CATALOG YEAR 2022-2023

ACADEMIC MAP

MECHANICAL ENGINEERING

Bachelor of Science

TEXAS A&M UNIVERSITY CORPUS CHRISTI

FINISH IN 4

START HERE

YEAR 1

1 SEMESTER 1 - FALL	CREDITS	COMPLETED
UNIV 1101 UNIVERSITY SEMINAR I	1	✓
MATH 2413 CALCULUS I	4	
ENGL 1301 WRITING AND RHETORIC I	3	
HIST 1301 U.S. HISTORY TO 1865	3	
CHEM 1411 GENERAL CHEMISTRY I	4	
ENGR 1201 INTRODUCTION TO ENGINEERING	2	

TOTAL CREDITS: 17

2 SEMESTER 2 - SPRING	CREDITS	COMPLETED
UNIV 1102 UNIVERSITY SEMINAR II	1	
ENGL 1302 WRITING AND RHETORIC II	3	
MATH 2414 CALCULUS II	4	
HIST 1302 U.S. HISTORY SINCE 1865	3	
PHYS 2425 UNIVERSITY PHYSICS I	4	
ENGR 1312 ENGINEERING GRAPHICS I	3	

TOTAL CREDITS: 18

YEAR 2

3 SEMESTER 3 - FALL	CREDITS	COMPLETED
ENGR 2325 STATICS	3	
MATH 2415 CALCULUS III	4	
PHYS 2426 UNIVERSITY PHYSICS II	4	
COSC 1330 PROGRAMMING FOR SCIENTISTS, ENGINEERS, AND MATHEMATICIANS	3	
CREATIVE ARTS CORE REQUIREMENT	3	

TOTAL CREDITS: 17

4 SEMESTER 4 - SPRING	CREDITS	COMPLETED
POLS 2305 U.S. GOVERNMENT AND POLITICS	3	
ENGR 2326 DYNAMICS	4	
ENGR 3316 THERMODYNAMICS	4	
ENGR 3322 MATERIALS SCIENCE	3	
MATH 3315 DIFFERENTIAL EQUATIONS	3	

TOTAL CREDITS: 15

YEAR 3

5 SEMESTER 5 - FALL	CREDITS	COMPLETED
POLS 2306 STATE AND LOCAL GOVERNMENT	3	
ENGR 2460 CIRCUIT ANALYSIS	4	
ENGR 3315 FLUID MECHANICS	3	
ENGR 3320 STRENGTH OF MATERIALS	3	
UPPER DIVISIONAL MATH/PHYSICS/CHEMISTRY/ BIOLOGY ELECTIVE	3	

TOTAL CREDITS: 16

6 SEMESTER 6 - SPRING	CREDITS	COMPLETED
ENGR 3350 MANUFACTURING PROCESSES	3	
MEEN 3330 DESIGN OF MACHINE ELEMENTS	3	
MEEN 3230 SOLID MECHANICS LABORATORY	2	
MEEN 3345 HEAT TRANSFER	3	
MEEN 3310 ENGINEERING ANALYSIS FOR MECHANICAL ENGINEERING	3	
LANGUAGE, PHILOSOPHY & CULTURE CORE REQUIREMENT	3	

TOTAL CREDITS: 17

YEAR 4

7 SEMESTER 7 - FALL	CREDITS	COMPLETED
ENGR 4420 ENGINEERING LAB MEASUREMENTS	4	
ENGR 4240 PROJECT MANAGEMENT	2	
MEEN 4360 THERMAL SYSTEMS DESIGN	3	
MEEN 4365 MECHANICAL SYSTEMS DESIGN	3	
MEEN TECHNICAL ELECTIVE	3	

TOTAL CREDITS: 15

8 SEMESTER 8 - SPRING	CREDITS	COMPLETED
ENGR 4370 CAPSTONE PROJECTS	3	
MEEN 4351 DYNAMICAL SYSTEMS ANALYSIS AND MODELING	3	
MEEN TECHNICAL ELECTIVE	3	
MEEN TECHNICAL ELECTIVE	3	
SOCIAL AND BEHAVIORAL SCIENCES CORE REQUIREMENT	3	

TOTAL CREDITS: 15

This is not an official degree plan. It is a guideline for planning your courses. To access a copy of this academic map please visit tamucc.edu/academics/planning/academic-advising/

130 CREDITS | FINISHED!

CAREER MAP

MECHANICAL ENGINEERING

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Mechanical engineering is an engineering discipline that requires an understanding of mechanics, kinematics, thermodynamics and energy, and involves the application of principles of physics and mathematics to develop mechanical systems. The American Society of Mechanical Engineers (ASME) defines mechanical engineering as the branch of engineering that serves society through the analysis, design, and manufacture of systems that convert a source of energy to useful work. The Bachelor of Science in Mechanical Engineering (BSME) program emphasizes service, systems-based knowledge, and sustainability with an eye toward the interface of traditional mechanical engineering with new and emerging fields, in particular unmanned aircraft systems, maritime sciences and marine biology that directly impact the Gulf Coast. The mechanical engineering curriculum consists of a minimum of 128 credit hours and can be divided into four main areas: University Core requirements, mathematics and science requirements, engineering requirements, technical electives, and capstone project.

Graduates will have:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- an ability to communicate effectively with a range of audiences
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies

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
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Department Contact:
Dr. Ruby Mehrubeoglu
RFEB 22D | 361.825.3378
ruby.mehrubeoglu@tamucc.edu

ADDITIONAL PROGRAM REQUIREMENTS

All engineering students are encouraged to take the Fundamentals of Engineering (FE) exam. This exam is an important step toward licensure as a Professional Engineer (P.E.), which many engineers find useful and necessary in their careers. Close to the end of the B.S. degree program is an excellent time to take the exam, because the student has the best preparation for the exam at that point in the student's academic career.

For all students admitted into a pre-engineering program at TAMU-CC who wish to transfer into one of the TAMU-CC engineering programs (CEEN, EEEN, IEEN, MEEN), the cumulative GPA for all MATH, CHEM, PHYS, ENGR, COSC, CEEN, EEEN, IEEN, or MEEN courses that appear in the CEEN, EEEN, IEEN, or MEEN program curricula, plus any ENTC courses, taken at TAMU-CC, or their equivalents taken at other institutions, should be 2.5 or greater to be admitted into the CEEN, EEEN, IEEN, or MEEN programs at TAMU-CC. There should be a minimum of at least 12 hours of such courses taken at TAMU-CC or elsewhere before a transfer / admission to CEEN, EEEN, IEEN, or MEEN may be considered. All such students must also meet the requirements to take MATH 2413 Calculus I (4 sch) if they have not already done so.

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

CAREER OPTIONS

- Mechanical Engineer
- Aerospace Engineer
- Automotive Engineer
- Biomedical Engineer
- Business Executive
- Construction Engineer
- Manufacturing Engineer

STUDENT ORGANIZATIONS

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

SKILLS/ATTRIBUTES

• Critical Thinking/Problem Solving	• Digital Technology
• Teamwork/Collaboration	• Math
• Professionalism/Work Ethic	• Creativity
• Oral/Written Communication	• Mechanical Skills

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