



# Bachelor of Science – Mechanical Engineering

Catalog Year: 2024 – 2025

Degree: BSME

Major: Mechanical Engineering

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

### Freshman Year – Spring Semester

Course Title	Cr	✓
ENGL 1020 – Composition II	3	
MATH 1920 – Calculus II	4	
COMM 2025 – Fundamentals of Communication	3	
Humanities/Fine Arts Elective	3	
CISP 1010 – Computer Science Programming	4	
Social & Behavioral Sciences Elective	3	
<b>Total</b>	<b>20</b>	

### Sophomore Year – Fall Semester

Course Title	Cr	✓
MATH 2110 – Calculus III	4	
ENGR 2110 – Statics	3	
PHYS 2110 – Calculus-Based Physics I	4	
MATH 2010 – Intro to Linear Algebra	3	
ENST 1354 – Industrial Concepts	1	
History I	3	
<b>Total</b>	<b>18</b>	

### Sophomore Year – Spring Semester

Course Title	Cr	✓
MATH 2120 – Differential Equations	3	
ENGR 2120 – Dynamics	3	
PHYS 2120 – Calculus-Based Physics II	4	
ENGL 2110, 2120, 2210, 2220, 2310 or 2320 Literature	3	
History II	3	
ENGR 2130 – Electrical Circuits I with Lab (Taken at TTU – Spring or Summer)	4	
<b>Total</b>	<b>16+4</b>	

# Tennessee Technological University

## Junior Year – Fall Semester

Course Title	Cr	✓
ME 3001 – ME Analysis	3	
ME 3010 – Materials & Processes in Mfg	3	
ME 3023 – Measurements	3	
ME 3210 – Thermodynamics I	3	
ME 3720 – Fluid Mechanics	3	
CEE 3110 – Mech of Materials	3	
<b>Total</b>	<b>18</b>	

## Junior Year – Spring Semester

Course Title	Cr	✓
ME 3610 – Dynamics of Machinery	3	
ME 3050 – DMC	3	
ME 3060 – DMC Lab	1	
ME 3220 – Thermodynamics II	3	
ME 3710 – Heat Transfer	3	
ME 4010 – Machine Design	3	
<b>Total</b>	<b>16</b>	

## Senior Year – Fall Semester

Course Title	Cr	✓
ME 4410 – Senior Design I	3	
ME 4020 – Applied Mac Design or ME 4720 – Thermal Design	3	
Area of Emphasis Course 1	3	
Area of Emphasis Course 2	3	
<b>Total</b>	<b>12</b>	

## Senior Year – Spring Semester

Course Title	Cr	✓
ME 4420 – Senior Design II	3	
Area of Emphasis Course 3	3	
Area of Emphasis Course 4	3	
Area of Emphasis Course 5	3	
ME 4751 – Energy Systems Lab	2	
<b>Total</b>	<b>14</b>	

128 hours minimum required for graduation

- Notes
  - US History is not required if student attended a US high school (cannot be used as humanities/fine arts elective)
  - At least 3 of the 5 area of emphasis (AOE) courses must be ME courses.
  - Up to 2 AOE's can be math courses, only 1 can be a business course, and 1 can be manufacturing (all from preapproved list)
  - If both ME4020 and ME4720 are completed, one can count as an ME AOE.

**Red color listed courses are taken at Roane State**

**Purple color listed courses are taken at TTU**