

UNMANNED AIRCRAFT SYSTEMS (UAS)

UAS100 / sUAS Batteries and Electronics

5 Credits / 5.0 Periods for Lecture

Small Unmanned Aircraft Systems (sUAS) basic electronics and circuits, communications, information display systems, transmitter and receiver fundamentals, flight controller installation and tuning, lithium polymer battery basics, radio telemetry, basic electrical troubleshooting and repair techniques. Prerequisites: Appropriate placement test score in Reading, Writing and Math, or [eligibility in ENG101, (RDG100 or RDG100LL), MAT120, MAT121, and MAT122].

Division: Aviation and Applied Technology

UAS101 / Introduction to Unmanned Aircraft Systems Operation

3 Credits / 3.0 Periods for Lecture

Introduction to Unmanned Aircraft Systems (UAS) history, flight, avionics, sensors, communication systems, and an introduction to data analysis and applications, such as first responders, Geographic Information Systems, and Precision Agriculture. Prerequisites: None.

Division: Aviation and Applied Technology

UAS107 / Unmanned Aircraft Systems Operator Certification

3 Credits / 3.0 Periods for Lecture

Develop knowledge and skills needed to manage and operate small Unmanned Aircraft Systems (sUAS). Includes Federal Aviation Regulations, radio communications, weather, airspace and airport authorization criteria, loading and performance, aeronautical decision making, sUAS flight operations, and maintenance. Operational skills acquired through both classroom and hands-on flight activities. Prerequisites: None. Course Notes: Students must complete the appropriate flight lessons to satisfactorily complete the course.

Division: Aviation and Applied Technology

UAS205 / sUAS Instruments and Autopilot Programming and Uses

3 Credits / 3.0 Periods for Lecture

Small unmanned aircraft systems (sUAS) proper operation of ground control stations with remote aircraft, troubleshooting radio link issues, changing parameters, setting up waypoints, flying on autopilot only. Prerequisites: A grade of C or better in UAS101 and UAS107. Corequisites: UAS206.

Division: Aviation and Applied Technology

UAS206 / sUAS Instrument and Autopilot Flight Lab

2 Credits / 2.0 Periods for Laboratory

Students will use their advanced skills to manipulate a ground control station in the practical operation of Small Unmanned Aircraft Systems (sUAS) in a controlled, but realistic environment. Prerequisites: A grade of C or better in UAS101 and UAS107. Corequisites: UAS205.

Division: Aviation and Applied Technology

UAS207 / sUAS Dynamics and Design

5 Credits / 5.0 Periods for Lecture

Design, configuration, and concepts of Small Unmanned Aircraft Systems (sUAS). Platform types including multi-rotors, single rotor, and fixed wing aircraft. Prerequisites: A grade of C or better in UAS205 and UAS206. Corequisites: UAS208.

Division: Aviation and Applied Technology

UAS208 / sUAS Dynamics and Design Lab

2 Credits / 2.0 Periods for Laboratory

Students will assemble, program, preflight, and fly a Small Unmanned Aircraft System (sUAS) manufacturing equipment. Prerequisites: A grade of C or better in UAS205 and UAS206. Corequisites: UAS207.

Division: Aviation and Applied Technology

UAS211 / sUAS Ground Control Stations, Telemetry, and

Communications

3 Credits / 4.0 Periods for Lecture & Lab

Small Unmanned Aircraft Systems (sUAS) proper set-up, operation, and basic troubleshooting of many different Ground Control Stations used in the industry. Set-up, use, and configuration of different radio telemetry units. Proper use and procedures of communications with Air Traffic Control. Proper use of applications for use in Air Traffic Management.

Prerequisites: A grade of C or better in UAS207 and UAS208.

Division: Aviation and Applied Technology

UAS212 / sUAS Maintenance Lab

2 Credits / 2.0 Periods for Laboratory

Proper inspection, troubleshooting, and repair techniques for Small Unmanned Aircraft Systems (sUAS). Prerequisites: A grade of C or better in UAS207 and UAS208.

Division: Aviation and Applied Technology

UAS215 / sUAS Commercial Flight Training

3 Credits / 6.0 Periods for Lecture & Lab

Proper pre-flight and operation techniques used in a Small Unmanned Aircraft (sUAS) Commercial Environment. Gathering digital information from an inspection or surveillance flight, then demonstrate post-production skills and techniques for a useable customer product.

Prerequisites: A grade of C or better in UAS207 and UAS208.

Division: Aviation and Applied Technology