



# International Test Pilots School

Innovative Flight Test Training

**EASA Approved Training Organization**

ATO.0030



# Leading edge education, leading edge standards



The International Test Pilots School has been a thirty year labour of love. Since I first joined ITPS in 1991, it has been my privilege to contribute to the development of flight testers from around the world. Today our commitment to bring the best expertise, the best technology and the best experiences to our customers and students is stronger than ever. That commitment is backed up by one of the most competent and experienced instructor teams and the most modern facilities in the world.

**GIORGIO CLEMENTI**

ITPS Canada President and Founder  
MEMBER SOCIETY OF EXPERIMENTAL TEST PILOTS  
MEMBER SOCIETY OF FLIGHT TEST ENGINEERS

# ITPS By the Numbers

## 12+

World Class Instructors

## 40+

Years Of Experience In Flight Test Training

## 17

Fixed Wing and Rotary Wing Aircraft on Fleet

## 5

Advanced Simulators

## 25

Air Force Clients Trained

## 24

Contracts Completed Last Year

## 2000

Hours Of Flight Training Provided Each Year

## 6

Training Projects Completed Overseas

## 37,000

sq. ft.

Facility



### Civil Training

Dedicated training programs for Civil Aircraft flight testing. EASA Approved Training organisation for flight test training.



### Avionics Training

Military training programs for military aircraft, avionics and systems flight testing. Fully accredited, delivered to over 25 air arms globally.



### Flight Test Training

Flight Test training. Graduate, Diploma and Certificate course options.



### Tactical Training

Delivering Fighter Weapons Instructor courses since 2002. FWIC, FCC, Advanced Tactics and Mission Commander Course.



### UAS Training

UAS Flight Test Courses. Civil and military systems flight testing.



## Canadian Advantage

Canada offers many advantages to ITPS's international customers and students. ITPS's South Western Ontario location, in an area rich in military aviation history, ideal for flight training operations. The school enjoys extensive unrestricted airspace, excellent infrastructure and flight training weather. Canada is a welcoming and inclusive multicultural society easily accessible and visitor friendly. It offers an extensive cultural, social and educational support network for students and their families and children during their sojourn in Canada. Canada's excellent healthcare system, education system and friendly, inclusive society will ensure students and particularly accompanied students will be able to fully focus on their studies without concerns for their families well being.



# Technology – Expanding the Envelope

## Modern Avionics & HUD Technology

Bo-105 fully instrumented for flight testing with Telemetry(TM) and fitted with Thales Head Mounted Displays and dedicated flight test instrumentation (FTI) displays 5STA Hunter (5th gen. Surrogate Training Aircraft ) a fifth-generation fighter cockpit with Live Virtual Constructive Training capability in our Hawker Hunter jet and simulators. (from summer 2021)

Modern colour touch screen Large Area Displays in our upgraded L-39AUP (Avionics Upgrade Program)

### Real-World Training Environment

- Representative mission information and symbology
- Realistic training scenarios including advanced displays, radar and weapons
- State of the art situational awareness

## Tactical Simulation

Through the use of data-linking, Live Virtual Constructive Training (LVCT) offers realistic training scenarios representative of current and future air operations.

## Live Virtual Constructive (LVC) Training

Through the use of embedded systems simulation and data-linking, the generation of virtual threats Live Virtual Constructive Training (LVCT) offers realistic training scenarios representative of current and future air operations. This provides the ideal environment for avionics and mission systems test and evaluation exercises.

## Advanced Simulation Systems

The ITPS training facility features these advanced simulators:

### F-18 Simulator

- 6 channel 4k 120 hertz display
- Fully functional avionics and weapon system
- Networked to Telemetry room for flight test exercises/rehearsal

