

B.S. in Mechanical Engineering

Mechanical Engineering became a degree offering in Fall 2007. When designing this degree program our faculty wanted to ensure that we created a Mechanical Engineering degree that embraced Embry-Riddle's mission and recognized expertise in aerospace. Aerospace platforms, whether atmosphere or space-based, require skills from a team of engineers that include Aerospace, Electrical, Computer, and, of course, Mechanical Engineering. Given this, our ME degree stays within that focus of the aerospace platform with the three primary options of robotics, propulsion, and energy.

With minor exceptions, the freshman year in Mechanical Engineering is common to the Aerospace Engineering degree program. The second year in Mechanical Engineering builds fundamental skills in math and physics while introducing students to Engineering Mechanics and the Thermal Sciences. During the second semester of their sophomore year, Mechanical Engineering students in Embry-Riddle's program in Prescott will start taking courses aligned within the focus areas of robotics, propulsion, or energy. The robotics option emphasizes the design and analysis of autonomous vehicles that include uninhabited aerial vehicles (UAVs), autonomous space vehicles, and planetary rovers, as well as a variety of terrestrial robotic systems. The propulsion option emphasizes the thermal sciences and design and analysis of turbomachinery. Jet aircraft engines are the primary area of depth but piston and rocket propulsion are also studied. The energy option emphasizes the design of renewable energy systems. During the senior year, students will gain additional depth in their options and take capstone courses in designing a mechanical system aligned with their selected track.

Aerospace platforms are designed in teams and with that, we provide interdisciplinary opportunities centered around our ME students. Senior ME students have the opportunity to choose between five capstone sequences as a culminating event focused on teams, integration, and synthesis of four years of education. Mechanical engineers can choose capstone sequences that include:

- Propulsion sequence centered on jet aircraft and rocket engines.
- Robotics sequence centered on robotic arms and autonomous vehicles
- Energy sequence centered on alternative energy systems
- Astronautics sequence centered on spacecraft
- Aeronautics sequence centered on aircraft

The overall objective of the Mechanical Engineering program at Prescott is to produce graduates who will be successful practitioners of mechanical engineering. The program objectives to measure our accomplishment of this goal are engineers who:

- Demonstrate achievements in their chosen profession
- Contribute to the profession and the university
- Demonstrate professional preparation
- Exhibit professional ethics and integrity

The Mechanical Engineering program is accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>.