ENVIRONMENTAL ENGINEERING - PROGRAM EDUCATIONAL OBJECTIVES AND STUDENT OUTCOMES

Program Educational Objectives

The Department of Civil, Environmental and Geodetic Engineering seeks to educate graduates who will be ethical, productive, and contributing members of their profession and of society. This education should form the basis for professional and personal development after graduation, as encompassed by the following objectives.

1. Graduates will apply engineering fundamentals acquired in their undergraduate program to succeed in
   - Engineering careers in the public sector, private sector, or academia
   - Non-engineering careers in research, government, education, public policy, business, law, or medicine that benefit from engineering education

2. Graduates will be motivated toward lifelong learning and the pursuit of significant, recognized post-B.S. professional development, such as
   - Professional engineering licensure
   - Graduate studies in engineering or science or other professional fields that benefit from analytic and scientific fundamentals

3. Graduates will engage in outreach to improve engineering practice or society through
   - Activity in professional organizations
   - Activity in service and community organizations

Student Outcomes

At graduation, undergraduate students seeking a B.S. degree in Environmental Engineering from the Department of Civil, Environmental and Geodetic Engineering are expected to have attained the following program outcomes:

a. An ability to apply knowledge of mathematics, science, and engineering

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 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, 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

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