Alexandria Technical and Community College

AVIA 1600: Unmanned Aircraft Systems Knowledge

A. COURSE DESCRIPTION

Credits: 3  
Lecture Hours/Week: 3  
Lab Hours/Week: 0  
OJT Hours/Week: *.*

Prerequisites: None  
Corequisites: None  
MnTC Goals: None

This course prepares learners with the knowledge required to safely operate a Small Unmanned Aircraft (Drone) System (sUAS), and prepare students to take the Federal Aviation Administration (FAA) Unmanned Aircraft General - Small (UAG) knowledge exam needed to obtain their Remote Pilot Certificate under FAA Part 107. If a learner chooses to pursue obtaining their certificate, they will have a satisfactory understanding of all ground-based knowledge.

B. COURSE EFFECTIVE DATES: 03/18/2024 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Comprehend remote pilot qualifications
2. Explain regulations pertaining to small Unmanned Aircraft Systems (sUAS)
3. Interpret weather information
4. Articulate emergency procedures
5. Describe National Airspace System and flight restrictions affecting small UA (unmanned aircraft) operation
6. Determine performance of sUAS
7. Understand airport operations
8. Explain physiological effects of drugs and alcohol
9. Discuss aeronautical decision-making and judgment
10. Describe night operations

D. LEARNING OUTCOMES (General)

1. The learner will demonstrate knowledge of federal aviation regulations as they apply to remote pilots, aircraft and the National Airspace System.
2. The learner will demonstrate knowledge of small UA systems, small UA loading and performance.
3. The learner will evaluate real-time and forecasted weather products, make decisions as they relate to a UA system’s performance and the forecasted weather conditions, and understand how to navigate in and around various types of airspace as it pertains to Small UA systems.
4. The learner will demonstrate knowledge of phenomena related to flying which includes human and medical factors, specific requirements and best practices for flying at night, and emergency procedures.
5. The learner will understand how to apply for a remote pilot certificate using the electronic FAA Integrated Airman Certificate and/or Rating Application system (IACRA), how to complete a TSA security background check, and how to maintain certificate currency by completion of an online recurrent training program.

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies
   None

F. LEARNER OUTCOMES ASSESSMENT
   As noted on course syllabus

G. SPECIAL INFORMATION
   None noted