

ME CA Program Mission, Vision, Objectives, and Outcomes

ME CA Mission

The mission of the Penn State Harrisburg Mechanical Engineering (ME CA) Program is to prepare undergraduate students for successful careers in mechanical engineering-related organizations. Through the integrated efforts of faculty, staff, and administration, the Mechanical Engineering Program's mission remains consistent with the missions of the University and College.

ME CA Vision

Mechanical Engineering will be the premier regional mechanical engineering degree program and will be among the best nationally. The Program is founded on scientific principles, utilizes state-of-the-art equipment and software, requires effective oral and written communication, and responds to changing conditions in the profession. As effective educators, our faculty members engage in scholarly activities in order to stay current and pursue research initiatives in various fields of expertise. The Mechanical Engineering Program prepares students to meet changing industrial and professional needs, and it will be revised proactively to meet those needs.

ME CA Objectives

The objectives of the Mechanical Engineering Program are broadly defined to reflect the nature of the profession. The Program is designed, executed, and continuously improved in order to prepare graduates to:

- work in industrial, governmental, and academic organizations that create, design, improve, and maintain products, processes, and systems that are integral to national and international economies.
- work and lead multidisciplinary teams that are charged to design sustainable and environmentally considerate power systems, heating, ventilating, air-conditioning, and refrigeration systems, machines, automation and control systems, consumer products, and manufacturing processes.
- stay current through continuing education opportunities, professional conferences, and other self-learning experiences; have the ability to obtain and maintain professional licensing; and have the ability to attend graduate school.

ME CA Outcomes

- a. Students have the ability to apply knowledge of mathematics, science, and engineering to mechanical systems and problems.
- b. Students have the ability to design and conduct experiments, as well as to analyze and interpret data.
- c. Students have the ability to 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.

- d. Students have the ability to function on multidisciplinary teams.
- e. Students have the ability to identify, formulate, and solve mechanical engineering problems.
- f. Students have the ability to develop an understanding of professional and ethical responsibility.
- g. Students have the ability to communicate effectively.
- h. Students explore the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.
- i. Students recognize the need for, and have the ability to engage, in life-long learning.
- j. Students have the ability to demonstrate their knowledge of contemporary issues.
- k. Students have the ability to use the techniques, skills, and modern engineering tools necessary for mechanical engineering practice.
- l. Students have the ability to apply principles of engineering, basic science, and mathematics, including multivariate calculus and differential equations, to model, analyze, design, and realize physical systems, components or processes; and work professionally in both thermal and mechanical systems areas.



For more information

Penn State Harrisburg
777 West Harrisburg Pike, Middeltown, PA 17057

717-948-6250 • hbgadmit@psu.edu

www.hbg.psu.edu