

# MECHANICAL ENGINEERING B.S./M.S.

## Admission Requirements

Complete the following admission requirements:

1. ME major (junior preferred) or senior standing.
2. GPA 3.25 or above (based on minimum of 24 credits in ME major requirements). Students must maintain a cumulative GPA of 3.0 to remain in the program.
3. Submit a study goal statement.
4. Submit a UAF graduate application for admission.

## Program Requirements

< Back to Department (<https://catalog.uaf.edu/academic-departments/mechanical-engineering/>)

## Minimum Requirements for Mechanical Engineering B.S./M.S.: 148 credits

Students must satisfy the General University Requirements for minimum grades for the respective B.S. or M.S. program (major) requirements.

Code	Title	Credits
<b>General University Requirements</b>		
Complete the general university requirements. ( <a href="https://catalog.uaf.edu/bachelors/#gurbachelorsdegreestext">https://catalog.uaf.edu/bachelors/#gurbachelorsdegreestext</a> )		
<b>General Education Requirements</b>		
Complete the general education requirements. ( <a href="https://catalog.uaf.edu/bachelors/#generaleducationrequirementstext">https://catalog.uaf.edu/bachelors/#generaleducationrequirementstext</a> )		35-40
<b>B.S. Degree Requirements</b>		
Complete the B.S. degree requirements. ( <a href="https://catalog.uaf.edu/bachelors/#bachelorofsciencetext">https://catalog.uaf.edu/bachelors/#bachelorofsciencetext</a> )		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	
<b>Mechanical Engineering Program Requirements</b>		
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 <sup>1</sup>	1
ME F487	Design Project <sup>1</sup>	3

### Fundamentals of Engineering Examination

Complete the State of Alaska Fundamentals of Engineering examination.

**Total Credits** **118-123**

<sup>1</sup> Fulfills the baccalaureate capstone requirement.

**Note:** This degree program must be completed in seven years or the student will be disqualified from the program. If a student is disqualified for exceeding the seven-year limit, a mechanical engineering B.S. degree will be awarded if:

- coursework is completed in 10 years, and
- the student meets all Mechanical Engineering B.S. requirements.

## Graduate Mechanical Engineering Program Requirements

Code	Title	Credits
<b>General University Requirements</b>		
Complete the graduate general university requirements. ( <a href="https://catalog.uaf.edu/masters/#gurmastersdegreestext">https://catalog.uaf.edu/masters/#gurmastersdegreestext</a> )		
<b>Master's Degree Requirements</b>		
Complete the master's degree requirements. ( <a href="https://catalog.uaf.edu/masters/#typesofmastersdegrees">https://catalog.uaf.edu/masters/#typesofmastersdegrees</a> )		
<b>Graduate Mechanical Engineering Program Requirements</b>		
Complete the following:		
<i>Program Electives</i>		<b>15</b>
Any F600-level ME Course; up to 6 credits may be at the F400 level <sup>2</sup>		
<i>General Electives</i>		<b>9</b>
Any F600-level courses approved by the student's advisory committee; up to 6 credits may be at the F400 level <sup>2</sup>		
<b>Options</b>		
Complete one of the following:		<b>6</b>
ME F699	Thesis	
ME F698	Non-thesis Research/Project	
<b>Total Credits</b>		<b>30</b>

<sup>2</sup> At least 15 total program and general elective credits must be at the F600 level.

**Note:** This degree program must be completed in seven years or the student will be disqualified from the program. If a student is disqualified

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for exceeding the seven-year limit, a mechanical engineering B.S. degree will be awarded if:

- coursework is completed in 10 years, and
- the student meets all Mechanical Engineering B.S. requirements.