

ARCHITECTURAL ENGINEERING, B.A.E.

Begin Campus: Any Penn State Campus

End Campus: University Park

Program Educational Objectives

The undergraduate program in Architectural Engineering is designed to produce graduates who, within a few years of graduation, are expected to be:

- Progressing in their professional careers in the building industry or other related fields by applying expertise in one or more areas related to the integrated planning, design, construction, operation and maintenance of buildings and infrastructure: including, but not limited to, building construction engineering and management; lighting systems; electrical systems; heating, ventilating and air-conditioning systems; structural systems;
- Demonstrating strong leadership, communication, collaborative, and interdisciplinary skills and a commitment to a sustainable built environment;
- Advancing the building industry and engaged in lifelong learning through activities, such as graduate level study, professional development, mentoring, involvement in professional organizations and service roles;
- Attaining credentials appropriate for their career path, such as professional licenses, registrations or certifications.

Student Outcomes

Student outcomes describe what students are expected to know and be able to do by the time of graduation. The Architectural Engineering program is designed to enable students to:

1. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. Communicate effectively with a range of audiences
4. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. Acquire and apply new knowledge as needed, using appropriate learning strategies.