

West Texas A&M University
Advising Services
Degree Checklist
2023-2024

(For assistance completing this form, contact Advising Services at 806-651-5300)

NAME: _____ WT ID: _____ DATE: _____

Mechanical Engineering (see note below)
College of Engineering
ECS Building, Room 119 651-5257

CORE CURRICULUM COURSES: 42 HOURS		HRS
Communication (10)		
ENGL 1301 Intro. to Academic Writing & Argumentation OR ENGL 1311 Writing About Ideas	3	
COMM 1315, 1318, or 1321	3	
Mathematics (20)		
See University Core Requirements below	(3)	
Life and Physical Sciences (30)		
See University Core Requirements below	(6)	
Language, Philosophy and Culture (40)		
ANTH 2351, ENGL 2321*, 2326*, 2331*, 2341*, 2343*; HIST 2311, 2323, 2372; MCOM 1307; PHIL 1301, 2374; SPAN 2311, 2312***, 2313, 2315*, or 2371	3	Choose 1
Creative Arts (50)		
ARTS 1301, 1303, 1304; DANC 2303; MUSI 1306, 1307 (for music majors), 1310; or THRE 1310	3	Choose 1
American History (60)		
HIST 1301, 1302, 2381, 2382, 2301	6	Choose 2
Government/Political Science (70)		
POSC 2305 and 2306	6	
Social and Behavioral Sciences (80)		
AGBE 2317*; COMM 2377; CRIJ 1301; ECON 2301, 2302; GEOG 1302; PSYC 2301; SOCI 1301	3	Choose 1
Component Area Option (90)		
See University Core Requirements below	(6)	
MECHANICAL ENGINEERING MAJOR REQUIREMENTS: 95 HOURS		
<ul style="list-style-type: none"> • A grade of "C" or better must be earned in all courses required for major. • A grade of "C" or better is mandatory for all prerequisites listed for ECSM courses required for MENG majors. 		
UNIVERSITY CORE REQUIREMENTS: 15 HOURS ♦		
CORE 20 MATH 2413*[3] Calculus I	PME	3
CORE 30 PHYS 2425*[3] Calculus Physics I AND PHYS 2426*[3] Calculus Physics II	PME	6
CORE 90 ENGL 1302* Academic Writing and Research OR ENGL 1312* Writing About Ideas II OR ENGL 2311* Introduction to Professional and Technical Communication		3
CORE 90 MATH 2413[1]; PHYS 2425L[1], PHYS 2426L[1]	PME	3
MECHANICAL ENGINEERING REQUIREMENTS: 80 HOURS		
ENGR 1171* Engineering Ethics		1
ENGR 1301*, 1301L Fundamentals of Engineering	PME	3
ENGR 1304 (125), 1304L Engineering Graphics		3
ENGR 1375*, 1375L Principles of DC and AC Circuits		3
ENGR 2301* Engineering Statics	PME	3
ENGR 2302* Engineering Dynamics	PME	3
ENGR 2332* Mechanics of Materials I		3
ENGR 3202* Fundamentals of Engineering Economics		2
ENGR 3305*, 3305L Modern Engineering Tools		3

Bachelor of Science Degree
BS.MECH.ENGR (129)
PRE.ENGR (128)

MENG 3320* Engineering Thermodynamics	3	
MENG 3304* Fundamentals of Fluid Mechanics	3	
MENG 4330* Mechanical Vibration & Control Theory	3	
MENG 4350* Advanced Mechanics and Design	3	
MENG 4352* Thermal-Fluid System Design	3	
MENG 4360* Heat Transfer	3	
MENG 4380* Mechanical Engineering Design	3	
CHEM 1411*, 1411L Chemistry I	4	
CS 1315* Programming Fundamentals OR CS 1337, 1337L Programming Principles I	PME	3
ET 2371* 2371L Materials and Fabrication/Metals and Ceramics	3	
MATH 2414* Calculus II	PME	4
MATH 3340* Calculus III	3	
MATH 3342* Differential Equations I	3	
MENG ELECTIVE	3	
MENG ELECTIVE	3	
Take two courses from: MATH 3311* Linear Algebra MATH 3343* Differential Equations II MATH 4340* Complex Variables I MATH 4341* Advanced Calculus MATH 4361* Statistics for the Sciences MATH 4362* Introduction to Numerical Analysis PHYS 3310* Modern Physics I PHYS 4310* Modern Physics II PHYS 4330* Optics	6	
CS, ENGR, ET, CENG, EVEC OR MENG ELECTIVE***	3	
MINIMUM HOURS REQUIRED TO COMPLETE DEGREE		122

⚡ **Mechanical Engineering Program admission requirements (PME):** overall GPA of at least 2.25; completion of the pre-engineering sequence (MATH 2413, 2414, PHYS 2425, 2426, ENGR 1301, 2301, 2302 and CS 1315 or 1337) with a GPA of at least 2.75; and successful completion of the entrance interview with a department adviser.
 * Indicates prerequisites—see catalog for more information.
 ** Or an equivalent course (second year, second semester) in a foreign language.
 *** Cannot repeat course content required elsewhere.

