

EXPLORE

# Architectural Engineering



**PennState**  
College of Engineering

Architectural engineering (AE) is a convergent field focused on the design and construction of a sustainable, resilient, healthy, and economically viable built environment. Architectural engineers specialize in one of the subdisciplines of construction, lighting/electrical, mechanical, and structural systems. Graduates are equipped to consider the interdependencies among building systems as well as between buildings, and achieve integrated design considering all functional aspects of the built environment.

Our five-year, 160-credit undergraduate curriculum provides students with a breadth of courses in building planning, analysis, design, and construction to encourage integration and collaboration across multiple disciplines. An integrated bachelor's and master's degree is also available in our department, which the majority of students complete in five years.

Each architectural engineering student develops a concentration in one of four subdisciplines beginning in their fourth year: construction processes, electrical/lighting systems, mechanical systems, or structural systems. This specialization allows our students to develop technical expertise in one area while cultivating a systems-of-systems perspective that incorporates the interdependencies of the entire built environment beyond a single building to different building systems and the community in which the built environment exists.

The program culminates in a year-long capstone design experience, where students create integrated building systems that meet the criteria of multiple subdisciplines, supports the mission of building occupants, and complements the architecture.

We encourage students to explore the field beyond the classroom. Students have access to the largest architectural engineering career and internship fair in the nation, engineering conferences, student design competitions, student organizations, and social events. More than 250 industry partners engage with our students throughout the year.

Our architectural engineering alumni network supports our students and the department through a mentorship program, scholarship and award sponsorships, internships, guest lectures, and firm and site visits.

**140+** 

of the nation's best-known architectural engineering, construction engineering, and construction management firms attend our career and internship fair.

VIRTUALLY

**100%**



**Job placement of undergraduate students by graduation**

Percentage derived from undergraduate students actively seeking employment in the building industry.

MORE THAN

**40%**



of our undergraduate students participate in study abroad programs offered by AE faculty and thoroughly embedded in the AE curriculum or in another international service-learning experience.

Hear from students and alumni by watching the Exposure to Major video series: [bit.ly/PennStateEngineering](https://bit.ly/PennStateEngineering)

**AE**





15

student organizations  
and student chapters  
representing various  
architectural engineering  
professional and honor  
societies

# What is an architectural engineer?

Architectural engineers (AEs) are creative, systematic thinkers who are fascinated by the design and construction of buildings and building systems. In the field, AEs apply their discipline-specific expertise in interdisciplinary team environments to conceptualize, design, construct, operate, and maintain built infrastructure.

**Examples of career opportunities:** Our graduates regularly accept job offers from architectural engineering firms; consulting engineering firms; real estate developers; building equipment designers; manufacturers; designers and producers of building materials and products; facilities engineering and management groups; building owners; specialty contractors; forensic engineering consultants; building technology consultants; general contractors; and construction managers.

[ae.psu.edu](http://ae.psu.edu)

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