BACHELOR OF SCIENCE-MECHANICAL ENGINEERING

A mechanical engineering education develops student skills in designing product and processes. Mechanical engineers use analytical tools and problem solving skills to achieve their design and overcome processing barriers and constraints. Students learn to design products and processes for functionality, aesthetics, and durability, and are taught using a hands-on approach, while working with area employers to learn the best manufacturing methods that result in successful industrial implementations. In addition to physics and mathematics, it encompasses key elements of dynamics, statics, vibrations, and controls.

Mechanical engineers play key roles in such industries as forest products, automotive, tire manufacturing, plastics, aerospace, computers, electronics, electromechanical systems, energy, robotics, automation, and manufacturing. The American Society of Mechanical Engineers (ASME) currently lists 36 technical divisions, ranging from advanced energy systems to aerospace engineering.

Degree Requirements

Students should refer to their DegreeWorks degree audit in their Web for Students account for more information regarding their degree requirements.

Code	Title	Hours
Major Requirements		
General Education Requirements (http://catalog.tamut.edu/academic-information/university-core-curriculum/)		42
MATH 2413	Calculus I Satisfies Core Curriculum	4
MATH 2414	Calculus II	4
MATH 2415	Calculus III	4
MATH 2320	Differential Equations	3
ENGR 1201	Introduction to Engineering	2
ENGR 2305	Electric Circuits I	3
ENGR 2304	Programming for Engineers	3
MEEN 301	Engineering Mechanics I- Statics	3
MEEN 302	Engineering Mechanics II- Dynamics	3
MEEN 305	Materials Science & Engineering	3
MEEN 333	Principles of Thermodynamics	3
MEEN 340	Fluid Mechanics	3
MEEN 341	Fluid Mechanics Laboratory	1
MEEN 343	Mechanics of Materials	3
MEEN 357	Engineering Analysis for Mechanical Engineers	3
MEEN 360	Manufacturing and Materials Selection in Design	3
MEEN 361	Manufacturing and Materials in Design Laboratory	1
MEEN 364	Control Systems	3
MEEN 363	Dynamics and Vibrations	3
MEEN 368	Solid Mechanics in Mechanical Design	3
MEEN 404	Project Management and Engineering Operations	3
MEEN 461	Heat Transfer	3
MEEN 462	Heat Transfer Laboratory	1
MEEN 490	Senior Design I	3
MEEN 491	Senior Design II	3
ENGR 440	Computer Aided Design of Mechanical Components	3
Select 9sch from any upper division (300-400 level) Mechanical Engineering (MEEN) or Engineering (ENGR) Electives except ENGR 315		9
Other Requirements:		
CHEM 1311	General Chemistry I Satisfies Core Curriculum	3
or CHEM 1307	General Chemistry for Engineering Students	
CHEM 1111	General Chemistry I (Lab)	1
or CHEM 1117	General Chemistry for Engineering Students Lab	
PHYS 2325 & PHYS 2125	University Physics I and University Physics I Lab Satisfies Core Curriculum	4
PHYS 2326 & PHYS 2126	University Physics II and University Physics II Lab Satisfies Core Curriculum	4

ECON 2301	Principles of Macroeconomics Satisfies Core Curriculum	3
Minimum Hours for Degree		**125**

NOTE: A minimum of 45 upper division hours (300 and 400 level courses) are required for this degree. Resident credit totaling 25% of the hours is required for the degree. A minimum GPA of 2.0 is required in 3 areas for graduation: Overall GPA, Institutional GPA, and Major GPA.

Four Year Plan

Students should refer to their DegreeWorks degree audit in their Web for Students account for more information regarding their degree requirements.