NOTE: This is NOT a degree plan. All undergraduate students must request an official degree plan from their academic dean's office by the time they have completed 30 credit hours.

WTAMU ADVISING SERVICES – 2023-2024 Curriculum Guide

Major: Mechanical Engineering, B.S.

Major Code: 129

Year 1: Fall	
CORE 10 (Communication) – ENGL 1301 or 1311	3
CORE – See checklist for options ¹	3
CORE 20 (Mathematics) – MATH 2413 Calculus I (PME ²) - 4 th hour counts towards Core 90	4
CORE 30 (Life & Phys. Sci.) – PHYS 2425/2425L (PME ²) - 4 th hour counts towards Core 90	4
ENGR 1301/1301L Fundamentals of Engineering (PME ²)	3
Total:	17

Year 1: Spring	
ENGR 2301 Engineering Statics (PME ²)	3
ENGR 1304/1304L Engineering Graphics	3
CORE 30 (Life & Phys. Sci.) – PHYS 2426/2426L (PME ²) - 4 th hour counts towards Core 90	4
MATH 2414 Calculus II (PME ²)	4
CORE – See checklist for options ¹	3
Total:	17

Year 2: Fall	
ENGR 2302 Engineering Dynamics (PME ²)	3
CORE 90 (Component Area Option) – ENGL 1302, 1312, or 2311	3
CHEM 1411/1411L Chemistry I	4
MATH 3342 Differential Equations I	3
CORE – See checklist for options ¹	3
Total:	16

Year 2: Spring	
CS 1315 Programming Fundamentals or CS 1337/1337L Programming Principles I (PME ²)	3
ENGR 2332 Mechanics of Materials I	3
ET 2371/2371L Materials & Fabrication/Metals & Ceramics	3
CORE – See checklist for options ¹	3
CORE – See checklist for options ¹	3
Total:	15

Year 3: Fall	
MENG 4304 Fundamentals of Fluid Mechanics	3
MENG 3320 Engineering Thermodynamics	3
ENGR 3305 Modern Engineering Tools	3
MATH 3340 Calculus III	3
ENGR 1375/1375L Principles of DC & AC Circuits	3
Total:	15

Year 3: Spring	
ENGR 1171 Engineering Ethics	1
MENG 4360 Heat Transfer	3
MENG 4350 Advanced Mechanics and Design	3
ENGR 3202 Fundamentals of Engineering Economics	2
CORE – See checklist for options ¹	3
Total:	12

Year 4: Fall	
MENG 4352 Thermal-Fluid System Design	3
MENG Elective	3
CS, ENGR, ET, CENG, EVEG, or MENG Elective	3
MATH/PHYS Elective – Take 1 st of 2 courses from: MATH 3311, 3343, 4340, 4341, 4361, 4362, PHYS 3310, 4310, 4330	3
CORE – See checklist for options ¹	3
Total:	15

Year 4: Spring	
MENG 4380	3
MENG 4330	3
MENG Elective	3
MATH/PHYS Elective – Take 1 st of 2 courses from: MATH 3311, 3343, 4340, 4341, 4361, 4362, PHYS 3310, 4310, 4330	3
CORE – See checklist for options ¹	3
Total:	15

¹ **CORE:** Mechanical Engineering majors are required to take specific courses for Core 20, Core 30, and Core 90. For all other categories, they may select from any available options (see degree checklist). Apart from the major-specific core requirements, there is no set order in which core courses must be taken.

² **(PME): Mechanical Engineering Program admission requirements:** overall GPA of at least 2.25; completion of the pre-civil engineering sequence (MATH 2413, 2414, PHYS 2425, 2426, CS 1315 or 1337, ENGR 1301, 2301, and 2302) with a GPA of at least 2.75; and successful completion of entrance interview with a department adviser.

Identified Marketable Skills	Top Three Local Employers or Industries/Professional Programs/Possible Career Opportunities
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Additional notes:

- The core curriculum must total exactly 42 hours; excess hours must be moved to the major as an elective or a major requirement and stay within the 120-hour requirement or approved total submitted to the Coordinating Board for degree requirements. Some majors specify particular courses to meet core curriculum requirements when options are available.
- At least 36 hours of advanced work (3000- or 4000-level courses) for which tuition is paid must be earned at WTAMU. A maximum of six semester hours in religion (RELI) and six semester hours in physical education (PHED) courses can count toward a baccalaureate degree.

DISCLAIMER: This curriculum guide should be used in conjunction with the corresponding degree checklist for general planning purposes only. The degree checklist (later a student's official degree plan) should be referred to as the comprehensive list of all courses required for the degree. An official degree plan is required after completing 30 hours. Students should always seek the advice of their academic adviser before scheduling classes.