

MECHANICAL ENGINEERING: FIRE PROTECTION SYSTEMS, BSME

Requirements for Students Matriculating in or before Academic Year 2021-2022. Learn more about University Academic Regulation 3.1 (<http://catalog.okstate.edu/university-academic-regulations/#matriculation>).

Minimum Overall Grade Point Average: 2.00

Total Hours: 130

Code	Title	Hours
General Education Requirements		
All General Education coursework requirements are satisfied upon completion of this degree plan		
<i>English Composition</i>		
See Academic Regulation 3.5 (http://catalog.okstate.edu/university-academic-regulations/#english-composition)		
ENGL 1113	Composition I ¹	3
or ENGL 1313	Critical Analysis and Writing I	
Select one of the following:		3
ENGL 1213	Composition II ¹	
ENGL 1413	Critical Analysis and Writing II ¹	
ENGL 3323	Technical Writing ¹	
<i>American History & Government</i>		
Select one of the following:		3
HIST 1103	Survey of American History	
HIST 1483	American History to 1865 (H)	
HIST 1493	American History Since 1865 (DH)	
POLS 1113	American Government	3
<i>Analytical & Quantitative Thought (A)</i>		
MATH 2144	Calculus I (A) ¹	4
MATH 2153	Calculus II (A) ¹	3
MATH 2163	Calculus III ¹	3
MATH 2233	Differential Equations ¹	3
<i>Humanities (H)</i>		
Courses designated (H)		6
<i>Natural Sciences (N)</i>		
Must include one Laboratory Science (L) course		
CHEM 1414	General Chemistry for Engineers (LN) ¹	4
or CHEM 1515	Chemistry II (LN)	
PHYS 2014	University Physics I (LN) ¹	4
<i>Social & Behavioral Sciences (S)</i>		
Course designated (S)		3
Hours Subtotal		42
Diversity (D) & International Dimension (I)		
May be completed in any part of the degree plan		
Select at least one Diversity (D) course		
Select at least one International Dimension (I) course		
College/Departmental Requirements		
<i>Basic Science</i>		

PHYS 2114	University Physics II (LN) ¹	4
<i>Engineering and Engineering Science</i>		
ENGR 1111	Introduction to Engineering ¹	1
ENGR 1332	Engineering Design with CAD for MAE ¹	2
ENGR 1412	Introductory Engineering Computer Programming (1) ¹	2
ENSC 2113	Statics ¹	3
ENSC 2123	Elementary Dynamics ¹	3
ENSC 2143	Strength of Materials (STW students are recommended to concurrently take ENSC 2141) ¹	3
ENSC 2213	Thermodynamics ¹	3
ENSC 2613	Introduction to Electrical Science ¹	3
Choose one one of the below laboratory options ¹		3
ENGR 2421 & ENSC 2141 & ENSC 3231	Engineering Data Acquisition Controls Lab and Strength of Materials Lab and Fluids and Hydraulics Lab	
MAE 3113	Measurements and Instrumentation	
Substitute Option to taking three 1-hour lab courses: ENGR 2421, ENSC 2141, and ENSC 3231		
Hours Subtotal		27
Upper Division Major Requirements ²		
ENSC 3313	Materials Science	3
MAE 3013	Engineering Analysis and Methods I	3
MAE 3153	Introduction to MAE Design	3
MAE 3233	Heat Transfer	3
MAE 3333	Fundamental Fluid Dynamics (STW students are recommended to concurrently take ENSC 3231)	3
MAE 3324	Mechanical Design I	4
MAE 3403	Computer Methods in Analysis and Design	3
MAE 3524	Thermal Fluids Design	4
MAE 3724	Dynamic Systems Analysis and Introduction to Control	4
IEM 3503	Engineering Economic Analysis	3
FPST 1213	Fire Safety Hazards Recognition	3
FPST 1373	Fire Suppression and Detection Systems	3
FPST 2243	Design and Analysis of Sprinkler Systems	3
FPST 3373	Fire Dynamics	3
FPST 4143	Industrial Ventilation and Smoke Control	3
Select 7 hours of the following 2 categories, selecting one course from each category so that both categories are represented:		7
Category I (Realization): ²		
MAE 4243	Aerospace Propulsion and Power	
MAE 4263	Energy Conversion Systems	
MAE 4353	Mechanical Design II	
MAE 4363	Advanced Methods in Design	
MAE 4513	Aerospace Structures	
MAE 4703	Design of Indoor Environmental Systems	
MAE 4713	Thermal Systems Realization	
MAE 4723	Refrigeration Systems Design	
Category II (Capstone Design): ²		
MAE 4344	Design Projects	

MAE 4354 Aerospace Systems Design for Mechanical Engineers

Upper Division Elective Requirements

3 hours of MAE electives to be selected from the following list, or from courses in the Category I listed above, but not used to satisfy the category requirement: 3

MAE 3033 Design of Machines and Mechanisms

MAE 3123 Manufacturing Processes

MAE 3223 Thermodynamics II

MAE 3253 Applied Aerodynamics and Performance

MAE 3293 Fundamentals of Aerodynamics

MAE 4053 Automatic Control Systems

MAE 4063 Mechanical Vibrations

MAE 4273 Experimental Fluid Dynamics

MAE 4313 Advanced Processing of Engineered Materials

MAE 4333 Mechanical Metallurgy

MAE 4583 Corrosion

MAE 4733 Mechatronics Design

3 hours of FPST/CET electives to be selected from the following list, or from courses in the Category I listed above, but not used to satisfy the category requirement: 3

3000-level or above from:

CET 4443 Construction Safety and Loss Control

FPST 3113 Advanced Special Hazard Suppression and Detection

FPST 3383 Building Electrical Systems

FPST 4213 Advanced Building Design and Analysis

FPST 4383 Fire and Evacuation Modeling

Hours Subtotal 61

Total Hours 130

¹ MAE requires grades of "C" or better in all prerequisite courses, and their prerequisites.

² Grades of "C" or higher in all Upper Division Major Requirements courses and ME Realization Category course and Capstone Design Category course.

Graduation Requirements

1. A "C" or better is required in each course that is designated with footnote 1 and footnote 2.
2. The major engineering design experience, capstone course, is satisfied by MAE 4344 Design Projects or MAE 4354 Aerospace Systems Design for Mechanical Engineers.

Additional State/OSU Requirements

- At least: 60 hours at a four-year institution; 30 hours completed at OSU; 15 of the final 30 or 50% of the upper-division hours in the major field completed at OSU.
- Limit of: one-half of major course requirements as transfer work; one-fourth of hours earned by correspondence; 8 transfer correspondence hours.
- Students will be held responsible for degree requirements in effect at the time of matriculation and any changes that are made, so long as

these changes do not result in semester credit hours being added or do not delay graduation.

- Degrees that follow this plan must be completed by the end of Summer 2027.