

MECHANICAL ENGINEERING

B.S., B.S./M.S. Degrees

The mission of the mechanical engineering department at UAF is to offer the highest quality contemporary education at undergraduate and graduate levels, and to perform research appropriate to the technical needs of the state of Alaska, the nation and the world.

Mechanical engineers conceive, plan, design and direct the manufacturing, distribution and operation of a wide variety of devices, machines and systems for energy conversion, environmental control, materials processing, transportation, materials handling and other purposes. Mechanical engineers are engaged in creative design, applied research, development and management. A degree in mechanical engineering also frequently forms the base for entering law, medical or business school, as well as for graduate work in engineering.

The objectives of the mechanical engineering program are to produce graduates who are able to compete successfully on the world stage at the professional level; deal with the significant local, regional, national and global issues facing humankind; continue to develop as engineers through lifelong learning; and serve as resources of technical knowledge for the state as well as the nation, especially with respect to northern issues. The Engineering Accreditation Commission of ABET has accredited the B.S. degree program in mechanical engineering since 1980.

Because engineering is based on mathematics, chemistry and physics, students are introduced to the basic principles in these areas during their first two years of study. The third year encompasses courses in the engineering science – extensions to the basic sciences forming the foundation to engineering synthesis and design. The design project course draws on much of the student's previous learning through a simulated industrial design project. Throughout the four-year program, courses in communication, humanities and social sciences are required because mechanical engineers must be able to communicate effectively in written, oral and graphical form.

Students may choose a concentration in mechanical, aerospace or petroleum engineering. Because of UAF's unique location, special emphasis is placed on cold regions engineering problems. This fact is highlighted in the technical elective, Arctic engineering. Candidates for the B.S. degree in mechanical engineering are required to take the State of Alaska Fundamentals of Engineering examination in their general field.

Undergraduate students who plan to pursue graduate studies in engineering may also choose an accelerated degree for a master's in mechanical engineering. This program speeds the process and allows qualified mechanical engineering students to complete both a Bachelor of Science and a Master of Science degree in five years.

Minimum Requirements for Mechanical Engineering Degree: B.S.: 130 credits; B.S./M.S.: 151 credits

Learn more about the bachelor's degree in mechanical engineering (<https://uaf.edu/academics/programs/bachelors/mechanical-engineering.php>), including an overview of the program, career opportunities and more.

Learn more about the bachelor/master's degree in mechanical engineering (<https://uaf.edu/academics/programs/bachelors/>

[mechanical-engineering-bs-ms.php](#)), including an overview of the program, career opportunities and more.

College of Engineering and Mines
Department of Mechanical Engineering (<http://cem.uaf.edu/me/>)
907-474-7136

Programs Degrees

- B.S., Mechanical Engineering (<https://catalog.uaf.edu/archives/2020-2021/bachelors/bachelors-degree-programs/mechanical-engineering/bs/>)
- B.S./M.S., Mechanical Engineering (<https://catalog.uaf.edu/archives/2020-2021/bachelors/bachelors-degree-programs/mechanical-engineering/bs-ms/>)