

Remotely Piloted (Unmanned Aerial)

UA101 Introduction to Remotely Piloted Aircraft Systems

Cr-3

This course presents the history of Remotely Piloted Aircraft Systems and their current and future use in civil industry. Topics include aircraft, ground communications, and launch and recovery systems emphasizing human integration into the overall system.

UA102 Introduction to Remote Sensing

Cr-3

This course introduces students to the concepts and interdisciplinary applications of remote sensing. The basic principles of theory and practice are presented using photographic and non-photographic imagery acquired utilizing remotely piloted platforms. Visual and digital image analysis techniques, including feature extraction, are practiced using industry standard imaging analysis software. Prerequisite: None

UA120 Remotely Piloted Aircraft Systems

Cr-3

Operational and Industrial Operations

This course explores the core technologies of Remotely Piloted Aircraft Systems (RPAS) as applied to commercial applications. It examines the integration of payload and programming with operational best practices and flight planning as they relate to mission application.

UA121 Mechanics of Remotely Piloted Aircraft Systems

Cr-3

Aircraft Systems

This course will provide the student an understanding of the component systems common to most Remotely Piloted Aircraft Systems with an emphasis on effective integration and operations. The course focuses on the core technologies and includes examinations of the control systems, autopilots, data links, power plants (motors), servos/actuators, power sources, sensors and communication technologies utilized in remotely piloted aircraft systems. Students will design, build, test, program and fly a remotely piloted aircraft vehicle. Prerequisite: ET112 Electronics of Remotely Piloted Aircraft Systems.

UA215 Remotely Piloted Aircraft Systems

Cr-3

Mission Planning and Operations

This course explores the core procedures of remotely piloted aircraft systems as applied to commercial applications. Topics include preflight planning and post flight debriefing and assessment.

UA217 Remotely Piloted Aircraft Systems

Cr-3

Operations 1

This course provides a systems approach to piloting multi-rotor Remotely Piloted Aircraft Systems (RPAS). Payload and sensor operations will be covered along with datalinks and autonomous systems. Students develop operational skillsets to determine which RPAS to utilize and the appropriate role. This course also introduces RPAS Crew Resource Management (CRM) concepts, mission planning, and pertinent RPAS regulations. Prerequisite: UA215 Remotely Piloted Aircraft Systems Mission Planning and Operations.

UA218 Remotely Piloted Aircraft Systems

Cr-3

Operations 2

This course provides a systems approach to piloting fixed-wing Remotely Piloted Aircraft Systems (RPAS). Payload and sensor operations will be covered along with datalinks and autonomous systems. Students develop operational skillsets to determine which RPAS to utilize and the appropriate role. This course also introduces RPAS Crew Resource Management (CRM) concepts, mission planning, and pertinent RPAS regulations. Prerequisite: UA215 Remotely Piloted Aircraft Systems Mission Planning and Operations.

UA221 Special Topics in Remotely Piloted Aircraft Systems Operations

Cr-3

In this capstone course students research, develop, and execute a mission plan(s) of their choice. Some students may elect to work on a separate project, based on instructor guidance. Students may work with an industry professional to co-sponsor and secure a mission objective for that industry. A portfolio of specific benchmarks and results will be required. Corequisite: UA218 Remotely Piloted Aircraft Systems Operations 2.