

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING TECHNOLOGY

WHAT IS MECHANICAL ENGINEERING TECHNOLOGY?

Mechanical Engineering Technology (MET) is a specialized field of engineering technology that focuses on the practical application of engineering principles and technical skills to the design, development, manufacturing, operation, and maintenance of mechanical systems and products. This field bridges the gap between traditional mechanical engineering, which emphasizes theory and design, and the hands-on technical skills needed to implement and maintain mechanical systems. Mechanical engineering technologists are multifaceted, engaging in product development, equipment troubleshooting and repair, and process enhancement within the manufacturing sector. They are also involved in research and development endeavors, ensuring quality control, and conducting essential testing processes.

CAREERS IN MECHANICAL ENGINEERING TECHNOLOGY

Students in the MET program at the University of Houston (UH) Cullen College of Engineering's Technology Division are equipped for career paths within many industries as well as further education in graduate school, including design engineer, product engineer, application engineer, customer representative for engineering firms, marketing representative for engineering firms, and plant engineer. The Cullen College of Engineering also has a dedicated Engineering Career Center which connects hundreds of students each year to internships and full-time positions.

WHY EARN YOUR MECHANICAL ENGINEERING TECHNOLOGY DEGREE AT THE UNIVERSITY OF HOUSTON?

ACADEMICS

The MET program at the Cullen College of Engineering's Technology Division has a clear goal: to equip students with a well-rounded, comprehensive, and application-focused education. The curriculum is designed to impart both foundational knowledge and cutting-edge developments in the field of mechanical engineering technology. MET undergraduate students will develop the theoretical and practical knowledge and skills necessary to embark on rewarding careers in both local and national industries.

This ABET-accredited program encompasses a diverse range of courses. Those with an interest in energy, thermal, and fluids may apply core knowledge of thermodynamics, heat transfer, and fluid dynamics to energy, oil and gas industry, and alternative energy technology. Those with an interest in material sciences and manufacturing technology may apply core principles of material selection and characterization in conjunction with design principles to innovate and enhance manufacturing processes and systems. Coursework delves into crucial aspects such as material science, manufacturing planning and management, automated manufacturing systems, quality control, fuel cells and robotics. Central to the design process is computer-aided design and drafting, with courses focusing on computer graphics and applied mechanical design.

The MET Program is home to a state-of-the-art comprehensive fabrication laboratory and prioritizes staying at the forefront of technological advancements, emphasizing the latest in computer-aided drafting, computer-aided design, and computer-aided manufacturing. This ensures that students develop the problem-solving techniques and critical thinking skills necessary for professional practice. Students have access to an environment that offers hands-on experience with state-of-the-art technological equipment and software. Students will gain proficiency in the application of computer software for analyzing and designing mechanical systems and automated manufacturing processes.

Learn more at <https://dot.egr.uh.edu/programs/undergraduate/mechanical-engineering-technology>

RESEARCH

MET faculty work on a broad range of research areas, funded by many federal, state, local funding agencies as well as the industry partners, including: 1) experimental and computational fluid dynamics; 2) fuel cell and renewable energy; 3) electrochemistry and battery research; 4) thermal storage and agrivoltaics; 5) materials and nanotechnology; 6) manufacturing, automation, and robotics; 7) computational optimization; 8) safety; and 9) engineering education.

SCHOLARSHIPS

Merit-based scholarships are awarded by the Cullen College of Engineering's Technology Division. Scholarships are also offered by the UH Office of Scholarships and Financial Aid. Additionally, the university's co-op program offers students the opportunity to receive career training while financing their education. Learn more at <https://dot.egr/uh.edu/advising/financial-aid/scholarships>.

STUDENT ORGANIZATIONS

Students are encouraged to join academic and professional organizations to build leadership, communication, and networking skills. Members of student organizations receive career guidance from industry professionals and participate in activities that promote their field of study.

The student chapters of the Society of Manufacturing Engineers and the American Society of Mechanical Engineers are professional organizations for students interested in careers in manufacturing, quality, and design. Members have opportunities to attend conferences and network with industry professionals, faculty, and undergraduate students.

ET/MET FAST FACTS

850/221 Total Undergraduate Students

29/10 Total Faculty

\$50,000 – \$100,000 Average Salary

26:1 Student-to-Faculty Ratio Across the University

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FOUR-YEAR ACADEMIC MAP 2023-2024

YEAR 1

SEMESTER 1		SEMESTER 2		Total	
MECT 1364	Materials & Processes I	3	MECT 1330	Engineering Graphics	3
MATH 2312	Precalculus	3	MATH 2413	Calculus I	4
HIST 1301	U.S. to 1877	3	HIST 1302	U.S. since 1877	3
CHEM 1305/1105	Foundations of Chemistry I & Lab	4	PHYS 1301/1101	College Physics I & Lab	4
ENGL 1301	First Year Writing I	3	ENGL 1302	First Year Writing II	3
Semester Hours 16		Semester Hours 17		33	

YEAR 2

SEMESTER 1		SEMESTER 2		Total	
MECT 2354	Introduction To Mechanics	3	MECT 3355/3155	Strength of Materials & Lab	4
MATH 2414	Calculus II	4	MECT 3318/3118	Fluid Mechanic Applications & Lab	4
ELET 2300	Introduction to C++ Program	3	MECT 3360	Automated Manufacturing Sys	3
PHYS 1302/1102	College Physics II & Lab	4	ELET 2307	Electrical-Electronic Circuits	3
GOVT 2306	US & Texas Constitution & Politics	3	GOVT 2305	US Government	3
Semester Hours 17		Semester Hours 17		34	

YEAR 3

SEMESTER 1		SEMESTER 2		Total	
MECT 3358	Dynamics of Mechanisms	3	MECT 3365	Computer-Aided Design	3
MECT 3331	Applied Thermodynamics	3	MECT 3342	Elements of Plant Design	3
CORE	Social & Behavioral Science	3	MECT 3367	Quality Control Technology	3
TLIM 3363	Technical Communications	3	TLIM 3340	Org Leadership & Supervision	3
CORE	Creative Arts	3	MECT Elective		3
Semester Hours 15		Semester Hours 15		30	

YEAR 4

SEMESTER 1		SEMESTER 2		Total	
MECT 4275	Senior Design Project	2	MECT 4276	Senior Design Project	2
MECT 4372/4172	Materials Technology & Lab	4	MECT 4188	Ethics in Engineering	1
MECT 4331	Heat Transfer Applications	3	CORE	Language, Philosophy & Culture*	3
MECT Elective		3	CHEE 4366	MECT Elective	3
MECT Elective		3	Free Elective		3
Semester Hours 15		Semester Hours 12		27	
		TOTAL SEMESTER HOURS		124	

FOR MORE INFORMATION

*Students should meet with their academic advisor to formulate their own plan. Course offerings are subject to change.

UH Cullen College of Engineering Technology Division: <https://dot.egr.uh.edu/>
 Mechanical Engineering Technology Undergraduate Program: <https://dot.egr.uh.edu/programs/undergraduate/mechanical-engineering-technology/> | Email: asc@uh.edu

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