

MECHANICAL ENGINEERING B.S.

Program Requirements

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Minimum Requirements for Mechanical Engineering B.S.: 128 credits

CONCENTRATIONS: AEROSPACE (P. 1), MECHANICAL (P. 1), PETROLEUM (P. 1)

Students must earn a C- grade or better in each course.

Code	Title	Credits
General University Requirements		
Complete the general university requirements. (https://catalog.uaf.edu/bachelors/#gurbachelorsdegreestext)		
General Education Requirements		
Complete the general education requirements. (https://catalog.uaf.edu/bachelors/#generaleducationrequirementsstext)		36-40
As part of the general education requirements, complete the following:		
MATH F251X	Calculus I	
CHEM F105X	General Chemistry I	
CHEM F106X	General Chemistry II	
B.S. Degree Requirements		
Complete the B.S. degree requirements. (https://catalog.uaf.edu/bachelors/#bachelorofsciencetext)		16
As part of the B.S. requirements, complete the following:		
MATH F252X	Calculus II	
PHYS F211X	General Physics I	
PHYS F212X	General Physics II	
Mechanical Engineering Program Requirements		
Complete the following:		
ES F100X	Engineering Alaska - An Introduction to Engineering	3
ES F201	Computer Techniques	3
ES F209	Statics	3
ES F210	Dynamics	3
ES F301	Engineering Analysis	3
ES F307	Elements of Electrical Engineering	3
ES F331	Mechanics of Materials	3
ES F341	Fluid Mechanics	4
ES F346	Introduction to Thermodynamics	3
MATH F253X	Calculus III	4
MATH F302	Differential Equations	3
ME F302	Dynamics of Machinery	4
ME F308	Instrumentation and Measurement	3
ME F313	Mechanical Engineering Thermodynamics	3
ME F321	Industrial Processes	3

ME F334	Elements of Material Science/Engineering	3
ME F403	Machine Design	3
ME F408	Mechanical Vibrations	3
ME F415	Thermal Systems Laboratory	3
ME F441	Heat and Mass Transfer	3
ME F486	Senior Design ²	1
ME F487	Design Project ^{1,2}	3

Fundamentals of Engineering (FE) Examination

Complete the Fundamentals of Engineering (FE) examination administered by the State of Alaska.

Concentration

Complete one of the following:	9-12
Aerospace	
Mechanical	
Petroleum	

Total Credits **128-131**

¹ Design project must be related to area of concentration.

² Fulfills the baccalaureate capstone requirement.

Concentrations

AEROSPACE

Code	Title	Credits
Aerospace Concentration Requirements		
Complete the following:		
ME F450	Theory of Flight	3
ME F451	Aerodynamics	3
ME F452	Introduction to Astro dynamics	3
ME F453	Propulsion Systems	3
Total Credits		12

MECHANICAL

Code	Title	Credits
Mechanical Concentration Requirements		
Complete the following:		
Mechanical Engineering electives at the F400 level or above		6
Advisor-approved engineering elective at the F400 level or above		3
Total Credits		9

PETROLEUM

Code	Title	Credits
Petroleum Concentration Requirements		
Complete the following:		
ME F409	Controls	3
ME F416	Design of Mechanical Equipment for the Petroleum Industry	3
ME F464	Corrosion Engineering	3
PETE F426	Drilling Engineering	3
Total Credits		12