

# Aerobotika UAV Bootcamp Syllabus

---

## Description

Aerobotika's UAV Bootcamp takes a comprehensive and hands-on approach to prepare you for the three major disciplines of unmanned aviation - ground school, flight training, and mission execution.

First, a 20-hour ground school, providing you with the in-depth theory and knowledge of aviation, from air law to meteorology. This portion meets Transport Canada's knowledge requirements for UAV pilots and provides you with an Industry Canada ROC-A radio certificate.

Next, you will dive right in to flight training, taught by some of the industry's finest UAV pilots. You will learn, hands-on, the essential flight manoeuvres and how to program your aircraft with intelligent flight modes to begin flying like the pros.

Last, you will work together with your class team to coordinate the five steps to a successful operation and culminate the course with a field-based mission from planning to execution.

## Course Outline

The course sections for the UAV Bootcamp include the following:

- 1:** Introduction to Unmanned Aviation
- 2:** Radiotelephone Operation and Procedure
- 3:** UAS Technology
- 4:** Theory of Flight
- 5:** Air Law, Airspace and Aerodrome Procedures
- 6:** Aeronautical Navigation
- 7:** The Physiology and Psychology of Pilots
- 8:** Flight Safety and Operations
- 9:** Meteorology in Aviation
- 10:** Hands-on Flight Training
- 11:** UAV Mission Planning and Execution

## Learning Outcomes

After completing this course, students will be able to:

1. Describe the components of a UAS and define common terms used in UAS system operations.
2. Explain what a Special Flight Operations Certificate is and when it is required.
3. Operate radiotelephone equipment, demonstrate a general knowledge of radiotelephone operation and procedures and the regulations applicable for communication between ground and aircraft stations, and use appropriate phraseology in radio communication.
4. Identify the different parts of an airframe and describe the maintenance required for all aspects of the aircraft including how to identify propeller/rotor damage, surface contamination, and structural damage.
5. Describe the limits and use of the various classifications of airspace, determine who provides coordination for the airspace being used, and how to coordinate communication with ATC.
6. Interpret the Canadian Aviation Regulations (CARs) as they apply to UAS.
7. Interpret and use aeronautical charts to determine your distance from the nearest aerodrome, identify a control zone, and use the CFS to identify airport operators and air traffic control agencies.
8. Explain aviation physiology, psychology, and what factors can interfere with effective decision making.
9. Identify sources of aviation weather reports and use them to analyze weather conditions to know when it is safe to fly your UAV.
10. Successfully demonstrate the essential flight manoeuvres.
11. Explain the benefits of standard operating procedures and the correct use of checklists and manuals.
12. Successfully execute a field-based mission from planning to execution.

## Student Assessment

Your final grade will be based on five small written quizzes, a demonstration of 15 essential UAV manoeuvres during flight training, and the successful execution of a field-based mission from planning to execution.

Activity	Mark Distribution
<b>Written Quizzes</b>	
General Knowledge	10%
Law	10%
Meteorology	10%
Navigation	10%
Radio	10%
<b>Flight Training</b>	
15 Essential UAV Manoeuvres	30%
<b>Flight Operations</b>	
Field-Based Mission	15%
<b>Course Participation</b>	
Full course participation is required	5%
<b>Total</b>	<b>100%</b>