### F35 Engineering Simulator

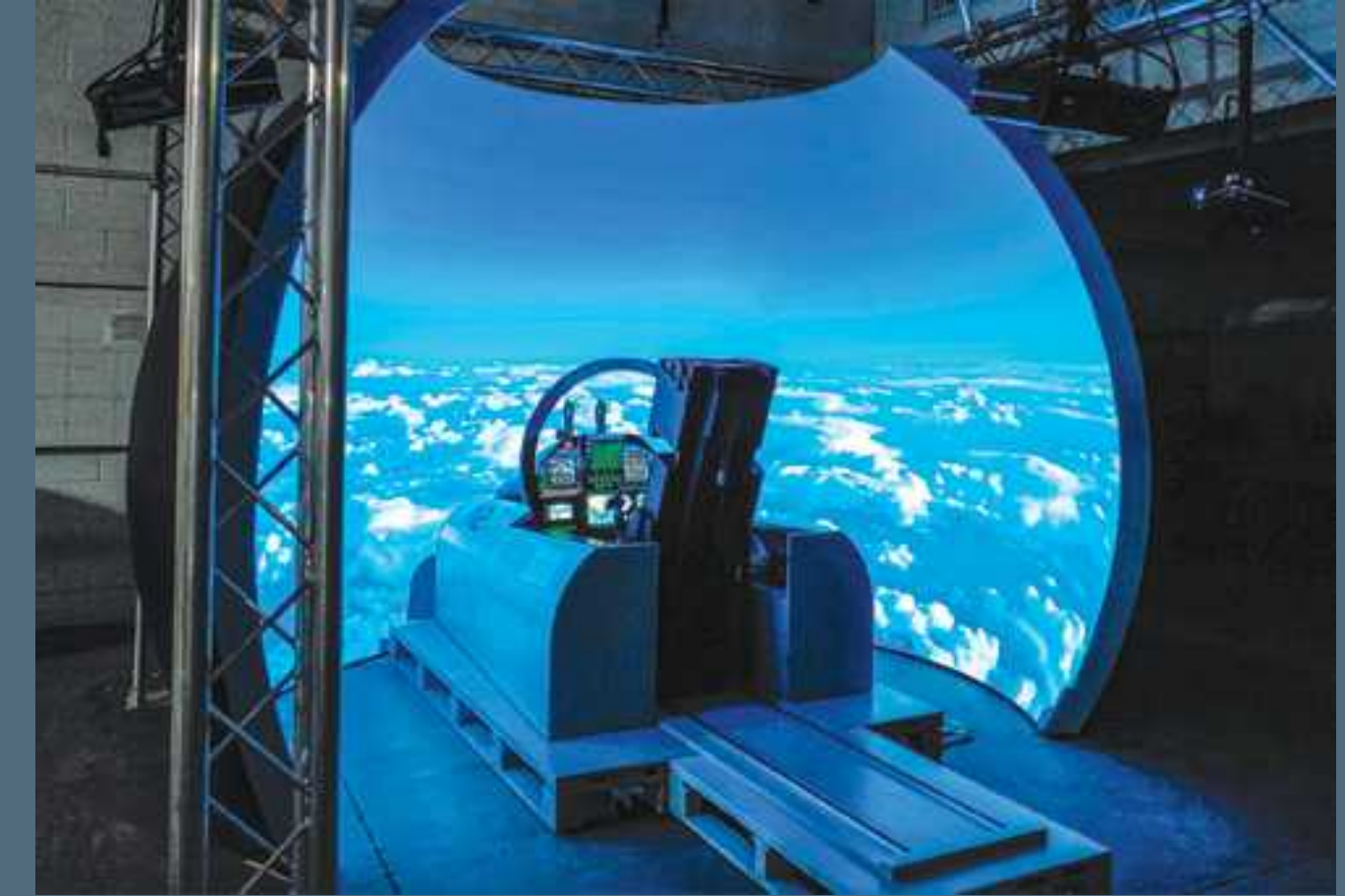
- Fully accessible aerodynamic and flight control models
- Real time varying of aerodynamic derivatives
- 6 channel 4k 120 hertz display
- Functional avionics and weapon system including panoramic HMD
- Networked to Telemetry room for flight test exercises/rehearsal

### B787 Simulator

- 3 Channel 4k 120 hertz display
- Sim-Avionics plug in for X-Plane
- Fully representative of modern fly-by-wire transport aircraft

## Manned RPV Project (MRPV) Update

- Medium Altitude Long Endurance RPA surrogate
- Representative GCS with RPA pilot and Payload Operator stations
- Fully controllable from Ground Control Station (GCS)
- Modern Electro Optic sensor package
- Instrumented for flight testing



## “ A high level of standardization & professionalism.

All the instructors have a lot of experience in flight testing and they transmit their knowledge with passion to the students. They are always available for clarification, they encourage you to improve yourself everyday. Safety first of all. Nothing is left to chance. Flight briefing and de-briefing are always performed with care by the instructors. The hangar has an incredibly diverse fleet of aircraft. The aircraft are managed with extremely care and attention by the maintenance team. The flight test area are wide enough to allow to safely maneuver the aircraft. The cooperation with ATC is fantastic. I am very satisfied of this experience."

