



Bachelor of Science – Mechanical Engineering

Catalog Year: 2024 – 2025

Degree: BSME

Major: Mechanical Engineering
Concentration: Mechatronics

The major map illustrates one path to completing your major, based on faculty members' advice on course sequence and a department's tentative plans for scheduling courses. This document provides general direction.

Roane State Community College

Freshman Year – Fall Semester

Course Title	Cr	✓
ENST 1311 – Computer Aided Design I	3	
MATH 1910 – Calculus I	4	
CHEM 1110 – General Chemistry I	4	
ENGL 1010 – Composition I	3	
Social & Behavioral Sciences Elective	3	
Humanities/Fine Arts Elective	3	
Total	20	

Freshman Year – Spring Semester

Course Title	Cr	✓
CISP 1010 – Computer Science Programming	4	
MATH 1920 – Calculus II	4	
COMM 2025 – Fundamentals of Communication	3	
ENGL 1020 – Composition II	3	
Humanities/Fine Arts Elective	3	
Total	17	

Sophomore Year – Fall Semester

Course Title	Cr	✓
ENGR 2110 – Statics	3	
MATH 2120 – Differential Equations	3	
MATH 2010 – Intro to Linear Algebra	3	
PHYS 2110 – Calculus-Based Physics I	4	
ENGL 2110, 2120, 2210, 2220, 2310 or 2320 Literature	3	
History I	3	
Total	19	

Sophomore Year – Spring Semester

Course Title	Cr	✓
ENGR 2120 – Dynamics	3	
ENST 1354 – Industrial Concepts	1	
MATH 2110 – Calculus III	4	
History II	3	
PHYS 2120 – Calculus-Based Physics II	4	
Social & Behavioral Sciences Elective	3	
ENGR 2130– Electrical Circuits I with Lab (Taken at TTU – Spring or Summer)	4	
Total	18	
	+4	

Tennessee Technological University

Junior Year – Fall Semester

Course Title	Cr	✓
ME 3010 – Materials and Processes in Mfg	3	
ME 3023 – Measurements	3	
ME 3210 – Thermodynamics I	3	
ME 3610 – Dynamics of Machinery	3	
CEE 3110 – Mech of Materials	3	
ME 3001 – ME Analysis	3	
Total	18	

Junior Year – Spring Semester

Course Title	Cr	✓
ME 3050 – Dynamic Modeling and Controls (DMC)	3	
ME 3060 – DMC Lab	1	
ME 3220 – Thermodynamics II	3	
ME 3710 – Heat Transfer	3	
ME 3720 – Fluid Mechanics	3	
ME 4010 – Machine Design	3	
Total	16	

Senior Year – Fall Semester

Course Title	Cr	✓
ME 4410 – Senior Design I	3	
ME 4020 – Applied Mac Design or ME 4720 – Thermal Design	3	
ME 4751 – Energy Systems Lab	2	
ECE 2140 – Intro to Digital Systems	4	
ECE 3270 PLC Lab	1	
Total	13	

Senior Year – Spring Semester

Course Title	Cr	✓
ME 4370 – Mechatronics	3	
ME 4420 – Senior Design II	3	
ECE 3120 – Microcomputer Systems or ME 4810 – Automatic Control	3	
ECE 3130 – Microprocessors	4	
Total	13	

Red color listed courses are taken at Roane State

Purple color listed courses are taken at TTU