MECHANICAL ENGINEERING

Educational Objectives

The Mechanical Engineering Program at UTSA trains and graduates students to:

- Acquire the ability to apply the fundamentals of mathematics, sciences and engineering to analyze problems.
- Develop innovative design skills, including the students' ability to formulate problems, to think creatively, to synthesize information, and to communicate effectively.
- Develop the ability to use modern experimental techniques; collect, analyze, and interpret experimental data; and effectively communicate the results.
- Develop diverse skills needed to be successful engineers.

Mechanical Engineering Provides

- The opportunity to prepare for careers in traditional, new, and emerging technologies related to the practice of Mechanical Engineering.
- In-depth technical elective courses in six concentrations.
- Opportunities for students to develop an understanding of such subject areas as solid mechanics, fluid mechanics, thermal sciences, mechanical design, structures, materials controls, and instrumentation.
- Opportunities to develop a strong background in the engineering sciences to learn the analysis, design, and synthesis tools necessary to function successfully as active participants in traditional, new, and emerging areas of technology.

Concentration Areas:

- General Mechanical Engineering
- Energy, Thermal and Fluid Systems
- Manufacturing Engineering and Systems
- Mechanical Systems and Designs
- Mechanics and Materials
- Oil and Gas

ME Department Chair
Dr. Hai-Chao Han
EB 3.04.02 • 210-458-4952
HaiChao.Han@utsa.edu

Student Organizations

ASME - American Society of Mechanical Engineers
SAE - Society of Automotive Engineers
ASHRAE - American Society of Heating and Refrigerating Engineers

Undergraduate Advisor of Record (UGAR)
Dr. Amir Karimi
EB 3.04.20 • 210-458-5514
Amir.Karimi@utsa.edu

Department of Mechanical Engineering
One UTSA Circle San Antonio, TX 78249
EB 3.04.02 • 210-458-5516

Learn more:
engineering.utsa.edu/me

UTSA Engineering

UTSA Engineering

MECHANICAL ENGINEERING

PROGRAM OF STUDY
2020-2022 UNDERGRADUATE CATALOG

Fall (Semester I)			**Spring (Semester II)**		
AIS 1203	Academic Inquiry and Scholarship (core)	3	MAT 1224	Calculus II	4
CHE 1103	General Chemistry I	3	PHY 1943	Physics for Sci and Engineers I (core and major)	3
MAT 1214	Calculus I (core and major)	4	PHY 1951	Physics for Sci and Engineers I Lab	1
ME 1403	Engineering Practice and Graphics	3	POL 1013	Intro to American Politics (core)	3
WRC 1013	Freshman Composition I (core)	3	WRC 1023	Freshman Composition II (core)	3
			American History core		3
	Semester Credit Hours	**16**		**Semester Credit Hours**	**17**
Fall (Semester III)			**Spring (Semester IV)**		
EGR 2103	Statics	3	EE 2213	Electric Circuits and Electronics	3
EGR 2323	Applied Engineering Analysis I	3	EGR 2513	Dynamics	3
PHY 1963	Physics for Sci and Engineers II (core and major)	3	EGR 3323	Applied Engineering Analysis II	3
PHY 1971	Physics for Sci and Engineers II Lab	1	ME 3241	Materials Engineering Lab	1
EGR 1403	Technical Communication (or other core option)	3	ME 3243	Materials Engineering	3
Math/Science Elective		3	ME 3293	Thermodynamics I	3
	Semester Credit Hours	**16**		**Semester Credit Hours**	**16**
Fall (Semester V)			**Spring (Semester VI)**		
ME 2173	Numerical Methods	3	ME 3263	Manufacturing Engineering	3
ME 3113	Measurements and Instrumentation	3	ME 3541	Dynamics and Controls Lab	1
ME 3663	Fluid Mechanics	3	ME 3543	Dynamic Systems and Control	3
ME 3813	Mechanics of Solids	3	ME 3823	Machine Element Design I	3
ME 4293	Thermodynamics II	3	ME 4313	Heat Transfer	3
Language, Philosophy & Culture core		3	Creative Arts core		3
	Semester Credit Hours	**18**		**Semester Credit Hours**	**16**
Fall (Semester VII)			**Spring (Semester VIII)**		
ME 4312	Thermal and Fluids Lab	2	ME 4813	Senior Design II	3
ME 4543	Mechatronics	3	ME Technical elective		3
ME 4801	Manufacturing Practices Lab	1	ME Technical elective		3
ME 4812	Senior Design I	2	American History core		3
POL 1133	Texas Politics and Society (core)	3	Social and Behavioral Sciences core		3
or POL 1213	or Civil Rights in Texas and America				
ME Technical elective		3			
	Semester Credit Hours	**14**		**Semester Credit Hours**	**15**
				Total Credit Hours	**128**

Approved Math/Science Electives

BIO 1233. Contemporary Biology I	CHE 2603. Organic Chemistry I	PHY 2103 Modern Physics
BIO 1243. Contemporary Biology II	ES 2013. Intro to Environmental Sci. I	PHY 3203. Classical Mechanics I.
BIO 1404. Biosciences I.	GEO 1123. Life Through Time	STA 2303 Appl. Prob.& Statist for Engrs.
BIO 2003. Biology of Human Reproduction	MAT 3013. Foundations of Mathematics	STA 3003. Applied Statistics
CH 1113 General Chemistry II	MAT 3103. Data Anal. & Interpretation	