**PIERFILIPPO RIZZO**  
Aeronautical Engineer and Pilot  
FLIGHT TEST ENGINEER AT LEONARDO COMPANY

## Experts & Professionals

The ITPS excellence and expertise extends not only to instruction. ITPS Engineering group has successfully designed a variety of modifications to our fleet aircraft to meet training requirements. Each modification has been approved by Transport Canada our civil aviation authority.

In addition ITPS employs a large team of dedicated mechanics and inspectors, including a number of experts on maintaining civil operated ex-military aircraft and associated systems.

This full complement of expertise allows ITPS to quickly respond to specific training and flight test requirements and provide effective customised solutions for each of its customers.





## A Formidable Fleet

ITPS owns a growing fleet of aircraft currently numbering eighteen to support training and flight test operations. Our approach is to provide training within flight envelopes representative of the aircraft our graduates will be tasked to test.

ITPS selects airframes that have educational value from a performance and flying qualities point of view but that are also reliable, maintainable and cost effective. We then make them better by upgrading them with avionics such as Large Area Avionics Displays and Helmet Mounted Displays resulting in the highest value proposition of training and cost effectiveness. All our aircraft have to meet Transport Canada's stringent airworthiness requirements .

Students at ITPS will fly an unmatched variety of types for a once in a lifetime experience that will provide them invaluable insights. The majority of fixed wing students' course flying will be on military jets, equipped with modern avionics representative of latest fighter technology. Rotary Wing course students experiences will be equally diverse with opportunities to fly state of the art helicopters at manufacturer's flight test departments through our collaboration with a major helicopter manufacturer.

Unique and interesting aircraft are occasionally hired to provide students to apply the knowledge and skills acquired in evaluating an unfamiliar type. ITPS collaborates with the National Research Council's Flight Research Laboratory to offer Variable Stability in-flight Simulator flying (VSS).

Rotary Wing students will fly the FRL Bell 412 and a Bell 205 equipped with a digital fly-by-wire flight control system that allows the helicopter's flying characteristics to be modified in flight.

Fixed wing graduate course students currently fly the CALSPAN Lear 25 in-Flight simulator for the equivalent demonstrations.



Hawker hunter T75



Aero Vodochody L-39



Aero Vodochody L-29



Emb 500 Phenom 100

## Fixed Wing Aircraft

- Hawker Hunter T75
- Aero Vodochody L-39AUP
- Aero Vodochody L-29
- Beechcraft B60 Duke
- Cirrus SR22
- Diamond DA42
- Diamond DA20 C-1 Eclipse
- Grumman HU-16 Albatross
- IAR 823 Brasov
- Bombardier Challenger 601 3A-ER \*
- Embraer Emb 500 Phenom 100 \*
- Embraer Phenom 300 \*
- Calspan Lear 25 Variable Stability System \*

\* Leased as required

## Rotary Wing Aircraft

- MBB BO-105M
- B206 Helicopter
- Sikorsky S-76 C+
- Variable Stability Bell 212\*
- Airbus Helicopters AS350\*
- Airbus Helicopters AS355\*
- Leonardo AW-139\*
- Leonardo AW-169\*
- Leonardo AW-189\*
- Mc Donnell MD530\*
- Robinson R-44\*

\* Leased as required



B206



Bo-105



Sikorsky S-76



Variable Stability Bell 412





# Student Wellbeing

## Topflight Support

ITPS provides intensive training programs that require the student's full attention. Whether single or accompanied the student's wellbeing is our top priority. Customers have consistently commented on the outstanding support provided by our staff. Whether helping place children in local schools to arranging extended medical coverage for students and accompanying family, our on-site Student Welfare Officer supported by our administrative staff ensures a smooth transition to life in Canada.

From arrival to departure, ITPS is here for our customers. Transportation can be scheduled for pick up and / or drop-off at Toronto Pearson International Airport to alleviate the stress of arrival in an unfamiliar country. Long term students may opt for ITPS provided housing and car rental for the duration of their stay. Short course students may secure preferential rates using our corporate accounts with local hotels and car rental agency.



## Fixed Wing, Rotary Wing & UAV



# Graduate / Diploma / Certificate - ITPS Canada

ITPS provides three levels of training to meet each customer's requirements and budgets. All our courses are available for fixed wing and rotary wing aircraft. ITPS prides itself on being responsive and flexible. Training is normally provided in Canada but special training programs can be presented in the customer's country.

[www.ITPSCanada.com](http://www.ITPSCanada.com)

## Graduate Test Pilot and Flight Test Engineer Course

**Fixed Wing or Rotary Wing**  
Civil or Military focused options.  
EASA CAT-1 compliant

50 Weeks 450+ lecture hours 110+ flight hours

The flying program comprises in excess of 450 lecture hours and 110 flight hours. A minimum of 15 aircraft types will be flown for the civil CAT-1 option. 20 aircraft types are flown for the military option.

Designed for civil and military pilots and engineers who upon graduation will be employed in experimental flight tests. Accredited by the Society of Experimental Test Pilots and the Society of Flight Test Engineers the ITPS Graduate Course provides in depth knowledge and instruction in the following subject areas:

- Aircraft Performance Flight Tests
- Aircraft Flight Control System testing
- Digital Flight Control Systems design and flight testing
- Aircraft Flying Qualities testing
- Avionics and Human Machine Interface testing
- Aircraft Powerplant and Systems testing
- Aircraft Structures and Loads testing
- Stores Certification and Weapons testing

**START DATES** January and June annually

## Diploma Test Pilot and Flight Test Engineer Course

**Fixed Wing or Rotary Wing**  
Civil. EASA CAT-2 compliant

20 Weeks 250+ lecture hours 60 flight hours (min.)

The flying program comprises in excess of 250 lecture hours and a minimum of 60 flight hours. A minimum of 8 aircraft types will be flown.

Designed for civil industry pilots and engineers who upon graduation will be employed in civil aircraft flight-tests within an already cleared envelope or will participate as crew in Part 25 Transport Category aircraft experimental flight tests. Graduates qualify for CAT-1 test pilot rating for Part 23 light aircraft. The course provides in depth knowledge and instruction in the following subject areas:

- Civil Aircraft Certification Process and Regulations
- Aircraft Performance Flight Tests
- Aircraft Flight Control System assessment and testing
- Aircraft Flying Qualities testing
- Avionics and Human Machine Interface testing
- Aircraft Powerplant and Systems testing

**Note: The course duration and content for aspirant civil applicants for the EASA CAT-1 Test Pilot rating may be tailored based on an assessment by ITPS of the applicant's prior experience and qualifications. Contact us for details.**

**START DATES** January and June annually

## Diploma Test Pilot and Flight Test Engineer Course

**Fixed Wing or Rotary Wing**  
Military, EASA CAT-2 compliant

28 Weeks 350 lecture hours 80 flight hours (min.)

The flying program comprises 350 lecture hours and a minimum of 80 flight hours. A minimum of 10 aircraft types are flown

Designed for military pilots and engineers who upon graduation will be employed in flight tests within an approved flight envelope or Operational Test & Evaluation flight-tests, Stores Certification and Weapons testing or will participate as crew in multi-crew aircraft experimental flight tests with an Experimental test pilot in command. The course provides in depth knowledge and instruction in the following subject areas:

- Aircraft Performance Flight Tests
- Aircraft Flight Control System assessment and testing
- Aircraft Flying Qualities testing
- Digital Flight Control Systems design and flight testing
- Avionics and Human Machine Interface testing
- Military Mission Systems testing – RADAR, EO, EW
- Stores Certification and Weapons testing

**START DATES** January and June annually

## Introduction to UAS Flight Testing

 8 Weeks  85+ lecture hours

The course provides a solid grounding in UAS technology, flight operations and the principles and techniques of UAS flight test. The ITPS programme has been designed specifically for UAS pilots and operators and is taught by experts in the field with experience of many UAS flight test programs. The ITPS UAS Flight Test Course is a vital investment in success by any organisation seeking to develop Unmanned Air Systems. Some objectives of the course include:

- Provide a thorough understanding of UAS technologies
- Provide training in the discipline of UAS flight testing, management and reporting.
- Provide practical experience of UAV flight tests and flight test management
- Provide thorough preparation in UAV test techniques and test aspects for the associated
- Sensors, systems and weapons

**START DATES** On demand

## Diploma Test Pilot and Flight Test Engineer (Avionics) Course

**Fixed Wing or Rotary Wing  
Military**

 33 Weeks  150 lecture hours  80 flight hours (min.)

The flying program comprises of 150 lecture hours and a minimum of 80 flight hours. A minimum of 10 aircraft types are flown.

Designed for military pilots and engineers who upon graduation will be employed in military avionic systems flight-tests, Stores Certification and Weapons testing. The course provides in depth knowledge and instruction in the following subject areas:

- Introduction to Avionics and Human Machine Interface testing
- Displays testing: HUD, HDD, HMD, EVS, SVS
- Military Mission Systems testing –Communications, Navigation, RADAR, EW
- Electro-Optics, NVG, FLIR, Lasers
- Stores Certification and Weapons testing
- Unmanned Air Systems testing
- Stores Certification and Weapons testing

**START DATES** January and June annually

## Certificate Test Pilot and Flight Test Engineer Course

**Fixed Wing or Rotary Wing option  
Civil or Military**

 6 Weeks  110 lecture hours  20 flight hours (min.)

The flying program comprises of 110 lecture hours and a minimum of 20 flight hours. A minimum of 4 aircraft types are flown.

The course is aimed at experienced pilots and engineers in the military civil industry or government agencies. It prepares students to undertake flight testing of aircraft including modifications and upgrades. The basic program has been adapted to the needs of various customers to focus on different flight test and aircraft categories, on demand. The basic program covers:

- Civil Aircraft Certification Process and Regulations
- Aircraft Performance Flight Tests
- Aircraft Flying Qualities testing
- Introduction to civil avionics and Human Machine Interface testing
- Optional add-on military modules available on demand:
  - Military airworthiness and Specifications
  - Military Mission Systems testing – RADAR, EO, EW
  - Stores Certification and Weapons testing
  - Operational Test and Evaluation

**START DATES** January and June annually or on demand

## Flight Test Instrumentation Course

 22 Weeks  200+ theoretical instruction hours

The course provides training for engineers and technicians in aircraft flight test instrumentation including sensors, data acquisition, recording and telemetry within the context of developmental and certification flight tests. The course provides an understanding of the sensor and data acquisition requirements for aircraft flight tests, sensor selection, system design and integration, sensor installation and calibrations.

Students will receive in excess of 200 hrs theoretical instruction. This will be complemented by a practical project during which they will also design, integrate bench test and qualify a data acquisition system for a fixed or rotary wing aircraft during the course. The course will address the engineering aspects of instrumenting an airplane, paying attention to issues relating to engineering best practices and airworthiness. The course is comprised by the following modules:

- Introduction to Flight Testing
- General Flight Test Instrumentation
- Data acquisition system design and integration
- Sensor selection
- Wire harnesses
- Strain gauges
- EMI and EMC
- Telemetry Systems
- Time Space Position Information (TSPI)

**START DATES** July annually



Online academic short courses will be available shortly.

## Short Courses – ITPS Canada

The following short courses provide effective customer focused training solutions, the latest in aerospace technology and best practices from an international team of world class experts for fixed and rotary wing, civil and military training.

[www.ITPSCanada.com](http://www.ITPSCanada.com)

### INTRODUCTION TO FIXED WING FLIGHT TESTS

**DURATION** 3 weeks

This course provides practical exposure to fixed wing aircraft flight tests. The course includes seven flight exercises on three aircraft types. Instruction focuses on flight test methods, test planning, data acquisition and analysis. Students will participate as crew, recording data in flight in a fully instrumented, laboratory aircraft. A tutorial session after each flight will guide the students through the data analysis process. Students will gain an understanding of the flight test process from planning to execution, analysis and reporting with reference to both civil and military specifications.

### FIXED WING PERFORMANCE FLIGHT TESTS

**DURATION** 2 weeks academics – optional extra flying week on demand

This course provides an overview of fixed wing aircraft performance measurement flight tests. Instruction focuses on flight test methods, test planning, data acquisition and analysis. Participants are introduced to civil specification for fixed aircraft (CS23/25) aircraft and methods of demonstrating compliance when testing a new or modified aircraft.

### FIXED WING FLYING QUALITIES FLIGHT TESTS

**DURATION** 2 weeks academics – optional extra flying week on demand

This course provides an overview of fixed wing aircraft flying qualities flight tests. Instruction focuses on flight test methods, test planning, data acquisition and analysis. Participants are introduced to

both military and civil specification for fixed wing aircraft (CS23/25) aircraft and methods of demonstrating compliance when testing a new or modified aircraft.

### DIGITAL FLIGHT CONTROL SYSTEMS TESTING

**DURATION** 2 weeks academics – optional extra flying week on demand

The three-week Digital Flight Control Systems Testing Course addresses digital flight control systems testing and certification with specific reference to applicable military specifications including MIL-STD-1797, ADS-33E PRF and case studies of civil airliner certifications in accordance with FAR Part 25 requirements. Students are taught Pilot Induced Oscillation (PIO) detection methods and have the unique opportunity to identify and experience them in the ITPS engineering simulator. Students will gain the fundamental knowledge and experience to be able to interact with flight control systems engineers on test programs.

### ROTARY WING PERFORMANCE FLIGHT TESTS

**DURATION** 2 weeks academics – optional extra flying week on demand

This course provides an overview of helicopter performance measurement flight tests. Instruction focuses on flight test methods, test planning, data acquisition and analysis. Participants are introduced to both military and civil specification for helicopters (CS 27/29) and methods of demonstrating compliance when testing a new or modified helicopter.

### ROTARY WING FLYING QUALITIES FLIGHT TESTS

**DURATION** 2 weeks academics – optional extra flying week on demand

This course provides an overview of helicopter stability and control and handling qualities flight tests. Instruction focuses on flight test methods, test planning, data acquisition and analysis. Participants are introduced to both military and civil specification for rotorcraft (CS27/29) and methods of demonstrating compliance when testing a new or modified rotorcraft.

### (MILITARY) AVIONICS SYSTEMS FLIGHT TESTS

**DURATION** 4 weeks

This course focuses on avionics systems and their application in the context of a modern combat aircraft developmental flight test program. The course commences with the ergonomics and man-machine interface considerations for modern fighter cockpits, assessment methods for modern integrated fighter avionics systems. The importance of focusing on mission suitability by setting up relevant, mission-oriented tasks whilst building an understanding of cockpit workload and suitability testing in current generation fighters. Additionally, this course addresses the physical principles of electro-optical sensors and devices, their necessity for airborne night operations and the engineering solutions to render the aircraft cockpit compatible with Night Vision Goggles. Methods to ensure the compatibility of cockpit lighting with NVGs and test and evaluation methods in accordance with industry best practice.

## (CIVIL) AVIONICS SYSTEMS FLIGHT TESTS

**DURATION** 1 week – academics with optional extra flying week

The Avionic Systems Flight Test module introduces students to the fundamental principles of operation of key aircraft avionic systems and then focuses on how these systems are tested to determine compliance with civil certification requirements. The civil certification process as applicable to avionic systems is covered in detail. Students are also introduced to anthropometric standards and ergonomic concepts in flight deck design and the applicable regulatory, guidance materials and recommended methods of demonstrating compliance when testing a new or modified avionic systems are presented.

## STORES CERTIFICATION AND WEAPONS TESTING

**DURATION** 2 weeks

This course provides an overview of the aircraft Stores Certification process as defined in MIL-HDBK-1763 Stores Certification. Students are provided with an introduction to fighter aircraft weapons as a foundation to the weapon testing aspects. The Handbook defined Ground tests and flight tests leading up to captive carriage and Safe Release flights are described with an emphasis on how to plan and execute test safely and efficiently, data acquisition and analysis requirements and methodologies. The course also addresses Weapon System testing from the Man Machine Interface point of view. The Combat Aircraft Engineering Simulator will be used to provide practical exposure to the test methods presented. Delegates upon completion of this course will have a thorough preparation allowing them to participate in Stores Certification and Weapons testing of any combat aircraft type.

