

# MAJOR IN MECHANICAL ENGINEERING, ADVANCED MANUFACTURING CONCENTRATION

---

Advanced Manufacturing explores manufacturing techniques, automation, simulation, and processing of materials. This concentration is available to all mechanical engineering students who wish to delve deeper into manufacturing topics. Students will have a solid foundation in manufacturing topics through their mechanical engineering major. With the addition of the concentration in advanced manufacturing, students will earn a specialized focus in advanced manufacturing, providing additional depth in this topic area.

## Learning Objectives

Students will:

1. Apply knowledge of mathematics, science, and engineering;
2. Design and conduct experiments, as well as analyze and interpret data;
3. Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability arenas;
4. Function on multidisciplinary teams;
5. Identify, formulate, and solve engineering problems;
6. Model professional and ethical responsibility;
7. Communicate effectively;
8. Understand the impact of engineering solutions in a global, economic, environmental, and societal context;
9. Recognize the need for and engage in life-long learning;
10. Utilize the techniques, skills, and modern engineering tools necessary for engineering practice.