

# ENGINEERING

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## Departments and Schools

### Department of Aerospace Engineering

Aerospace engineering is the primary field of engineering concerned with the design, development, testing, and production of aircraft, spacecraft, and related systems and equipment. The field has traditionally focused on problems related to atmospheric and space flight, with two major and overlapping branches: aeronautical engineering and astronautical engineering.

MORE INFORMATION ABOUT THE DEPARTMENT OF AEROSPACE ENGINEERING (<https://www.aero.psu.edu/>)

### Department of Agricultural and Biological Engineering

Department of Agricultural and Biological Engineering is the integration of engineering fundamentals with biological, agricultural, and environmental sciences. Students take a holistic approach to study agricultural production, processing of food and other bio-based materials, and natural resource protection. They apply this understanding to engineering challenges, such as providing safe food and clean water.

MORE INFORMATION ABOUT THE DEPARTMENT OF AGRICULTURAL AND BIOLOGICAL ENGINEERING (<https://abe.psu.edu/>)

### Department of Architectural Engineering

Architectural Engineering focuses on the scientific and engineering aspects of planning, designing, analyzing, constructing, and operating buildings, supporting the mission of the occupants and owner. Coursework focuses on integrated building solutions related to the structural system; heating, ventilating, and air conditioning systems; acoustics; lighting and electrical systems, and construction management.

MORE INFORMATION ABOUT THE DEPARTMENT OF ARCHITECTURAL ENGINEERING (<https://www.ae.psu.edu/>)

### Department of Biomedical Engineering

The Department of Biomedical Engineering is built upon the apex of engineering, medicine, healthcare policy and biological discovery. Biomedical Engineering prepares students to become future leaders in the areas of medical device design, instrumentation, medical imaging, healthcare management, biomedical research and academia.

MORE INFORMATION ABOUT THE DEPARTMENT OF BIOMEDICAL ENGINEERING (<https://www.bme.psu.edu/>)

### Department of Chemical Engineering

Chemical Engineering combines the principles of chemistry, biology, mathematics and physics to solve some of today's most pressing societal issues in human health, environmental sustainability, and energy.

MORE INFORMATION ABOUT THE DEPARTMENT OF CHEMICAL ENGINEERING (<https://www.che.psu.edu/>)

### Department of Civil and Environmental Engineering

Civil Engineering educates future engineers through solid science and engineering principles by identifying engineering challenges, creating pioneering solutions, and leading the industry with research discoveries and design innovations. We tackle some of the major problems facing

society today in order to advance the fields of civil and environmental engineering.

MORE INFORMATION ABOUT THE DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING (<https://www.cee.psu.edu/>)

### School of Electrical Engineering and Computer Science

The majors in the School of Electrical Engineering and Computer Science (EECS) provide engineering education in fields that are at the forefront of 21st century technology: computation, cyber security, communications, materials, machine learning, power/energy systems, and information processing.

MORE INFORMATION ABOUT THE SCHOOL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE (<https://www.eecs.psu.edu/>)

### Department of Engineering Science and Mechanics

Engineering science is a broad discipline that encompasses the many different scientific principles and associated mathematics that underlie engineering. It integrates engineering, biological, chemical, mathematical, and physical sciences with the arts, humanities, social sciences, and the professions to tackle the most demanding challenges and advance the well-being of global society. Engineering scientists research, develop, and design new materials, devices, sensors, and processes for a diverse range of applications.

MORE INFORMATION ABOUT THE DEPARTMENT OF ENGINEERING SCIENCE AND MECHANICS (<https://www.esm.psu.edu/>)

### Department of Industrial and Manufacturing Engineering

Industrial Engineers (IEs) design systems and processes to eliminate wastefulness and improve efficiencies. IEs are trained to be problem solvers that have an eye toward innovation and sustainability. They work in a variety of fields to develop solutions for challenges in management, manufacturing, logistics, health systems, retail, service, and ergonomics.

MORE INFORMATION ABOUT THE DEPARTMENT OF INDUSTRIAL AND MANUFACTURING ENGINEERING (<https://www.ime.psu.edu/>)

### Department of Mechanical Engineering

Mechanical engineering uses a combination of physics, chemistry, mathematics, and materials science to study mechanical, fluid, and thermal systems. Mechanical engineers create things that help improve the health, happiness and safety of our everyday lives such as biomedical devices, aircraft propulsion, and ways to store renewable energies.

MORE INFORMATION ABOUT THE DEPARTMENT OF MECHANICAL ENGINEERING (<https://www.me.psu.edu/>)

### Department of Nuclear Engineering

Nuclear engineering is a multidisciplinary field that includes providing nuclear power for electrical production, and includes understanding and improving nuclear science, nuclear safety, and nuclear security. Graduates may apply their skills to treat diseases, operate nuclear energy systems, develop regulations to ensure safety, or facilitate space exploration.

MORE INFORMATION ABOUT THE DEPARTMENT OF NUCLEAR ENGINEERING (<https://www.nuce.psu.edu/>)

### School of Engineering Design and Innovation

The School of Engineering Design and Innovation (SEDI) delivers effective engineering education through active, collaborative, project-based, and

professionally oriented classroom experiences. SEDI offers a variety of programs that partner faculty, students, and industry in the study of real-life engineering problems and solve them with innovative, humanitarian solutions.

MORE INFORMATION ABOUT THE SCHOOL OF ENGINEERING DESIGN AND INNOVATION (<https://www.sedi.psu.edu/>)