ENGINEERING

About the College
Justin Schwartz, Harold and Inge Marcus Dean of Engineering

For more than a century, our college has been a leader in engineering education and research, preparing young people to become leaders within their professions and communities. Our faculty and students produce game-changing research that advances our society and solves global problems, creating jobs that grow our economy, and informing policy to shape our world. Today we look forward, seeing endless possibilities ahead, especially as we prioritize the pursuit of equity across our community of students, faculty, and staff. We are driven to build an inclusive and diverse community where everyone thrives. We are driven to perform research that impacts the lives of people around the world. We are committed to impacting society and embracing the challenges ahead with a passion for a bright future for humankind. We invite you to join us and be part of this exciting future.

MORE INFORMATION ABOUT THE COLLEGE (https://www.engr.psu.edu)

Mission and Goals
To nurture and train world-class socially aware, globally connected, diverse engineers, educators, and researchers with rigorous core knowledge and problem-solving skills, who understand complex, interacting engineering and societal systems. To develop innovative solutions to the world’s most pressing challenges through transformational interdisciplinary research.

MORE INFORMATION ABOUT THE MISSION AND GOALS OF THE COLLEGE OF ENGINEERING (https://www.engr.psu.edu/strategic-plan)

Accreditation
All College of Engineering baccalaureate majors at University Park, with the exception of Computer Science, are accredited by the Engineering Accreditation Commission of ABET, Inc (http://www.abet.org).

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 (http://www.aero.psu.edu)

Department of Architectural Engineering
Architectural Engineering focuses on the scientific and engineering aspects of planning, designing, constructing, and analyzing buildings. Students learn to become architectural engineers who focus on building structure, stability, and systems, including: Planning, designing, and analyzing acoustics; building sustainability and safety aspects; construction management; heating, ventilating, and air conditioning systems; and lighting and electrical systems.

MORE INFORMATION ABOUT THE DEPARTMENT OF ARCHITECTURAL ENGINEERING (http://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 (http://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 (http://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 (http://www.cee.psu.edu)

School of Electrical Engineering and Computer Science
The School of Electrical Engineering and Computer Science (EECS) was created in 2015 to allow greater access to courses offered by both departments in exciting collaborative research fields. EECS focuses on the convergence of technologies and disciplines to meet today’s industrial demands.

MORE INFORMATION ABOUT THE SCHOOL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCE (http://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 (http://www.eme.psu.edu)

Department of Environmental Engineering
Environmental engineers apply the principles of engineering and science to protect and improve the quality of water, air, and land. They work to reduce pollution and hazards to human health and the environment. They use their knowledge of engineering and science to design systems, structures, and processes that provide clean water, safe waste disposal, and effective protection against flooding and pollution.

MORE INFORMATION ABOUT THE DEPARTMENT OF ENVIRONMENTAL ENGINEERING (http://www.ene.psu.edu)

Department of Engineering and Public Policy
Engineering and Public Policy is a field that applies engineering principles and the tools of engineering to problems of public concern. It involves a wide range of disciplines, including engineering, science, mathematics, economics, and social sciences. Its focus is on the development and application of engineering solutions to problems that affect society, economy, and the environment.

MORE INFORMATION ABOUT THE DEPARTMENT OF ENGINEERING AND PUBLIC POLICY (http://www.epp.psu.edu)

Department of Materials Science and Engineering
Materials Science and Engineering is a discipline that combines principles from materials science and engineering to design, develop, and analyze materials for use in a variety of applications. It involves the study of the relationship between the structure and properties of materials and their performance under various conditions.

MORE INFORMATION ABOUT THE DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING (http://www.mse.psu.edu)

Department of Mechanical Engineering
Mechanical Engineering is the broadest of all the engineering disciplines. It involves the application of physical principles to design and analyze mechanical systems. These systems can range from simple machines to complex industrial processes.

