

# **DIPLOMA IN PROFESSIONAL RPAS OPERATIONAL & TECHNICAL SKILLS**





## DEPARTMENT OF EDUCATION

# ACCREDITATION

This diploma is registered for delivery at the Volatus RPAS Training Academy in PEI and approved by the Department of Education and Lifelong Learning.

### LOCATION

Volatus Skygate RPAS Training Academy  
50D Aerospace Boulevard, Slemon Park, PE, C0B 2A0

### CONTACT

+1 514-447-7986, ext 193001  
training@volatuaerospace.com

### LEAD INSTRUCTOR

Lee Dodson





## DETAILS

### COURSE

Four Weeks (20 Days) 160 Hours

### COURSE

This program aims to build an expert RPAS workforce that can find well-paying jobs in the Canadian RPAS service industry. We expect our successful students to be employed in the industry within six months of qualifying. We will promote the diploma nationally and successful students will be recognized as holding a valuable industry qualification.

### COURSE FEES

\$7,900 (excluding HST)

\$500 to secure seat, applied to course fees.

### DISABILITIES

Volatus is committed to providing reasonable accommodations for all persons with documented disabilities. If you need support or assistance due to a disability, please contact your instructor for assistance.

### EQUAL

No person shall be denied any training activity on the basis of any legally prohibited discrimination involving such factors as race, color, creed, religion, national or ethnic origin, citizenship, ancestry, sex, gender (including identity or expression), sexual orientation, marital status, age, disability, or protected

### PREREQUISITES

- Minimum Age: 18
- Candidates must attest that they do not have a disability that would impair their ability to operate radio equipment.
- Canadian Citizenship or Canadian Residency (*Note: foreign applicants may have some limitations operating drones in Canada, contact us for more information*)



“As a partner in building a culture of lifelong learning, the federal government established the Office of Learning Technologies (OLT) within Human Resources Development Canada (HRDC). The OLT’s job is to raise awareness about the opportunities, challenges and benefits of technology-based learning and act as a catalyst for innovation in the area of learning and skills development enabled by technologies. The OLT’s vision is to: contribute to the development of a lifelong learning culture in Canada and its mission is to work with partners to expand innovative learning opportunities through technologies. Among its key activities is help to develop policies and strategies to guide the evolution and application of learning technologies in ways that best meet the lifelong learning needs of Canadians.”

Human Resources Development Canada

[LIFELONG LEARNING IN CANADA: VISIONS FOR THE FUTURE](#)



# SUPPORTING LIFELONG LEARNING

## Overall Summary

- Canada has the most educated workforce in the world
- Government supports youth to get the education and training they need to enter the job market
- Governments also have good tools to help people retrain when they lose their job
- While estimates vary about the pace and magnitude of coming changes, there is a consensus that automation will affect many jobs, including jobs requiring high skills
- This means that upskilling will be a must for most Canadian workers, and employers can do more
- While post-secondary institutions are adapting to meet Canadians' changing education and training needs, more can be done and individuals often face barriers to participation

## DRONE SERVICE PROVIDERS

Industries need trained RPAS Pilots NOW.

“As businesses make critical investments into the future, including adopting new technology, skills demands appear to be evolving. In the first quarter of 2021, 9 percent of businesses across Canada stated that over the next year they plan to hire staff with skills or knowledge that their current employees lack . This rises to 15 percent of businesses in wholesale trade and 14 percent of businesses in manufacturing, two industries that reported high levels of technology adoption and automation. Other industries reporting a similar trend (between 9 and 13 percent of firms) include professional, scientific, and technical services, finance and insurance and information

and cultural  
Brookfield Institute

[A CHANGING SKILLS LANDSCAPE](#)

- Construction & Development
- Natural Resource Sectors
- Sustainable Energy Sectors
- Infrastructure & Utilities
- Conservation & Wildlife
- Engineering & Geomatics
- Telecommunications
- Advertising & Sales
- Social Media & PR
- Film Industry
- Public Safety
- Surveillance
- Agriculture
- Insurance
- *New Use Cases*





# **PROGRAM OUTLINE**

## RPAS REGULATORY

Students will be taken through the Advanced RPAS knowledge requirements using a workbook designed with resources, regular knowledge checks and in-classroom tuition. Advanced RPAS Skills Training will take place in the field, followed by practical skills

### LESSON

### PLAN

- 01.** TP15263 Knowledge areas required by Transport Canada for RPAS Pilot Certification (following on from the self-study material)
- 02.** Site Surveys, Checklists & Basic RPAS controls
- 03.** Flight Review Practice & Emergency Procedures Training
- 04.** Transport Canada Flight Reviews

*You may omit this first week if you already have the Transport Canada Advanced Certificate (or have basic RPAS skills and knowledge from operating in another country). However, it does include a comprehensive review of safety procedures and skills practice routines and is highly recommended as a 'refresher' for basic operators.*

## RPAS FUNDAMENTALS

Complex Environment Training will build on the student's skills to understand RPAS setup, control and function, close proximity piloting skills, photography and cinematography, photoshop & video editing techniques and project management. We will assess each step to ensure there are no knowledge gaps.

