AVMT 162
Unmanned Aircraft Systems Flight Training
3 Credits

Community College of Baltimore County
Common Course Outline

Description

AVMT 162 - Unmanned Aircraft Systems Flight Training: provides academic, flight, and simulator training on selected Unmanned Aircraft Systems (UAS). The topics include flight and sensor operations, airspace coordination, command and control, communications, mission planning, application and utilization. This course has additional lab fees.

Pre-requisites: AVMT 131 or approval of the aviation program director
Co-requisites: AVMT 161 or approval of the aviation program director

Overall Course Objectives

Upon completion of this course, students will be able to:

1. describe the aerodynamic forces affecting UAS during flight operations;
2. identify the capabilities and flight parameters of each UAS category, class, and type;
3. describe UAS design and flight control systems;
4. describe the Federal Aviation Administration regulations applicable to UAS flight operations;
5. recognize the technical components associated with UAS command and control;
6. demonstrate safe and proper flight control of a remotely piloted aircraft;
7. explain the fundamentals of communications with regard to UAS operations;
8. demonstrate the operational use of sensor, kinetic, and electronic systems installed on UAS;
9. demonstrate long range, prolonged duration UAS mission and flight planning; and
10. identify safety procedures and backup systems applicable to the operation of UAS.

Major Topics

I. UAS aerodynamics and aircraft platform design
II. Flight control systems used in UAS
III. Implementation of UAS capabilities in the National Airspace System
IV. Publications and regulations specific to UAS flight operations
V. Hands-on flight control of remotely piloted aircraft
VI. Command and control data links and connectivity
VII. Communications and airspace coordination for UAS missions
VIII. Operational use of sensor, kinetic, and electronic systems installed on UAS
IX. Mission planning for long range and prolonged duration UAS flights
X. Safety considerations relating to UAS operations

Course Requirements

Grading will be determined by the individual faculty member, but shall include the following, at minimum:

- 2 flight assessments
- comprehensive final exam
- 2 writing assignments such as flight plans, special topic papers, current event reports, article or textbook summaries, research or case study analysis papers, and personal journals

Written assignments and research projects: Students are required to use appropriate academic resources in their research and cite sources according to the style selected by their professor.

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