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

Department of Nuclear Engineering
Nuclear Engineering encompasses the design, construction, operation, and decommissioning of nuclear facilities, as well as the study of the behavior of nuclear materials and the application of nuclear energy.

MORE INFORMATION ABOUT THE DEPARTMENT OF NUCLEAR ENGINEERING (http://www.nuclear.psu.edu)

Department of Petroleum Engineering
Petroleum Engineering is a branch of engineering that deals with the exploration, design, and production of natural resources, such as oil and gas. It involves the application of engineering principles to the study of the Earth’s subsurface and the processes that cause the accumulation and flow of hydrocarbons.

MORE INFORMATION ABOUT THE DEPARTMENT OF PETROLEUM ENGINEERING (http://www.pec.psu.edu)

Department of Physics
Physics is the study of the fundamental nature and behavior of matter and energy. It encompasses a wide range of topics, from the smallest particles to the largest structures in the universe. Physicists use the tools of mathematics, data analysis, and computer science to understand the physical world.

MORE INFORMATION ABOUT THE DEPARTMENT OF PHYSICS (http://www.phys.psu.edu)

Department of Political Science
Political Science is the study of politics and government. It involves the analysis of political systems, institutions, and processes, and the study of political behavior and decision-making. Political scientists use a variety of methods to research and understand political phenomena.

MORE INFORMATION ABOUT THE DEPARTMENT OF POLITICAL SCIENCE (http://www.polsisci.psu.edu)

Department of Statistics
Statistics is the study of the collection, analysis, interpretation, presentation, and organization of data. It is a crucial discipline in modern society, providing insights and understanding to a wide range of fields.

MORE INFORMATION ABOUT THE DEPARTMENT OF STATISTICS (http://www.stat.psu.edu)

Department of Systems Engineering
Systems Engineering is a multi-disciplinary field that focuses on the development and management of complex systems. It involves the application of engineering and management principles to the design, development, and operation of systems.

MORE INFORMATION ABOUT THE DEPARTMENT OF SYSTEMS ENGINEERING (http://www.syseng.psu.edu)

Department of Urban and Regional Planning
Urban and Regional Planning is the process of designing and regulating the development of urban areas. It involves the analysis of the social, economic, and physical aspects of urban environments and the development of strategies to improve the quality of life for residents.

MORE INFORMATION ABOUT THE DEPARTMENT OF URBAN AND REGIONAL PLANNING (http://www.urp.psu.edu)

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MORE INFORMATION ABOUT THE DEPARTMENT OF PETROLEUM ENGINEERING (http://www.pec.psu.edu)

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MORE INFORMATION ABOUT THE DEPARTMENT OF URBAN AND REGIONAL PLANNING (http://www.urp.psu.edu)
MORE INFORMATION ABOUT THE DEPARTMENT OF ENGINEERING SCIENCE AND MECHANICS (http://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 (http://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, Technology, and Professional Programs
The School of Engineering Design, Technology, and Professional Programs (SEDTAPP) delivers effective engineering education through active, collaborative, project-based, and professionally oriented classroom experiences. SEDTAPP 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, TECHNOLOGY, AND PROFESSIONAL PROGRAMS (http://sedtapp.psu.edu)

Baccalaureate Degrees
• Aerospace Engineering, B.S.
• Architectural Engineering, B.A.E.
• Biological Engineering, B.S.
• Biomedical Engineering, B.S.
• Chemical Engineering, B.S.
• Civil Engineering, B.S. (Engineering)
• Computer Engineering, B.S. (Engineering)
• Computer Science, B.S. (Engineering)
• Data Sciences, B.S. (Engineering)
• Electrical Engineering Technology, B.S. (Engineering)
• Electrical Engineering, B.S. (Engineering)
• Electro-Mechanical Engineering Technology, B.S. (Engineering)
• Engineering Science, B.S.
• Engineering, B.S.
• Industrial Engineering, B.S. (Engineering)
• Liberal Arts and Earth and Mineral Sciences Concurrent Degree; Liberal Arts and Engineering Concurrent Degree (Engineering)
• Mechanical Engineering, B.S. (Engineering)
• Nuclear Engineering, B.S.
• Surveying Engineering, B.S.

