

**College: MCECS**  
**Department: Mechanical & Materials Engineering**  
**Degree: B.S.**

### **Introduction**

Mechanical engineering provides a wide range of career paths with a broad spectrum of employers. Careers are available in aerospace, energy conversion, energy utilization, environmental design and management, chemical processing, electromechanical systems, controls, mechanical design, manufacturing, and materials, to name a few.

The BSME curriculum at Portland State University is distinguished by its emphasis on the design process culminating in the capstone project in the senior year. The curriculum allows specialization in fluid systems, mechanical systems, thermal systems, and machine design. The curriculum is accredited by the Engineering Accreditation Commission of ABET. This national organization sets standards for engineering education defined in terms of curricular content, quality of faculty, and adequacy of facilities.

The Mechanical & Materials Engineering Department is engaged in a continuous program improvement process in which the educational needs of our students have the utmost importance. The goal of the Department is to ensure that all of our graduates receive a balanced education that makes them highly desirable to employers.

### **Undergraduate Program Learning Outcomes**

- An ability to apply knowledge of mathematics, science, and engineering
- An ability to design and conduct experiments, as well as to analyze and interpret data
- An ability to design a system, component, or process to meet desired needs
- An ability to function on multi-disciplinary teams
- An ability to identify, formulate, and solve engineering problems
- An understanding of professional and ethical responsibility
- An ability to communicate effectively
- Have the broad education necessary to understand the impact of engineering solutions in a global and societal context
- A recognition of the need for, and an ability to engage in life-long learning
- A knowledge of contemporary issues
- An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice