CIVIL ENGINEERING, B.S. (CAPITAL)

Begin Campus: Any Penn State Campus

End Campus: Harrisburg

Program Educational Objectives

The objective of the Civil Engineering program is to prepare students for a wide range of career paths that use civil engineering principles and methodologies. A curriculum is provided that prepares our recent graduates to:

- begin and sustain a career in consulting, industry, or state and federal government agencies, such as the departments of transportation and departments of environmental protection;
- lead and work in interdisciplinary teams needed to design sustainable and resilient infrastructure through knowledge and application of environmental, geotechnical, materials, structural, transportation, and water resources engineering;
- engage in life-long learning opportunities, including graduate school; and
- obtain and maintain professional licensure

Program Outcomes (Student Outcomes)

The undergraduate program will provide students with:

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. an understanding of the impact of engineering solutions in a global, economic, environmental, and societal context;

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

j. knowledge of contemporary issues in civil engineering;

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