

What type of engineer do you want to be?

Engineers inspire and impact society in so many ways, with numerous career paths to follow. Penn State Engineering offers **35 majors, 19 minors, and 13 certificates** across Penn State, giving students opportunities to explore their options and discover their preferred route to an engineering career.



Watch the Exposure to Major video series to learn more: bit.ly/explore-engineering

Aerospace Engineering

Aerospace engineers focus on aerodynamics; propulsion; structures; dynamics and controls; and information technology in order to serve as architects of air, space, or underwater vehicles and wind-energy systems.

CAREER OPPORTUNITIES: Manufacturing, service, and software companies; government agencies; research laboratories
[aero.psu.edu]

Architectural Engineering

Architectural engineers build solutions, enhancing their client's ability to achieve their goals, including reducing energy and environmental impact; and creating green, sustainable, and high-performance buildings.

CAREER OPPORTUNITIES: Structural engineering, lighting and electrical design, HVAC and mechanical system design, construction project management, consulting engineering
[ae.psu.edu]

Biological Engineering

Biological engineers seek to meet the demand for more abundant supplies of nutritious, high-quality food at affordable prices while considering the environmental impact of material production and processing.

CAREER OPPORTUNITIES: Biological and food processing, bio-energy, agricultural machinery development, protection of natural resources, structural design
[abe.psu.edu]

Biomedical Engineering

Biomedical engineers apply their skills and analysis to understand biological systems. Biomedical engineering integrates traditional and modern engineering principles with the life sciences and health care.

CAREER OPPORTUNITIES: Medical device development, diagnostic and therapeutic tool design, physiological system modeling for the health care and pharmaceutical industries, medical school
[bme.psu.edu]

Chemical Engineering

Chemical engineers focus on the processes involved in making new products or treating the environment, such as pharmaceuticals, plastics, alternative fuels, therapeutic proteins, and artificial organs.

CAREER OPPORTUNITIES: High-tech, chemical, or pharmaceutical industries; microelectronics companies
[che.psu.edu]





The world of engineering today is so exciting, and there are so many ways for you to have impact down the road. From robotics or health care to transportation or systems resilience, we have it all. Take the time to understand what you might be able to achieve by getting your Penn State Engineering degree.”

– Justin Schwartz

Executive Vice President and Provost at Penn State

Civil Engineering

Civil engineers design and develop facilities that serve human and environmental needs and ensure public safety.

CAREER OPPORTUNITIES: Design and construction of buildings, bridges, transportation systems, and water and wastewater systems

[cee.psu.edu]

Computer Science & Engineering

Computer engineers provide society with the myriad of engines that have powered the information age and with the tools and expertise to use the current generation of computers to design the next.

CAREER OPPORTUNITIES: System software and application developers, embedded system designers, network architects, digital designers, and computer architects

[eecs.psu.edu]

Data Sciences with Computational Sciences Option

Data sciences engineers possess the core skills and problem-solving approaches to compete for leading-edge analytics positions across many different industry sectors.

CAREER OPPORTUNITIES: Data analyst, data and analytics manager, data architect, data engineer, data visualizer, statistician

[eecs.psu.edu]

Electrical Engineering

Electrical engineers design electrical and electronic systems and their components for a wide range of applications such as mobile phones, consumer electronics, computers, and power generation.

CAREER OPPORTUNITIES: Systems and circuit design for consumer electronics; signal processing software and hardware development for audio and video applications; software design for artificial intelligence, computer vision, and medical imaging

[eecs.psu.edu]

Engineering Science & Mechanics

Graduates of this program conduct interdisciplinary work, including mechanics, materials, energy conservation, power, electronics, computing, sensors, biomaterials and medicine, robotics, and nanotechnology.

CAREER OPPORTUNITIES: Graduate work in engineering, science, medicine, business, or law; research and development of new materials, devices, sensors, and machines; design of innovative systems and processes

[esm.psu.edu]

Industrial Engineering

Industrial engineers design manufacturing and service processes, develop automation for high productivity, ensure product quality, design jobs that conform to the capabilities and limitations of the human operator and ensure workers' health and safety, and analyze and design supply chain systems.

CAREER OPPORTUNITIES: Manufacturing, aerospace, health care, transportation, and theme park industries

[ime.psu.edu]

Mechanical Engineering

Mechanical engineers integrate principles of energy and mechanics to design machines and products.

CAREER OPPORTUNITIES: Automotive, aerospace, utilities, and manufacturing companies; small, high-tech robotic, computer software, nanotechnology, and biomedical technology firms

[me.psu.edu]

Nuclear Engineering

Nuclear engineers apply principles of nuclear science to meet energy needs and benefit humankind.

CAREER OPPORTUNITIES: Electrical utility, medical, energy, and aerospace industries

[nuce.psu.edu]

*These degrees finish at Penn State University Park. For a list of all engineering major, minor, and certificate options at Penn State, visit: bit.ly/penn-state-majors

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enr.psu.edu