

Mechanical Engineering Technology B.S.

Mechanical Engineering Technology Major

The B.S. Mechanical Engineering Technology major requires a minimum of 120 total credits. This total includes UNIFI/General Education requirements and the following specified major requirements, plus electives to complete the minimum of 120 hours.

ALEKS score of 61 is required for the math, chemistry and physics classes in the program.

Math and Science:

MATH 1420	Calculus I	4
CHEM 1020	Chemical Technology	4
or CHEM 1110	General Chemistry I	
PHYSICS 1511	General Physics I [^]	4
or PHYSICS 1701	Physics I for Science and Engineering	

Computer Science:

CS 1510	Introduction to Computing	3-4
or CS 1160	C/C++ Programming	

Required Core:

ENGLISH 1005	College Writing and Research	3
ENGLISH 3772/5772	Technical Writing for Engineering Technologists	3
PHIL 1560	Science, Technology, and Ethics (STE)	3
ENGR 1000	Introduction to Engineering & Professional Practice	3
TECH 1008	Basic Manufacturing Processes	3
TECH 1010	Fundamentals of Metal Removal	3
TECH 1024	Engineering Design with CAD	3
TECH 2024	Technical Drawing with GD&T	3
TECH 2036	Power Technology	3
TECH 2065	Industrial Robotics	3
TECH 2072	Engineering Materials	3
ENGR 2080	Statics	2
ENGR 2180	Strength of Materials	2
TECH 3024/5024	Solid Modeling and Additive Manufacturing for Design	3
TECH 3127	Applied Thermodynamics	3
TECH 3135/5135	Product Design	3
TECH 3136	Principles of Metal Casting	3
TECH 3148	Machine Design	3
TECH 4137	Tooling Practices in Metal Casting	3
TECH 4162	Hydraulics & Pneumatics	3

ENGR 4500	Senior Design [@]	3
Total Hours		76-77

[^] Has prerequisite of satisfactory score on ALEKS exam or subsequent remediation.

[@]ENGR 4500 meets the Bachelor of Science degree undergraduate research course requirement.

Four-Year Plan

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This is a sample plan of study with a suggested sequencing of classes for the major. University electives may be applied to earn additional academic majors, minors, or certificates. Students should regularly meet with their academic advisor to plan their specific semester schedule to include UNIFI/General Education program and/or university elective hours required.

Course	Title	Hour
Freshman		
Fall		
UNIFI/General Education or University Electives		3
PHYSICS 1511	General Physics I	4
ENGR 1000	Introduction to Engineering & Professional Practice	3
TECH 1008	Basic Manufacturing Processes	3
TECH 1024	Engineering Design with CAD	3
Hours		16
Spring		
UNIFI/General Education or University Electives		3
MATH 1420	Calculus I	4
TECH 1010	Fundamentals of Metal Removal	3
TECH 2024	Technical Drawing with GD&T	3
CS 1160	C/C++ Programming	3
Hours		16
Sophomore		
Fall		
CHEM 1020	Chemical Technology	4
TECH 2065	Industrial Robotics	3
ENGR 2080	Statics	2
UNIFI/General Education or University Electives		6
Hours		15
Spring		
TECH 2036	Power Technology	3
TECH 2072	Engineering Materials	3
ENGR 2180	Strength of Materials	2
UNIFI/General Education or University Electives		6
Hours		14

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Junior		
Fall		
PHIL 1560	Science, Technology, and Ethics (STE)	3
TECH 3024/5024	Solid Modeling and Additive Manufacturing for Design	3
TECH 3136	Principles of Metal Casting	3
ENGLISH 3772/5772	Technical Writing for Engineering Technologists	3
UNIFI/General Education or University Electives		3
Hours		15
Spring		
TECH 3127	Applied Thermodynamics	3
TECH 3135/5135	Product Design	3
UNIFI/General Education or University Electives		9
Hours		15
Senior		
Fall		
TECH 3148	Machine Design	3
TECH 4162	Hydraulics & Pneumatics	3
UNIFI/General Education or University Electives		9
Hours		15
Spring		
TECH 4137	Tooling Practices in Metal Casting	3
ENGR 4500	Senior Design	3
UNIFI/General Education or University Electives		8
Hours		14
Total Hours		120

- Collaboratively develop Mechanical Engineering solutions in a team environment
- Use analytical techniques to provide Mechanical engineering solutions.
- Develop Mechanical engineering solutions that meet requirements

Related Programs

- Applied Engineering M.S.
- Materials Science and Engineering B.S.

Learning Outcomes

Mechanical Engineering Technology, B.S.

An accreditable program in mechanical engineering technology prepares graduates with knowledge, problem-solving ability and hands-on skills to enter careers in the design, installation, manufacturing, testing, technical sales, maintenance, and other endeavors typically associated with mechanical components and systems. Programs emphasize how things actually work, how they are made, and the realization that most mechanical components and assemblies become parts of complex systems, an important consideration realized at the beginning of the design process. Level and scope of career preparation will depend on the degree level and specific program orientation.

Program Educational Objectives (PEOs):

- Demonstrate an ability to define and create innovative solutions through the application of Mechanical Engineering principles and critical thinking with an understanding of ethical, technical, and sustainability effects.
- Continually evolve core competencies and abilities to discover emerging technologies through engaging in continuous learning and professional development.
- Exercise effective communication and teamwork skills in diverse environments, employing high ethical and professional standards.

Student Learning Objectives (SLOs):

- Interpret data to develop Mechanical Engineering solutions.
- Effectively apply communication tools to support mechanical engineering solutions.