Unmanned Aircraft Systems

Overview
This option of study prepares students for careers in the field of unmanned aircraft systems (UAS), also known as remotely piloted aircraft (RPA), or drones. The operation of UAS for a wide variety of research and commercial applications is a rapidly growing area of aviation and students will be prepared to safely deploy unmanned vehicles in response to emerging challenges and opportunities.

K-State's UAS curriculum is unique, emphasizing foundational courses in areas of manned and unmanned flight, aircraft systems and maintenance. Coursework is designed to enable payload to platform integration and to equip students with the skills necessary to think critically in a rapidly developing technical field. “Hands-on” flying is emphasized throughout the curriculum.

Points of pride
Kansas State University is one of the first two universities in America to offer a Bachelor of Science option in unmanned aircraft systems. The program uses a hands-on learning approach.

K-State was the first entity of any kind to receive FAA approval to conduct UAS flight training in the National Airspace System.

The KSU UAS program operates a large, diverse fleet, consisting of more than thirty multi-rotor, single-rotor and fixed-wing unmanned aircraft.

Kansas State University's participation in the FAA's UAS Center of Excellence facilitates important research aimed at the safe integration of UAS into the National Airspace System.

As a member and Core Institution of the FAA's UAS Center of Excellence, the mission of the Kansas State Polytechnic UAS program is to enable and promote the safe incorporation of UAS into the National Airspace System. We use our experience operating and maintaining unmanned aircraft to enhance operator training and to establish the operational guidelines, policies and procedures to be used in facilitating the adoption and commercialization of this rapidly evolving technology. We also work closely with private contractors, government and government-affiliated agencies to ensure the safe integration of UAS into local, national and international airspace.

Suggested coursework
Unmanned Aircraft Systems, bachelor's degree option
(127 credit hours)

Freshman
Fall semester (17 credit hours)
3 AVT 100 Introduction to Aviation
3 ENGL 100 Expository Writing I
3 MATH 100 College Algebra
3 PHILO 105 Introduction to Critical Thinking
4 PPIL 111 Private Pilot
1 PPIL 113 Private Pilot Flight Lab

Sophomore
Fall semester (17 credit hours)
4 ECET 100 Basic Electronics
3 MATH 150 Plane Trigonometry
6 UAS 312 UAS Flight Instructor Ground School
1 UAS 314 Multi-rotor Instructor Flight Lab
3 UAS 370 Small Unmanned Aircraft Systems Design and Construction

Spring semester (18 credit hours)
3 AVT 340 Human Factors in Aviation
3 ENGL 200 Expository Writing II
3 PSYCH 110 General Psychology
4 PHYS 113 General Physics I
3 UAS 275 Small Unmanned Aircraft Maintenance I
2 UAS 357 Unmanned Aircraft Fixed-wing Flight Lab

Junior
Fall semester (17 credit hours)
3 BUS 110 Introduction to Business
3 COMM 106 Public Speaking I
3 UAS 285 Small Unmanned Aircraft Maintenance II
3 UAS 353 Command and Control Links and Circuitry
2 UAS 367 Advanced Unmanned Aircraft Fixed-Wing Flight Lab
3 UAS 387 Crew Resource Management for Unmanned Aircraft Systems

Spring semester (14 credit hours)
3 BUS 315 Supervisory Management
3 ENGL 302 Technical Writing
3 STAT 325 Introduction to Statistics
2 UAS 417 Fixed-wing Instructor Flight Lab
1 UAS 461 Autonomous Flight Simulation Lab
2 UAS 465 Autopilot Integration
Senior

Fall semester (15 credit hours)
3 AVT 450   Aviation Safety Management
3 UAS 300   Unmanned Aircraft Systems Powerplant Fundamentals
3 UAS 467   Small Unmanned Aircraft Systems Payloads
3 UAS 470   Flight and Field Operations
3 Aviation Elective*

Spring semester (15 credit hours)
3 AVT 445   Aviation Law
3 Aviation/Electronics/Computer Elective*
3 Humanities/Social Science/Business Elective
3 Natural Science Elective

Culminating Experience (3 hours)
Choose from the following:
3 AVT 497   Senior Project
3 COT 495   Industrial Internship
1 ETB 480   UAS Senior Design Project I
2 ETB 481   UAS Senior Design Project II

* Marked electives must be upper-level courses, 300 and above.

For more information about Kansas State University, contact:
Kansas State Polytechnic
Office of Admissions
2310 Centennial Road
Salina, KS 67401-8196
785-826-2640
polytechnic@k-state.edu

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Post-Graduation Statistics
k-state.edu/postgrad-stats
kodgnoetsstats.org