Mission

“Prepare Engineering Students for Successful Careers”

Vision

“Be a nationally recognized mechanical engineering department that attracts, rewards, and retains outstanding faculty, students, and staff”

Vision Metric: Be a Department of Choice Nationally

The Department of Mechanical Engineering-Engineering Mechanics will be nationally recognized as having one of the best undergraduate and graduate programs in the nation. Based on the quality and balance of its undergraduate and graduate programs and research it will be a department of choice by prospective students, parents, faculty, staff, corporate donors, and corporate employers worldwide.

Mechanical Engineering Educational Objectives

Consistent with this mission, and in order to prepare our students for successful careers in engineering, the ME-EM Department maintains a strong mechanical engineering program with the following Program Educational Objectives:

1. Graduates of the Mechanical Engineering Program will meet the expectations of employers.
2. The ME Program prepares qualified graduates to pursue advanced study, if desired.

Student Outcomes

The ME-EM faculty have adopted the eleven Student Outcomes (designated a through k in the ABET terminology) that support its program’s two Program Educational Objectives. In addition, the Department has agreed upon the two Student Outcomes (designated l and m) that support the Program Criteria for Mechanical Engineering programs. Engineering programs must demonstrate that their graduates have (a-k):

a. an ability to apply mathematics, basic science and engineering science;

b. an ability to design and conduct experiments, as well as to 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 multi-disciplinary teams;

e. an ability to identify, formulate, and solve engineering problems;

f. an understanding of professional and ethical responsibility;

g. an ability to communicate ideas effectively;

h. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context;

i. a recognition of the need for, and ability to engage in life-long learning;

j. a knowledge of contemporary issues; and

k. an ability to use the modern techniques, skills, and tools necessary for engineering practice.

Graduates of the ME Program must also satisfy two Program Criteria (l and m):

l. 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;

m. the ability to work professionally in both thermal and mechanical systems areas.