Associate Degrees
• Biomedical Engineering Technology, A.ENGT.
• Electrical Engineering Technology, A.ENGT. (Engineering)
• Mechanical Engineering Technology, A.ENGT. (Engineering)
• Surveying Engineering Technology, A.ENGT.

Minors
• Biological Engineering, Minor
• Biomedical Engineering, Minor
• Cybersecurity Computational Foundations, Minor
• Engineering Leadership Development, Minor
• Engineering Mechanics, Minor
• Environmental Engineering, Minor
• Information Sciences and Technology for Aerospace Engineering, Minor
• Information Sciences and Technology for Industrial Engineering, Minor
• International Engineering, Minor
• Nanotechnology, Minor
• Product Realization, Minor
• Residential Construction, Minor
• Service Enterprise Engineering, Minor
• Six Sigma, Minor

Certificates
• Engineering and Community Engagement, Certificate
• Engineering Design, Certificate
• Housing, Certificate
• International Engineering, Certificate
• Nanotechnology, Certificate
• Space Systems Engineering, Certificate

College Procedures
Academic Warning
A student who fails to earn a 2.00 cumulative grade-point average will be placed on academic warning. A student placed on academic warning will have a hold placed on registration and will be required to meet with an academic adviser in order for this registration hold to be removed. To remove academic warning, the cumulative grade-point average must be 2.00 or higher.

Students on academic warning should work closely with their assigned academic adviser or the College of Engineering Advising Center to identify and address issues impacting their academic success.
Academic Suspension
A student in academic warning who fails to maintain a semester grade-point average of 2.00 or higher will be academically suspended. A student who has been academically suspended may not schedule courses at the University for two consecutive semesters. (Note: Summer session is equal to one semester.)

A student seeking to return to the College of Engineering after academic suspension is required to meet with an academic adviser and follow the procedures outlined by the Engineering Advising Center. (https://advising.engr.psu.edu/assets/docs/return-from-suspension-fa18.pdf).

More Information About Administrative Enrollment Controls
Students should work with an appropriate academic adviser to determine their Entrance to Major (ETM) requirements for their intended College of Engineering major.

More Information About the Schreyer Honors College
The Schreyer Honors College, regarded as one of the nation’s top honors programs of its kind, promotes achieving academic excellence with integrity, building a global perspective, and creating opportunities for leadership and civic engagement. Schreyer Scholars, including Gateway Scholars admitted after their first or second year of enrollment, are a diverse and motivated group of approximately 2,000 students at University Park and 20 Commonwealth campuses. The College strives to educate students who will have an important and ethical influence in the world, to improve educational practice, and to continue to be recognized as a leading force in honors education nationwide.

More Information About Global Engineering Engagement
Engineering students can choose from a variety of study abroad programs spanning six continents, from short-term or semester-long programs to global experiences embedded in the curriculum. Global Engineering Fellows are engineering students who can offer peer-to-peer information, advice, and insight on study abroad.

More Information About Career Resources & Employer Relations
Career Resources & Employer Relations (CR&ER) provides career advising and resources to all engineering students and alumni from all Penn State campuses. CR&ER staff review resumes and cover letters, provide guidance about the job search process, encourage student engagement with Engineering Career Envos for peer mentorship, and help students find internships, co-op, and entry-level full-time jobs through Nittany Lion Careers and other online platforms. We also connect students with employers across a range of industries at a wide variety of career events each academic year, including information sessions, career fairs, and seminars.
obtain depth of knowledge through technical electives and a capstone research and design project (senior honors thesis).

MORE INFORMATION ABOUT HONORS IN THE COLLEGE OF ENGINEERING (http://www.esm.psu.edu/academics/undergraduate/engineering-science-major.aspx)

Contact

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