

ACADEMIC MAP

Mechanical Engineering Technology Bachelor of Science



First Year

Fall		Hours
UNIV 1101	University Seminar I	1
ENGL 1301	Writing and Rhetoric I	3
ENGR 1201	Introduction to Engineering	2
CHEM 1411	General Chemistry I	4
MATH 2413	Calculus I	4
HIST 1301	U.S. History to 1865	3
Hours		17

Spring

UNIV 1102	University Seminar II	1
ENGL 1302	Writing and Rhetoric II	3
	or COMM 1311 or Foundation of Communication	
ENGR 1312	Engineering Graphics I	3
MATH 2414	Calculus II	4
PHYS 2425	University Physics I	4
HIST 1302	U.S. History Since 1865	3
Hours		18

Second Year

Fall		Hours
ENGR 2325	Statics	3
POLS 2305	U.S. Government and Politics	3
PHYS 2426	University Physics II	4
COSC 1330	Programming for Scientists, Engineers, and Mathematicians	3
Creative Arts Core Requirement		3
Hours		16

Spring

ENGR 2326	Dynamics	3
ENTC 2414	Circuit Analysis I	4
ENGR 3322	Materials Science	3
ENGR 3316	Thermodynamics	3
Hours		13

Third Year

Fall		Hours
ENTC 3306	Fluid Mechanics	3
	or ENGR 3315 or Fluid Mechanics	
ENTC 4446	Control Systems I	4
ENTC 3308	Strength of Materials	3
	or ENGR 3320 or Strength of Materials	
POLS 2306	State and Local Government	3
Hours		13

Spring

ENTC 3302	Manufacturing Processes	3
	or ENGR 3350 or Manufacturing Processes	
ENTC 4320	Heat Transfer	3
ENTC 3455	Solid Modeling and Finite Elements	4
ENTC 4330	Design of Machine Elements	3
ENTC 4210	Solid Mechanics Laboratory	2
ENTC 3220	Thermal-Fluids Laboratory	2
Hours		17

Fourth Year

Fall		Hours
ENTC 4415	Project Justification and Management	4
Technical elective for MCET		3
Technical elective for MCET		3
Upper Level Math, Science or Engineering Elective		3
ENTC 4360	Mechanical System Design	3
Hours		16

Spring

ENTC 4350	Capstone Projects	3
Technical elective for MCET		3
Language, Philosophy & Culture Core Requirement		3
Social and Behavioral Sciences Core Requirement		3
Hours		12
Total Hours		122



CAREER MAP

MECHANICAL ENGINEERING TECHNOLOGY

Bachelor of Science



“The Engineering Technology Council of the American Society for Engineering Education defines Engineering Technology as the profession in which knowledge of mathematics and natural sciences gained by higher education, experience, and practices is devoted primarily to the implementation and extension of existing technology for the benefit of humanity. Engineering technology focuses on the applied aspects of science and engineering to prepare graduates for practice in product improvement, manufacturing, and engineering operational functions. Engineering technologists are suited for industries that deal with application, manufacturing, implementation, engineering operation, sales, and production.

The Mechanical Engineering Technology degree is offered in both the traditional face-to-face format and an online format for the upper-division courses. The fully-online courses form a competency-based education program in which students receive credit for courses when specific competencies are demonstrated, and receive the degree when all degree-level competencies are demonstrated. In some cases, students may be able to take traditional courses for credit in the competency-based education program.

The goal of Engineering Technology is to prepare well educated, highly skilled, and socially and professionally responsible engineering technologists from a diverse population of students to create productive and rewarding careers. Graduates will be well grounded in the fundamentals of engineering, mathematics, science, communications, and problem solving. To create continuous improvement, the program uses input from employers, alumni, and the Industrial Advisory Committee. Engineering Technology is accredited by the Engineering Technology Accreditation Commission (ETAC) of ABET, www.abet.org.”

By the time of graduation, students in the Mechanical Engineering Technology program will have demonstrated

- 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; and
- an ability to function effectively as a member as well as a leader on technical teams.

CONTACT INFORMATION

Career Counselor:

Career and Professional Development Center
UC 304 | 361.825.2628
career.center@tamucc.edu

Internship Coordinator:

Mayra Alvarado
RFEB 215 | 361.825.6025
mayra.alvarado@tamucc.edu

Department Contact:

Department of Engineering
RFEB 222 | 361.825.5849
david.bridges@tamucc.edu

ADDITIONAL PROGRAM REQUIREMENTS

A competency-based education (CBE) program is one in which specific, concrete competencies are defined. The top-level competencies are the ABET student learning outcomes listed above. Subject-specific sub-competencies are identified and assessed in each of the CBE MCET courses. When a student demonstrates the competencies for a specific course, the student passes the course. When all of the competencies for the degree have been demonstrated, the student receives the degree. The CBE MCET program is being offered for the upper-division (3000- and 4000-level) courses. Once a student has completed the first two years of the traditional MCET BS program as described below, the student may opt for the CBE MCET program. Each of the courses in the CBE MCET program, with the exception of certain laboratory classes described below, may be completed online.

A student must apply for the CBE program in MCET. The student:
Must be admitted as a student to TAMU-CC.

Must indicate a positive decision to apply for the CBE MCET program, either through ApplyTexas or a change of major form if student is already at TAMU-CC. Must have completed all core courses and all lower-division courses as listed below under “Prior Course Completion.”

Must have a 2.5 GPA in all coursework that applies to the program (core courses and lower-division courses that will be counted towards the program), whether taken at TAMU-CC or elsewhere.

Credit By Examination: Some courses will have an online pre-test that students can take to earn college credit for that course. The test will be the equivalent of a comprehensive final exam that will test students on all competencies related to the course. The pre-test will be proctored according to the same standard as all other tests taken in the course. If students pass the pre-test, they will receive credit and not be required to take the course. The fee for taking the pre-test in each course must be paid by the student and may range up to \$300 per exam. The student should contact the office of the Department of Engineering or the Office of Distance Education and Learning Technologies at TAMU-CC to determine the exact cost of the pre-test.

CAREER OPTIONS

- Mechanical Engineering Technologist
- Drafter
- Engineering Technician
- Mapping Technician
- Equipment Manufacturing
- Computer Manufacturing

SKILLS/ATTRIBUTES

- Critical Thinking/Problem Solving
- Teamwork/Collaboration
- Professionalism/Work Ethic
- Oral / Written Communication
- Math
- Digital Technology

STUDENT ORGANIZATIONS

- Society of Hispanic Professional Engineers
- American Society of Mechanical Engineers
- Math Club
- SACNAS Chapter at Texas A&M University - Corpus Christi

ADDITIONAL SOURCES OF INFORMATION

1. National Society of Professional Engineers
2. Society of Women Engineers
3. National Society of Black Engineers
4. American Society of Mechanical Engineers

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<https://www.tamucc.edu/institutional-advancement/career-center/>