

**UNDERGRADUATE MISSION, EDUCATIONAL
OBJECTIVES, AND EDUCATIONAL OUTCOMES**

Mission

The mission of the Mechanical Engineering Program is to provide students with the fundamental background necessary for an active career in mechanical engineering, and for the continuation of their education through post-graduate studies; to conduct applied and basic research; and to provide service to the engineering profession and the community.

Educational Objectives (revised 9/08)

The faculty has established three educational objectives for graduates as they progress through their careers:

1. **Career Contribution and Advancement:** Through their ability to solve engineering problems, meaningful design and hands-on experiences, critical thinking skills, and training in teamwork and communication, graduates will make significant contribution to their chosen field and advance professionally in mechanical engineering or allied disciplines.
2. **Professionalism:** Graduates will act with both professional and social responsibility in their career field, including a commitment to protect both occupational and public health and safety, and apply ethical standards related to the practice of engineering.
3. **Life-Long Learning:** Graduates will understand that their undergraduate education was just the beginning of their training, and will continue to develop their knowledge and skills through progress toward or completion of graduate education, and/or professional development through short courses or seminars, and/or professional certification, and/or participation in professional societies.

Educational Outcomes for Student Performance (revised 11/08)

The program will meet the above objectives by establishing the following educational outcomes for student performance.

At the time of graduation, the students will attain the following:

- a. An ability to apply knowledge of mathematics, science, and engineering.
- b. An ability to design and conduct experiments, as well as analyze and interpret data.
- c. An 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. An ability to function on multidisciplinary teams.
- e. An ability to identify, formulate, and solve engineering problems.
- f. An understanding of professional and ethical responsibility.
- g. An ability to communicate effectively.
- h. The broad education necessary to understand the impact of engineering solutions in a global, economic, and societal context.
- i. A recognition of the need for, and an ability to engage in life-long learning.
- j. A knowledge of contemporary issues.
- k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.