

# SMALL UNMANNED AIRCRAFT SYSTEM (UMS)

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**UMS 107. Small Unmanned Aircraft Systems (sUAS) Remote Pilot Ground School. (3 Credits)**

Presents the aeronautical knowledge required for FAA approved commercial operations as a Remote Pilot with small Unmanned Aircraft Systems (sUAS) rating. Covers the regulations applicable to small UAS operations, loading and performance, emergency procedures, crew resource management, determining the performance of the small unmanned aircraft, and maintenance/inspection procedures. Prepares students for the FAA written examination required to obtain the Remote Pilot certificate. Lecture 3 hours per week. Total 3 hours per week.

**UMS 111. Small Unmanned Aircraft Systems (sUAS) I. (3 Credits)**

Introduces students to the history of small Unmanned Aerial Systems (sUAS), surveys current platforms, applications, components, and sensors. Covers the theory of flight, operations, manual flight, maintenance, and required record keeping. Introduces mission planning, crew management, and autonomous control. Emphasizes the ethical, legal, and safe use of sUAS. Lecture 3 hours per week. Total 3 hours per week.

**UMS 177. Small Unmanned Aircraft Systems (sUAS) Components and Maintenance. (3 Credits)**

Provides an introduction to the basic equipment and techniques used in maintaining, repairing, and upgrading sUAS to assure airworthiness and proper operation of the other components. Emphasizes safe practices in repair and handling of components and develops fundamental skills in troubleshooting/repair of the circuits, subsystems and components typically found in the complete sUAS. Covers payload sensor mounting, power management and security threat management. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week.

**UMS 211. Small Unmanned Aircraft Systems (sUAS) II. (3 Credits)**

Focuses on advanced Unmanned Aircraft System (UAS) mission planning and operation of small Unmanned Aerial Systems (sUAS). Covers mission planning, operations, communications, autonomous flights, ground control station operations, crew management, emergency procedures, safety/air vehicle pilot checklist procedures, sensor selection, data collection and analysis. Examines advanced coverage of maintenance, operations support, and introduces geospatial product workflow. Emphasizes the ethical, legal, and safe use of sUAS. Lecture 2 hours per week. Laboratory 2 hours per week. Total 4 hours per week. Prerequisite: UMS 111.