

B.S. MECHANICAL ENGINEERING TECHNOLOGY

OVERVIEW

The Mechanical Engineering Technology program focuses on the practical application of science and engineering to design, improve, and implement mechanical systems. Students gain both theoretical understanding and hands-on experience in areas such as manufacturing and materials, thermal and fluid systems, and engineering management and economics. Graduates are prepared to solve real-world problems, communicate effectively in professional settings, and pursue rewarding careers across a broad range of industries.

Program Level Student Learning Outcomes

The student will be able to:

- An ability to apply knowledge, techniques, skills and modern tools of mathematics, science, engineering, and technology to solve broadly defined engineering problems appropriate to the discipline.
- An ability to design systems, components, or processes meeting specified needs for broadly defined engineering problems appropriate to the discipline.
- An ability to apply written, oral, and graphical communication in broadly defined technical and non-technical environments; and an ability to identify and use appropriate technical literature.
- An ability to conduct standard tests, measurements, and experiments and to analyze and interpret the results to improve processes.
- An ability to function effectively as a member as well as a leader on technical teams.

Bachelor of Science - Mechanical Engineering Technology Program Requirements

Refer to the General Education Core Requirements (<https://catalog.tamuct.edu/undergraduate-information/general-education-core-requirements/>) page for more information on the CORE REQ coursework. The Field of Study (FOS) courses are listed in the footnotes (if applicable). At least 120 credit hours are required for the degree.

Code	Title	Credit Hours
First Year		
Fall		
CORE REQ Communications (010)		3
MATH 2413	Calculus I (DEG REQ 020) ¹	4
CHEM 1411	General Chemistry I (Lecture + Lab) (DEG REQ 030) ¹	4
ENGR 1201	Introduction to Engineering	2
CORE REQ Creative Arts (050)		3
Spring		
CORE REQ Language, Philosophy, and Culture (040)		3
PHYS 1401	College Physics I (Lecture + Lab) (DEG REQ 030) ¹	4
CORE REQ Social and Behavioral Sciences (030)		3
MATH 2414	Calculus II (DEG REQ 090) ¹	4
ENGR 2301	Engineering Mechanics I - Statics	3

Second Year		
Fall		
CORE REQ Communications (010)		3
CORE REQ American History (060)		3
CORE REQ Government/Political Science (070)		3
ENGR 1304	Engineering Graphics (or Any ENGT Elective) ^{1,2}	3
PHYS 1402	College Physics II (Lecture + Lab) ¹	4
Spring		
CORE REQ American History (060)		3
CORE REQ Government/Political Science (070)		3
ENGR 2302	Engineering Mechanics II - Dynamics	3
ENGR 2305	Electrical Circuits I (Lecture)	3
or ENGR 2306	Electrical Circuits II (Lecture)	
ENGR 2332	Mechanics of Materials	3
or ENGT 2307	Engineering Materials I	
Third Year		
Fall		
ENGL 3309	Tech Writing & Document Design	3
or ENGL 2311	Technical & Business Writing	
ENGT 3305	Computer Aided Problem Solving	3
ENGT 3306	Decision Making Models	3
ENGT 3310	Applied Thermodynamics	3
ENGT 3311	Fluid Mechanics	3
Spring		
ENGT 3302	Manufacturing Processes	3
ENGT 3312	Heat Transfer	3
ENGT 3213	Thermal Fluids Lab	2
ENGT 3415	Material Science	4
Any ENGT Elective		3
Fourth Year		
Fall		
ENGT 4325	Senior Design A	3
ENGT 4307	Engineering Economics	3
ENGT 4421	Solid Modeling	4
ENGT 3320	Quality Control Technology	3
Spring		
ENGT 4326	Senior Design B	3
ENGT 4422	Electrical Power and Controls	4
Any ENGT Elective		3
Any ENGT Elective		3
Total Credit Hours		120

¹ Lower Level Electives, Any Level Electives, Component Area Options, or Degree Requirements (DEG REQ) may consist of the FOS courses: MATH 2413, MATH 2414, PHYS 1401, PHYS 1402, CHEM 1411, ENGR 1304, ENGL 2311 or ETWR 2301, ENGT 2307, ENGT 2310.

² If an ENGT elective is chosen, the elective should be delayed until the third or fourth year of the degree program.

Additional Program Information

"Any ENGT Elective" is defined as the following courses:

Code	Title	Credit Hours
Upper Division ENGT Elective Courses		
MATH 2320	Differential Equations	3
or MATH 3306	Differential Equations	
MATH 3332	Linear Algebra	3
MATH 3360	Numerical Analysis I	3
MATH 3370	An Introduction to Linear Programming	3
BUSI 3311	Business Statistics	3
MGMT 3350	Management and Organizational Behavior	3
MGMT 4370	Introduction to Project Management	3

Other ENGT electives can be added with approval from ENGT advisor.

Below are the suggested tracks or group of electives. Please work with your advisor if you are interested in selecting a track.

Track 1 - General Engineering

4 Upper Division ENGT courses
or 3 Upper Division ENGT courses and ENGR 1304

Track 2 - Math

1 Upper Division ENGT Course
MATH 2302 or MATH 3306 (Differential Equations)
2 Upper Division Math Courses from the above list

Track 3 - Business/Management

1 Upper Division ENGT Course
BUSI 3311 - Business Statistics
MGMT 3350 - Principles of Management
MGMT 4370 - Introduction to Project Management