

# B.S., MECHANICAL ENGINEERING

## Minimum Requirements for Degree: 130 credits

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

Code	Title	Credits
<b>General University Requirements</b>		
Complete the general university requirements. ( <a href="http://catalog.uaf.edu/archives/2018-2019/bachelors">http://catalog.uaf.edu/archives/2018-2019/bachelors</a> )		
<b>General Education Requirements</b>		
Complete the general education requirements. ( <a href="http://catalog.uaf.edu/archives/2018-2019/bachelors/general-education-requirements">http://catalog.uaf.edu/archives/2018-2019/bachelors/general-education-requirements</a> )		
As part of the general education requirements, complete:		
MATH F251X	Calculus I	
CHEM F105X	General Chemistry I	
CHEM F106X	General Chemistry II	
<b>B.S. Degree Requirements</b>		
Complete the B.S. degree requirements. ( <a href="http://catalog.uaf.edu/archives/2018-2019/bachelors/summary-of-bachelors-degree-reqs/#bachelorofsciencetext">http://catalog.uaf.edu/archives/2018-2019/bachelors/summary-of-bachelors-degree-reqs/#bachelorofsciencetext</a> )		
As part of the B.S. degree requirements, complete:		
MATH F252X	Calculus II	
PHYS F211X	General Physics I	
PHYS F212X	General Physics II	
<b>Program Requirements</b>		
ES F101	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
ESM F450	Economic Analysis and Operations	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 <sup>2</sup>	1
ME F487	Design Project <sup>1,2</sup>	3
<b>Fundamentals of Engineering (FE) Examination</b>		

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

### Concentrations

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

- Design project must be related to area of concentration.
- Fulfills the baccalaureate capstone requirement.

## Concentrations MECHANICAL

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

## AEROSPACE

Code	Title	Credits
Complete the following:		
ME F450	Theory of Flight	3
ME F451	Aerodynamics	3
ME F452	Introduction to Astroynamics	3
ME F453	Propulsion Systems	3

## PETROLEUM

Code	Title	Credits
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