## INTRODUCTION TO UAS TESTING

**DURATION** 2 weeks

This course provides a solid grounding in UAS technology, flight operations and the principles and techniques of UAS flight test. The course focuses on providing training in the discipline of UAS flight testing, management and reporting, and gives practical experience of UAV flight tests and flight test management thorough preparation in UAV test techniques and test aspects for the associated sensors and systems.

## OPERATIONAL TEST AND EVALUATION COURSE

**DURATION** 3 weeks

The course provides a solid grounding in the principles of flight test, coupled to an understanding of key concepts of OT&E and its associated processes. The OT&E course focuses on explaining the philosophy of Operational Test and Evaluation and provides an introduction to the performance, stability and control, handling qualities and systems measurement flight tests. Additionally, maintainability and reliability, cockpit ergonomics and assessment, workload are concepts also discussed and contextualized to OT&E and its associated processes.

View [ITPSCanada.com](http://ITPSCanada.com) for starting dates.



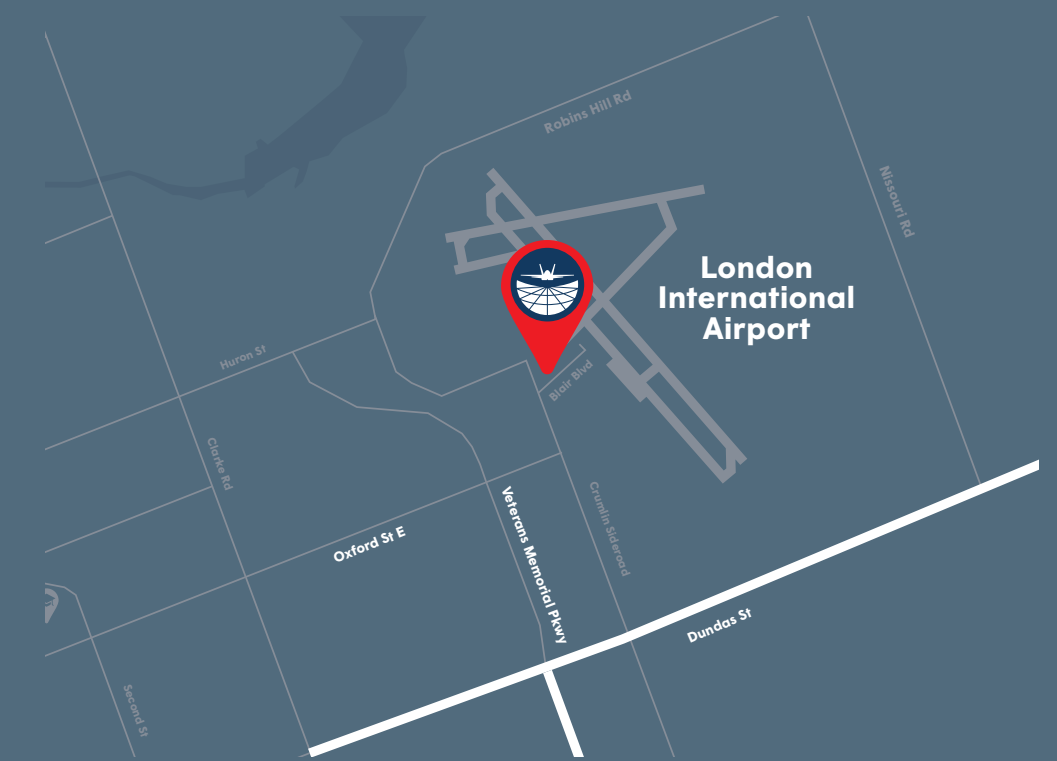




# Approvals & Affiliations

- EASA Approved Training Organization (ATO.0030) for Flight Test Training
- EASA FCL 820 compliant course for Test Pilots and Lead Flight Test Engineers
- Approved by the Italian Civil Aviation Authority to provide training for Italian Test Pilots and Flight Test Engineers for both Experimental and Production Test Pilots
- Transport Canada approved flight test organization and registered Private Operator of military and civil aircraft
- Certified compliant with ISO 9001 since June 2015
- Society of Experimental Test Pilots accredited test pilot school and corporate member
- Society of Flight Test Engineers accredited test pilot school and corporate member
- Government of Ontario, Designated Learning Institution under the Canadian International Student Program





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