Manufacturing Engineering Technology B.S.

Manufacturing Engineering Technology Major

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

The Manufacturing Engineering Technology Program is accredited by the Engineering Technology Accreditation Commission of ABET, www.abet.org.

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
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
PHIL 1560	Science, Technology, and Ethics (STE)	3
TECH 2024	Technical Drawing with GD&T	3
TECH 2036	Power Technology	3
TECH 2065	Industrial Robotics	3
TECH 2072	Engineering Materials	3
TECH 3113	Manufacturing Tooling	3
ENGR 2080	Statics	2
ENGR 2180	Strength of Materials	2
TECH 3136	Principles of Metal Casting	3
TECH 3142	Statistical Quality Control	3
TECH 3143	Managing Operations and Manufacturing Systems	3
TECH 3147	Computer Aided Manufacturing	3
TECH 3177	Advanced Manufacturing Processes	3
TECH 4137	Tooling Practices in Metal Casting	3
TECH 4162	Hydraulics & Pneumatics	3
ENGR 4500	Senior Design @	3
Recommended Electives		
TECH 3179 Cooperative Education		
TECH 3131/5131	Technical Project Management	
Total Hours		**79-80**

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

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

Four-Year Plan

Manufacturing Engineering Technology, B.S.

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		
UNIFI/General Education or University Electives		6
CHEM 1020	Chemical Technology	4
TECH 2065	Industrial Robotics	3
ENGR 2080	Statics	2
	Hours	**15**

Spring		
UNIFI/General Education or University Electives		6
TECH 2036	Power Technology	3
TECH 2072	Engineering Materials	3
ENGR 2180	Strength of Materials	2
	Hours	**14**
Junior		
Fall		
PHIL 1560	Science, Technology, and Ethics (STE)	3
TECH 3136	Principles of Metal Casting	3
TECH 3142	Statistical Quality Control	3
ENGLISH 3772/5772	Technical Writing for Engineering Technologists	3
UNIFI/General Education or University Electives		3
	Hours	**15**
Spring		
UNIFI/General Education or University Electives		6
TECH 3113	Manufacturing Tooling	3
TECH 3143	Managing Operations and Manufacturing Systems	3
TECH 3147	Computer Aided Manufacturing	3
	Hours	**15**
Senior		
Fall		
UNIFI/General Education or University Electives		9
TECH 3177	Advanced Manufacturing Processes	3
TECH 4162	Hydraulics & Pneumatics	3
	Hours	**15**
Spring		
UNIFI/General Education or University Electives		8
TECH 4137	Tooling Practices in Metal Casting	3
ENGR 4500	Senior Design	3
	Hours	**14**
	Total Hours	**120**

Learning Outcomes

Manufacturing Engineering Technology, B.S.

Program Educational Objectives (PEOs):

- Deploy Manufacturing Engineering solutions through the application of technology with an understanding of the ethical, technical, and sustainability effects.
- Apply process knowledge, critical thinking, and problem-solving skills in a collaborative and innovative environment.
- 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 Outcomes (SLOs):

- Interpret data to optimize Manufacturing processes.
- Effectively apply communication tools to present Manufacturing solutions
- Collaboratively develop Manufacturing solutions in a team environment
- Use analytical techniques to provide Manufacturing solutions.
- Develop Manufacturing solutions that meet requirements

Related Programs

- Applied Engineering M.S.
- Metal Casting Minor