ME 4640, VE 3500