Course Syllabus
sUAS Safety Certification: Level 1

INSTRUCTOR:

CLASS MEETING TIMES:

COURSE DESCRIPTION

The sUAS Safety Level 1 course correlates to book 1 of the Remotely Piloted Aircraft Systems textbook series. This course explores the key technology used in Remotely Pilot Aircraft Systems (RPAS) to give the learner a deeper understanding of how RPAS are able to navigate and perform a wide range of tasks. This course focuses on the four major components of RPAS including the aircraft, the payload, the control station, and the data link that relays information in between each of these components.

GRADING

Each unit is comprised of textbook reading (text is embedded into the LMS), a digital workbook, optional writing/research assignments (not included in self-paced course), and an end of unit progress check. There are 5 graded progress checks in the course, all equally weighted.

A learner will need to score 80% on each progress check to move into the next unit.

TIME REQUIRED

Curriculum for sUAS Safety Certification: Level 1 is designed for 155 contact hours for the ab-initio learner.

COURSE OUTLINE AND OBJECTIVES

Curriculum is not required to sit for industry certification. The course is divided into 5 units of study. Each unit varies in length and difficulty with a standardized structure consisting of required readings, assignments, and progress assessments.

Learners may choose to sit for a proctored certification exam which covers material from each of the 5 modules.

UAS FOUNDATIONS

UNIT 1 (Foundations)
Explores the basic concepts of how remotely piloted aircraft work, including the different types of aircraft and their components, as well as the classification systems used to categorize them. Reviews the various ways in which RPAS are used in the commercial and public sectors and identifies challenges to the full integration of remotely piloted aircraft systems into everyday life.

UNIT 2 (Remotely Operated Vehicles)
Examines the details of robotic aircraft, looking at the aerodynamics of RPAS and the forces acting on these aircraft, including how to utilize control surfaces and changes in rotor speeds to induce moments and forces on aircraft, allowing them to maneuver through the air.

UNIT 3 (Data Links)
Examines data link science and reviews the requirements to communicate back and forth from the air vehicle to the ground control station and vice versa.

UNIT 4 (Control Stations)
Examines the various peculiarities of the ground station and explores how they vary in size and complexity, what they do, how they are configured, and other exciting factors.

UNIT 5 (Payloads)
Examines the sensors and science behind the acquisition of environmental information from a remotely piloted air vehicle flying overhead.

(Practice Certification Exam) OPTIONAL
A certification practice exam for learners planning to sit for the proctored certification exam.