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.