The Department of Mechanical Engineering offers a Bachelor of Science in Mechanical Engineering (BS ME) and a minor in mechanical engineering. The baccalaureate program is fully accredited. Students are introduced to principles of mathematics, chemistry and physics during the first two years of study. The third year of study largely focuses on courses that apply these basic sciences in an engineering context. During the fourth year students take more advanced courses including technical electives that are more focused on mechanical engineering analysis and design. The program focuses on the design of systems related to transfer of thermal and mechanical energies where topics such as machine design and thermal systems, including heating, ventilation, air conditioning, and refrigeration (HVAC&R), are covered in detail. Students have the opportunity for hands-on experience in a state-of-the-art manufacturing lab with rapid prototyping through three-dimensional printers and computer numerical control (CNC) machining. Students also take courses on written and oral communication, humanities, social sciences and fine arts to improve their communication skills and to put their profession into a broader societal context.

Accreditation

The Bachelors of Science in computer systems engineering, electrical engineering and mechanical engineering are accredited by the Engineering Accreditation Commission of ABET (http://www.abet.org/).

Program Objectives

1. To produce graduates who are able to practice mechanical engineering through design and analysis of mechanical systems in industry, government, and academic settings.
2. To produce graduates who are prepared for graduate-level education, research and development, and other creative endeavors in science and technology.
3. To produce graduates who are able to conduct themselves in a professional and ethical manner.
4. To produce graduates who are able to become contributors and leaders in the economic development and improving the quality of life in the State of Alaska, the nation and the world.

Preparation

While in high school, students can prepare for entering and succeeding in the university engineering program. In order to be the best prepared, students should complete the following high school courses with grades of C or better:

- Algebra - 2 years
- Chemistry - 1 year
- English - 3 years
- Physics - 1 year
- Trigonometry - 1/2 year

Students successfully completing the above courses should be prepared to enroll in the first year of courses that count toward the engineering degree. Students without the above preparatory courses will need to take equivalent university courses before taking some of the first year of courses that count toward the engineering degree.

Programs of Study

Bachelor of Science

- BS in Mechanical Engineering (http://catalog.uaa.alaska.edu/undergraduateprograms/coeng/mechanicalengineering/bs-mechanicalengineering/)

Minor

- Minor in Mechanical Engineering (http://catalog.uaa.alaska.edu/undergraduateprograms/coeng/mechanicalengineering/minor-mechanicalengineering/)