About this degree option
In the unmanned aircraft systems design and integration degree option, the first engineering program in the nation to specialize in drone technologies, students will go behind-the-scenes of drone technology to explore the intricacies of UAS construction and implementation, with no flight ratings required. The curriculum combines principles of computer science, electronics and mechanical engineering, giving students the opportunity to work hands-on in multiple areas: communication systems, electronic circuits, machine design, manufacturing technology, camera systems and other payloads, and more.

Why this degree option?
K-State Polytechnic offers a variety of advantages, including:

- First engineering technology program in the nation to specialize in drone technologies.
- Go behind-the-scenes of drone technology to explore the intricacies of UAS construction and implementation, with no flight ratings required.
- Design, develop and program new unmanned aircraft systems.
- Combines courses in computer systems technology, mechanical, electronic and computer engineering technology, and unmanned aircraft systems to create a comprehensive understanding of how an unmanned aircraft system functions.

Careers
Career options for UAS design and integration graduates include, but are not limited to:

- Unmanned Flight Test Engineer
- Remotely Piloted Vehicle Technician
- Unmanned Aerial Vehicle Electrician
- Embedded Systems Engineer
- Unmanned Research Assistant

Accreditation
We take our reputation seriously. Accreditation validates the quality of an institution as a whole, offering evaluated measurements of everything from academic offerings, governance, administration, mission, finances and resources. Kansas State University has been continuously accredited by the Higher Learning Commission (HLC) since 1916.

Transfers
At K-State Polytechnic, you can transfer up to 60 qualifying credit hours to help you get your next degree. If you’ve already earned an associate degree from one of our partner institutions, you may be eligible to apply previously earned credits when enrolling in a related bachelor’s degree option. We work with students every day to make the most of transfer credits within K-State Polytechnic programs to help make earning that next degree more achievable. Your hard work matters. We want to help you make the most of it.

A POLYTECHNIC EDUCATION IS:

INNOVATIVE LEARNING:
Learning by doing, through hands-on projects, lab time and in-the-field training.

REAL-WORLD EXPERIENCE:
Exploring innovations in your field through research, practicum and internship opportunities.

INDUSTRY CONNECTIONS:
Building relationships with industry members and gaining insight into your future career.

STUDENT-FOCUSED:
Faculty are focused on your personalized experience, working alongside you in the lab and classroom.
Bachelor of Science
120 credit hours required

## Required coursework

### Core courses:
- AVT 120 Aeronautical Programs Flight Familiarization 1
- AVT 317 Composites I 3
- AVT 450 Aviation Safety Management 3
- CMST 103 Computing Principles 3
- CMST 250 Hardware and Network Fundamentals 3
- CMST 302 Applications in C Programming for Engineering Technology 3
- ECET 100 Basic Electronics 4
- ECET 101 Direct Current Circuits 3
- ECET 110 Semiconductor Electronics 4
- ECET 201 Alternating Current Circuits 4
- ECET 250 Digital Logic 3
- ECET 320 Electronic Communication Systems 4
- ETB 480 UAS Senior Design I 1
- ETB 481 UAS Senior Design II 2
- MET 111 Technical Graphics 3
- MET 211 Statics 3
- MET 245 Material Strength & Testing 3
- MET 246 Dynamics of Machines 3
- UAS 270 Introduction to Unmanned Aircraft Systems 3
- UAS 300 Unmanned Aircraft Systems Powerplant Fundamentals 3
- UAS 373 Small Unmanned Aircraft Design & Construction for Non-Aviators 3
- UAS 463 Introduction to Autopilots & Mission Planning for Non-Aviators 3

### Math:
- MATH 100 College Algebra 3
- MATH 150 Plane Trigonometry 3
- MATH 220 Analytic Geometry & Calculus I 4

### Science:
- CHM 110 General Chemistry 3
- CHM 111 General Chemistry Laboratory 1
- PHYS 113 General Physics I 4

### Additional requirements:
- COMM 106 Public Speaking I 3
- ENGL 100 Expository Writing I 3
- ENGL 200 Expository Writing II 3
- ENGL 302 Technical Writing 3
- COT 105 Mastering Academic Conversations 3

### Total 65

## Electives:
- Business Elective* 3
- Humanities/Social Science Elective* 3
- Humanities/Social Science Elective* 3
- UAS/ECET Elective* 3

### Total 12

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

For full course descriptions, visit [courses.k-state.edu](http://courses.k-state.edu)