First Year

Code	Title	Hours
Fall		**Semester Credit Hours**
ENGL 1301	Composition I requires minimum grade of 'C', Satisfies Core Curriculum	3
CHEM 1311	General Chemistry I Satisfies Core Curriculum	3
or CHEM 1307	General Chemistry for Engineering Students	
CHEM 1111	General Chemistry I (Lab)	1
or CHEM 1117	General Chemistry for Engineering Students Lab	
MATH 2413	Calculus I Satisfies Core Curriculum	4
IS 1100	University Foundations mandatory for FTIC students only	1
ENGR 1201	Introduction to Engineering	2
Fall Total Semester Credit Hours		**13-14**
Spring		**Semester Credit Hours**
ENGL 1302	Composition II Satisfies Core Curriculum	3
or ENGL 2311	Technical Writing & Communication	
MATH 2414	Calculus II	4
PHYS 2325 & PHYS 2125	University Physics I and University Physics I Lab	4
ECON 2301	Principles of Macroeconomics	3
Language, Philosophy and Culture Core Curriculum Requirement (http://catalog.tamut.edu/academic-information/university-core-curriculum/)		3
Spring Total Semester Credit Hours		**17**
Total First Year Semester Credit Hours		**30-31**

Second Year

Code	Title	Hours
Fall		**Semester Credit Hours**
ENGR 2305	Electric Circuits I	3
MATH 2415	Calculus III	4
PHYS 2326 & PHYS 2126	University Physics II and University Physics II Lab	4
PSCI 2305	U.S. Government and Politics	3
MEEN 301	Engineering Mechanics I- Statics	3
Fall Total Semester Credit Hours		**17**
Spring		**Semester Credit Hours**
MATH 2320	Differential Equations	3
ENGR 2304	Programming for Engineers	3

PSCI 2306	State and Local Government	3
MEEN 302	Engineering Mechanics II- Dynamics	3
SPCH 1315	Public Speaking	3
or COMM 1311	Introduction to Communication Studies	
Spring Total Semester Credit Hours		**15**
Total Second Year Semester Credit Hours		**32**

Third Year

Code	Title	Hours
Fall		**Semester Credit Hours**
MEEN 333	Principles of Thermodynamics	3
MEEN 340	Fluid Mechanics	3
MEEN 341	Fluid Mechanics Laboratory	1
MEEN 343	Mechanics of Materials	3
MEEN 357	Engineering Analysis for Mechanical Engineers	3
ENGR 440	Computer Aided Design of Mechanical Components	3
Fall Total Semester Credit Hours		**16**
Spring		**Semester Credit Hours**
MEEN 305	Materials Science & Engineering	3
MEEN 360	Manufacturing and Materials Selection in Design	3
MEEN 361	Manufacturing and Materials in Design Laboratory	1
MEEN 368	Solid Mechanics in Mechanical Design	3
HIST 1301	United States History I	3
MEEN 461	Heat Transfer	3
MEEN 462	Heat Transfer Laboratory	1
Spring Total Semester Credit Hours		**17**
Total Third Year Semester Credit Hours		**33**

Fourth Year

Code	Title	Hours
Fall		**Semester Credit Hours**
MEEN 363	Dynamics and Vibrations	3
HIST 1302	United States History II	3
MEEN 404	Project Management and Engineering Operations	3
MEEN 490	Senior Design I	3
Upper Division Mechanical Engineering (MEEN)or Engineering (ENGR)Elective except for ENGR 315		3
Fall Total Semester Credit Hours		**15**
Spring		**Semester Credit Hours**
MEEN 364	Control Systems	3
MEEN 491	Senior Design II	3
Upper Division Mechanical Engineering (MEEN)or Engineering (ENGR)Elective except for ENGR 315		3
Upper Division Mechanical Engineering (MEEN)or Engineering (ENGR)Elective except for ENGR 315		3
creative arts core curriculum requirement/ (http://catalog.tamut.edu/undergraduate-studies/business-engineering-technology/engineering/corecurriculumtext/)		3
Spring Total Semester Credit Hours		**15**

Total Fourth Year Semester Credit Hours	**30**
Total Semester Credit Hours Required for Degree	**125-126**

NOTE: A minimum of 45 upper division hours (300 and 400 level courses) are required for this degree. Resident credit totaling 25% of the hours is required for the degree. A minimum GPA of 2.0 is required in 3 areas for graduation: Overall GPA, Institutional GPA, and Major GPA.