Wichita has been named the “Air Capital of the World” because it is one of the world’s largest producers of aircraft through Airbus, Cessna, Bombardier Learjet, Beechcraft, and Spirit Aerosystems. Thus, it is an excellent place to study aerospace engineering. Wichita State University grew up with the pioneers in early aviation and became a pioneer in its own right by offering the bachelor’s degree in aeronautical engineering as early as 1928 (it was only the 6th university to offer the program in the U.S. at the time). Both WSU and its students benefit from a location rich in aviation heritage and current technology.

Our aerospace engineering program provides an array of courses that will enable students to participate in the design and analysis of aircraft and spacecraft. We offer courses in the following general fields:

- **Propulsion** - the study of the systems associated with producing useful motion
- **Structures** - the study of the structural components of the flight vehicle
- **Aerodynamics** - the study of the fluid environment surrounding a flight vehicle
- **Performance** - the analysis of the useful operational characteristics of the flight vehicle
- **Stability and control** - the study of systems required to direct the flight of the vehicle

The aerospace engineering curriculum is designed to develop skills in these five areas, as well as in math, physical science, general engineering, digital computation and written and oral communication. When you become a senior, you will be part of a design team in the two-course senior design sequence. You will design, build, test and fly your own aircraft or rocket.

You may want to participate in cooperative education, a voluntary program in which you’ll have the opportunity to integrate formal course work with periods of relevant off-campus employment. Our co-op students have worked at such facilities as the NASA Johnson Space Center, NASA Dryden Flight Research Center, Boeing, Cessna, Learjet, Beechcraft and the Federal Aviation Administration.

### Admission

When you choose to major in aerospace engineering, your faculty advisor will help you plan your course of study and will outline specific requirements for degree completion. It is important that you complete the basic skills classes, Calculus I and University Physics I before the completion of 48 college hours.

### Laboratory and Computer Facilities

The aerospace engineering department has well-equipped laboratories for required courses and student design projects. You will have access to laboratory facilities, including many in the National Institute for Aviation Research, which are among the finest found in academic institutions nationwide. These include five wind tunnels, a water tunnel, structural testing lab, a crash-dynamics lab and a composite lab. In addition, College of Engineering students have access to computer laboratories equipped with an abundance of computers.

### Related Opportunities and Programs

Aerospace engineering students are encouraged to participate in extracurricular organizations such as the student chapter of the American Institute of Aeronautics and Astronautics and the Society of Women Engineers. If you’re eligible, you may join Sigma Gamma Tau, the aerospace engineering honors society, and Tau Beta Pi, the honor society for all areas of engineering.

All of Wichita State’s engineering programs - aerospace, computer, electrical, industrial, manufacturing, and mechanical - share a math/science background and technical orientation. Graduate programs leading to master’s and doctoral degrees are offered in aerospace, electrical, industrial and mechanical engineering, as well as a master’s program in engineering management.

### For more information

To receive more information, or to arrange a campus visit, contact the Office of Admissions.

wichita.edu/visit
admissions@wichita.edu
(316) 978-3085

Marcus Welcome Center
1845 Fairmount
Wichita, KS 67260-0124
General Education Requirements

Basic Skills (9 hours minimum)
Must be completed in the first 48 college hours and a C or better.
- College English Composition (Eng. 100 or 101 and 102) - 6 credit hours
- Public Speaking (Communication 111) - 3 credit hours

Fine Arts, Humanities, and Social and Behavioral Sciences (18 hours minimum)
- One introductory course from a fine arts discipline - 3 credit hours
- One introductory course from a humanities disciplines - 3 credit hours
- One introductory course from a social and behavioral sciences discipline - 3 credit hours
- One introductory course from a second social and behavioral sciences discipline - 3 credit hours
- One further study course from one of the two disciplines in the division, humanities or social and behavioral sciences, in which two introductory courses are taken - 3 credit hours
- Philosophy 385 Engineering Ethics - 3 credit hours

Mathematics and Natural Sciences
- Calculus I, II and III - 13 credit hours
- Ordinary Differential Equations - 3 credit hours
- University Physics I and II - 8 credit hours
- University Physics I Lab - 1 credit hour
- General Chemistry I - 5 credit hours
- Natural Science Elective - 3 credit hours

Professional Courses
- Engineering Graphics - 3 credit hours
- Engineering Digital Computation - 3 credit hours
- Statics and Dynamics - 6 credit hours
- Fundamentals of Atmospheric Flight - 3 credit hours
- Mechanics of Materials - 3 credit hours
- Circuits I - 4 credit hours
- Engineering Economy - 3 credit hours
- Thermodynamics - 3 credit hours
- Aerospace Propulsion - 3 credit hours
- Materials Engineering - 3 credit hours
- Aerodynamics I - 3 credit hours
- Aerodynamics II - 3 credit hours
- Introduction to Space Dynamics - 3 credit hours
- Experimental Methods in Aerospace - 3 credit hours
- Flight Dynamics and Control - 3 credit hours
- Flight Structures I and II - 6 credit hours
- Flight Control Systems - 3 credit hours
- Aerospace Design I and II - 8 credit hours
- Technical Electives - 9 credit hours

Faculty
Brandon Buerge (PhD, Washington University). Aerodynamics, design, and airships.
Animesh Chakravarthy (PhD, Massachusetts Institute of Technology). Flight dynamics and controls.
Atri Dutta (PhD, Georgia Institute of Technology). Astronautics and dynamics & control.
Klaus A. Hoffmann (PhD, University of Texas at Austin). Computational fluid dynamics, aero thermodynamics, and hypersonics.
Walter J. Horn (PhD, University of Texas at Austin). Solid mechanics, structures, composites, aeroelasticity.
Linda Kliment (PhD, Wichita State University). Aerodynamics.
L. Scott Miller, Chairman (PhD, Texas A&M University). Experimental aerodynamics, laser velocimetry, airfoil and aircraft design, rotor aerodynamics.
Roy Y. Myose (PhD, University of Southern California). Experimental aerodynamics and structures, propulsion, astronautics.
Michael Papadakis (PhD, Wichita State University). Computational, experimental, and theoretical aerodynamics.
K. Suresh Raju (PhD, Wichita State University). Aircraft structures and solid mechanics.
Syed Raza (MS, Air Force Institute of Technology). Aerodynamics and wind energy.
Kamran Rokhsaz (PhD, University of Missouri-Rolla). Theoretical and applied aerodynamics, design, flight mechanics.
Elizabeth Rollins (PhD, Texas A&M University). Flight dynamics and controls and aerodynamics.
James E. Steck (PhD, University of Missouri-Rolla). Flight dynamics and controls, neural networks, acoustics.
John Tomblin, Executive Director-NIAR (PhD, West Virginia University). Solid mechanics, structures, composites.
Anthony Vizzini, Professor (PhD, Massachusetts Institute of Technology). Vice President for Academic Affairs. Structures.
Charles Yang (PhD, Louisiana State University). Composites and machine design.

KSDegreeStats.org
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For more information on Aerospace Engineering at WSU visit wichita.edu/aerospace or call (316) 978-3410.