### LESSON

### PLAN

01. RPAS Setup Control & Function (DJI Mavic & Matrice)
02. Flight Modes & Calibration Procedures (DJI Assistant)
03. Advanced Close Proximity Piloting Skills (NIST Obstacle Course Training)
04. Aerial Photography & Videography Techniques (Object Tracking & Compound Motions)
05. Photoshop & Video Editing Workflows (FCPX & Premier Pro)
06. RPAS Accessories (Payload Release, CSM Radar, Parachute & Tether Systems)
07. RPAS Project Management, Log Keeping & Maintenance



# RPAS INSPECTIONS

Drone inspection techniques and understanding RPAS payload systems are imperative for an RPAS professional. In addition to cementing these skills we will also introduce students to thermography, and specialist sensor applications.

## LESSON

## PLAN

- 01.** Payload Systems (DJI H20 Series, IR, UV, Gas Detection, NDT)
- 02.** Basic Drone Thermography
- 03.** RPAS Inspection Techniques (Buildings, Structures, Bridges, Paved Surfaces)
- 04.** Inspecting Infrastructure (Solar Panels, Wind Turbines, Power Lines, Cell Towers)
- 05.** Dual Control RPAS Operational Skills (DJI Matrice)
- 06.** Autonomous Flight Control & Project Management

## RPAS MAPPING

We will teach the fundamentals of data management and workflows, this will make the difference between success and failure as students progress to commercializing their skills. We will teach aerial photogrammetry and mapping, multispectral imaging and LiDAR principles, RTK and PPK GPS positioning methods, Orthomosaic stitching and 3D point cloud construction processes.

### LESSON

### PLAN

- 01.** Payload Systems (DJI P1 & L1 LiDAR, Multispectral, Magnetometry, Ground Penetrating Radar, Bathymetry)
- 02.** Introduction to Fixed Wing & VTOL RPAS Systems & Piloting
- 03.** Oblique & Nadir Mapping Photogrammetry Methods
- 04.** RTK & PPK GPS Positioning Basics
- 05.** Orthomosaic Stitching & 3D Point Cloud Construction Processes
- 06.** Data Management & Analysis with AI and Live Data Analysis
- 07.** Search & Rescue Techniques with third party apps



