



Aerospace Engineering

aero.psu.edu

“

We are developing **thought leaders in emerging areas of national importance**, including space systems, sustainable aircraft, novel vertical lift aircraft, and autonomous air vehicles.”

AMY PRITCHETT, department head



WATCH: What is Aerospace Engineering?

VOICES

“Engineering is the root of innovation, and innovation is the root of a bright future. I became an engineer so that I could play a direct role in contributing to a better and brighter future for all of humanity.”

— **KRISTON RAMDASS**, '20 B.S. and '21 M.S.
hardware reliability engineer, SpaceX

Undergraduate Excellence

Our bachelor of science program emphasizes the analysis, design, and operation of aircraft and spacecraft. We provide students with a solid foundation in mathematics, physics, and engineering principles and specialized aerospace engineering courses covering aerodynamics, propulsion, flight mechanics, controls, space systems, and more.

- > **Available minor: Information Science and Technology for Aerospace Engineering**
- > **Top 15: U.S. News and World Report Specialty Ranking**
- > **Penn State offers the only dedicated undergraduate major in aerospace engineering in Pennsylvania and several neighboring states.**

SPOTLIGHT



The **Penn State Wind Energy Club** has placed in the top three at the U.S. Department of Energy's annual Collegiate Wind Competition for eight of the past 10 years.

482

Undergraduate
Students

125

Graduate Students

24

Full-Time Faculty

\$9.4M

Externally Funded
Research Expenditures

SPOTLIGHT

The Penn State Vertical Lift Research Center of Excellence, one of three Vertical Lift Research Centers of Excellence in the United States, engages approximately 60 full-time graduate students in research and educational activities related to dynamics, aerodynamics, acoustics, flight control and simulation, icing, HUMS, smart structures, and advanced design of rotary-wing vehicles.

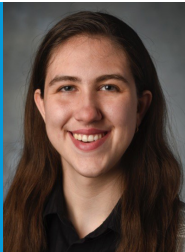


Graduate Excellence

Through rigorous curricula focused on topics such as advanced aerodynamics, space systems design, propulsion, structural dynamics, flight control systems, and more, our master of engineering, master of science, and doctor of philosophy degree options provide students with a comprehensive education, cutting-edge research opportunities, and a supportive environment to pursue their academic and professional goals.

- > **Available minor: Computational Science**
- > **Top 15: U.S. News and World Report Specialty Ranking**
- > **Guion S. Bluford Jr., the first African American astronaut to travel in space, earned his master's degree in aerospace engineering from Penn State in 1974.**

SPOTLIGHT



Mackenzie Manette, an aerospace engineering doctoral student, received a National Science Foundation Graduate Research Fellowship for the 2023-24 academic year.

Discovery and Impact

More than 20 aerospace engineering faculty across all levels support undergraduate- and graduate-level teaching and advising; service to the department, college, and University; and a robust research enterprise spanning rotorcraft, aircraft, aero-acoustics, and autonomous vehicles, and growth in new areas such as space systems and electric aircraft.

VOICES

"I hope to develop self-sustaining programs to attract and train a future workforce with multi-faceted capabilities in mathematical skills, core engineering knowledge, and hardware expertise to produce a lasting impact in the field of autonomy and robotics."

— **DANING HUANG**, assistant professor of aerospace engineering

- > **One-third of our aerospace engineering faculty are recognized as fellows of societies including the American Institute of Aeronautics and Astronautics, Vertical Flight Society, American Physical Society, and Human Factor and Ergonomics Society.**

Penn State Department of Aerospace Engineering
229 Hammond Building
The Pennsylvania State University, University Park, PA 16801
814-865-2569 | aero.psu.edu



PennState
College of Engineering

**AEROSPACE
ENGINEERING**