Unmanned Aerial Systems (UAS)

Courses

UAS 1100 Introduction to Unmanned Aerial Systems: 1 semester hour.
Introduction to Unmanned Aerial Systems. Introduces the essential elements of UAS history and operations. PREPREQ: UAS program major and and a minimum score of 14 on ALEKS or equivalent. F

UAS 1110 Applied Mathematics and Electronics for Unmanned Systems: 3 semester hours.
Mathematic principles and practices as they relate to the construction and operation of unmanned systems. Includes an introduction to basic electronics fundamentals. PREREQ: UAS program major and a minimum score of 14 on ALEKS or equivalent. F

UAS 1115 Flight Theory: 3 semester hours.
Introduction to basic aerodynamics and aviation meteorology. Preparation to take the 14 CFR Part 107 examination. PREREQ: UAS program major and a minimum score of 14 on ALEKS or equivalent. F

UAS 1120 Flight Laboratory I: 4 semester hours.
Experiments involving the construction, repair, and operations of light duty, remote unmanned aircraft. PREREQ: UAS program major and a minimum score of 14 on ALEKS or equivalent. F

UAS 1150 Unmanned Systems Design: 3 semester hours.
Investigation of vehicle types, construction materials, tool implementation, and other design considerations for development of unmanned systems. PREREQ: UAS program major and a minimum score of 14 on ALEKS or equivalent. F

UAS 1155 Flight Control and Subsystems: 4 semester hours.
Theory of operation of propulsion, power plant, control methods, radio frequency fundamentals, GPS L1 and L2, and Ground and Air Data Terminal equipment used in unmanned systems. PREREQ: UAS program major. S

UAS 1170 Flight Laboratory II: 4 semester hours.
Continuation of UAS 1151. Advanced experiments involving the construction, repair, and operations heavy lift and multirotor aircraft. PREREQ: UAS program major. S

UAS 1199 Experimental Course: 1-6 semester hours.
The content of this course is not described in the catalog. Title and number of credits are announced in the Class Schedule. Experimental courses may be offered no more than three times with the same title and content. May be repeated.

UAS 2200 Advanced Electronics and Payload for Unmanned Systems: 3 semester hours.
Understanding and implementation of electronic and optical measurement devices, manipulators, and the operator control systems for unmanned systems platforms. PREREQ: UAS program major. S

UAS 2225 Flight Laboratory III: 5 semester hours.
Experiments involving the construction, repair, and operations of light duty, remote unmanned aircraft. PREREQ: UAS 1170. S

UAS 2228 Principles of GIS: 3 semester hours.
Study of GIS fundamentals, introduction to GPS, databases, and metadata. Practical application of ESRI and ArcView software. Build, edit, and query a GIS; basic spatial analysis. Requires competence in computer operating systems. Equivalent to CET 2228. PREREQ: UAS program major; UAS 1110. F

UAS 2240 Avionics and Sensors for UAS: 2 semester hours.
Introduction to unmanned aerial systems avionics and sensors. The course will also cover basic functions and integration of the different components that comprise an avionics and sensor suite. PREREQ: UAS program major. S

UAS 2250 Imagery Analysis: 4 semester hours.
This course will teach students imagery interpretation principles, give them an understanding of the different roles of imagery analysts in an operational environment. Students will receive hands-on operational experience through mission planning, simulation and collecting images. PREREQ: UAS program major and a minimum score of 14 on ALEKS or equivalent. F

UAS 2252 Ground Control Points for Unmanned Aerial Systems: 1 semester hour.
Emplacement of Ground Control Points for aerial surveys and integration of geolocation information into GIS software. Prereq: Enrollment in UAS program major and a minimum score of 14 on ALEKS or equivalent. F

UAS 2255 Autopilot Theory: 3 semester hours.
Fundamentals of unmanned platform autopilot avionic circuitry, navigational sensors, communications, and telemetry systems. Introduction to automated flight software and mission planning. PREREQ: UAS program major; UAS 2200 or RCET 1154B. COREQ: UAS 2270. S

UAS 2270 Autopilot Laboratory: 4 semester hours.
Experiments involving integration, calibration, trouble shooting and repair of avionics circuitry and related devices. Flight plan development and implementation using automated flight software and mission planning. PREREQ: UAS program major. S

UAS 2282 Introduction to Rapid Prototyping: 2 semester hours.
Introduction to the software, tools, and techniques used in modern rapid prototyping processes. PREREQ: UAS program major. S

UAS 2299 Experimental Course: 1-6 semester hours.
The content of this course is not described in the catalog. Title and number of credits are announced in the Class Schedule. Experimental courses may be offered no more than three times with the same title and content. May be repeated.