# CERTIFICATE OF COMPLETION

*The Certificate of Completion represents the following:*

## ADVANCED RPAS GROUND SCHOOL

In accordance with the Transport Canada  
TP-15263 Knowledge Requirements

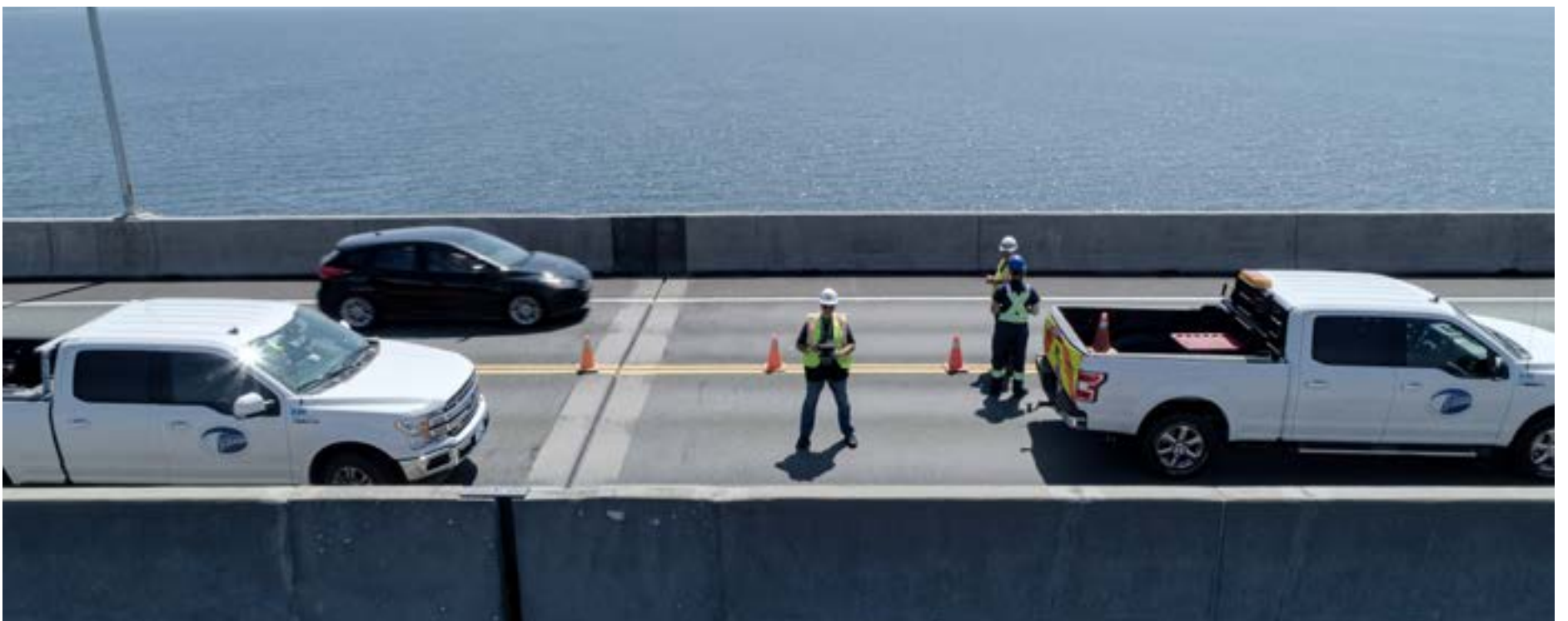
*and*

## Transport Canada Advanced RPAS Pilot Certificate

For Remotely Piloted Aircraft Systems 250 g up to and  
including 25 kg, Operating within Visual-Line-of-Sight (VLOS)

## COMMERCIAL QUALIFICATIONS

The ADVANCED Transport Canada Pilot Certification is the minimum expected qualification for professional RPAS operations. You will need to add specialization skills and work with experienced crews to move forward with your career in the RPAS service and solution industry.





# DIPLOMA IN RPAS OPERATIONS

## ASSESSMENT METHOD

We will assess your progress throughout the course through competency based evaluations, continuous feedback, and a series of short multi-choice exams. This will help you apply, analyze and evaluate your own understanding of the material.

## INDUSTRY RECOGNIZED QUALIFICATION

Our team works with Transport Canada and the FAA to future-proof RPAS regulations. As a result, we can provide the North American RPAS Operations training standards of excellence in skills and expertise.



# NEED-TO-KNOWS

## JOBS | MENTORING

Mentoring is an important aspect of this new industry, and we take pride in supporting new commercial RPAS pilots.

## DELIVERY

The training program is delivered both in the classroom and outside at Summerside airport, Prince Edward Island, which provides the added practical experience of managing drone operations in a real live airport environment.

The course includes increasingly complex piloting skills training with various drone systems used in industry with regular piloting skills practice both outside and in a dedicated hangar facility.

## EVALUATION OF PRACTICAL SKILLS

All practical training skills evaluations (other than the flight review) are based on the minimum Standard Test Methods for Small Unmanned Aircraft Systems from the National Institute of Standards and Technology (NIST) U.S. Department of Commerce.

## NIST

(National Institute of Standards & Technology)

We use [NIST](#) for teaching and evaluating maneuvering and payload functionality in RPAS Operations.



# NEED-TO-KNOWS



## DRONES & SENSORS

We supply the latest UAV equipment for our students to use for practice and study. Our sister company is the largest distributor of UAV technology in Canada - allowing us to leverage their access to the latest products.

## PRACTICAL TRAINING #1

We believe that practical training is vital for students to have plenty of flying time. Our hangar facility allows students to fly regardless of weather conditions.

## 4:1 RATIO STUDENT TO INSTRUCTOR

Our instructors are the most respected professionals in North American RPAS operations - it's important that our students have the opportunity to get one-on-one attention. So, we keep our ratios small. We guarantee personal attention and mentoring.



## BVLOS - THE NEXT STEP

We are leading the industry in Beyond Visual Line of Sight (BVLOS) trials and technology with Transport Canada approved locations coast to coast. We expect many of our Diploma Students to sign-up for our BVLOS program as they prepare for the next generation in RPAS operations.





## STAYING IN PEI

The onsite SLEMON PARK HOTEL, house rentals and other local accommodations provide cost effective solutions for your stay in PEI. We can arrange all your accommodation and transportation needs.

[CONTACT US TODAY FOR DETAILS](#)



## SLEMON PARK

