




International Test Pilots School

Innovative Flight Test Training

EASA Approved Training Organisation
ATO.0030

A silver fighter jet is shown in flight against a clear blue sky. The jet is viewed from a low angle, looking up at its nose and cockpit. The cockpit canopy is open, revealing two pilots wearing helmets. The aircraft's wings are swept back, and the tail section is visible. The overall composition is dynamic and emphasizes the sleek, aerodynamic design of the aircraft.

Leading edge education, leading edge standards



The International Test Pilots School (ITPS) is a fully accredited school of flight testing for both military and civil training. Students attending ITPS benefit from a 35 year Heritage and join the community of hundreds of graduates from 25 different countries.

ITPS understands the ever-changing flight testing needs of air arms and industry. Cost effective, tailored courses ensure our students achieve specific training goals within their organisations and safely and effectively participate in real-world flight test scenarios.

ITPS By the Numbers

16

World Class Instructors

17

Advanced Simulators

35+

Years Of Flight Training

21

Contracts Completed
Last Year

6

Training Projects
Completed Overseas

22

Fixed-Wing and Rotary-Wing
Aircraft on Fleet

25

Air Force Clients Trained

2000

Hours Of Flight Training
Provided Each Year





Flight Test Training

Test Pilot and Flight Test Engineer courses designed for civil and military personnel who will be involved in experimental flight tests.



Avionics Training

Training programs for test pilots and flight test engineers who will be involved in avionics systems flight tests.



EASA-Accredited Training

Dedicated civil aircraft flight testing programmes. Designed for civil industry pilots and engineers to graduate with an EASA CAT-1 or CAT-2 test pilot rating.



UAS Training

Developed for operational pilots and engineers who will be involved in the testing of Unmanned Aerial Systems.



Advanced Aircraft Simulation Centre

Students use modern avionics, HUD technologies, tactical datalink and live virtual constructive training



Canadian Advantage

Canada offers many advantages to ITPS's international customers and students. ITPS's South Western Ontario location, an area rich in military aviation history, is 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 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 wellbeing.



“ A high level of standardisation & 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 debriefing are always performed with care by the instructors. The hangar has an incredibly diverse fleet of aircraft. The aircraft are managed with extreme care and attention by the maintenance team. The flight test areas are wide enough to allow to safely manoeuvre 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 in-house 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.



Technology – Expanding the Envelope

Live Virtual Constructive Training (LVCT)

ITPS is developing technologies to meet the future needs of flight testing professionals. Augmenting commercially available products, ITPS is pushing the boundaries in the advancement of LVCT.

- Representative mission information and symbology
- Realistic training scenarios including advanced displays, radar and weapons

Modern Avionics & HUD Technology

Fully instrumented for flight testing with Telemetry (TM), fitted with Thales Head Mounted Displays and dedicated flight test instrumentation (FTI) displays, the Hawker Hunter 5th Gen. Surrogate Training Aircraft (5STA) is a fifth-generation fighter cockpit with Live Virtual Constructive Training capability.

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

- On-board ruggedized flight computer
- Direct feed to Prepar3da® and DCS software for virtual targeting overlay
- Programmable symbology on Large Area Display (LAD)
- State of the art situational awareness

Advanced Aircraft Simulation Centre (AASC)

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

F-18 Simulator

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

F-35 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

Boeing 787 Simulator

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



Manned Remotely Piloted Aircraft (MRPA)

ITPS is a pioneer in UAV simulation and practical flying experience with its unique MRPA UAV and Ground Control Station (GCS). The MRPA allows real-world Medium Altitude Long Endurance (MALE) mission scenarios to be flown in national airspace.

The ITPS instructors combine over 70 years of military and civilian experience in unmanned aerial systems research, development, testing and tactical training.

- Ideal environment for avionics and mission systems test and evaluation
- Representative GCS with RPA pilot and payload operator stations
- Students can practice on missions in state of the art MALE simulation
- Manual, automatic and autonomously controllable by GCS
- Modern EO/IR/Laser sensors, C3 systems and weapons
- Instrumented for flight testing
- Control five on-board cameras and multiple sensor control
- Gain hands on experience with other UAV in the ITPS fleet exercises
- On-board ruggedized flight computer
- Direct feed to Prepar3d® and DCS software
- Programmable symbology on Large Area Display (LAD)
- Virtual targeting overlay





A Formidable Fleet

ITPS owns a growing fleet of aircraft currently numbering 22 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.



5th Generation Surrogate Training Aircraft (5STA)

A leading-edge solution to prepare test pilots and flight test engineers to test the technologies of tomorrow, today.

The Hawker Hunter T.7 5STA immerses a student in a 5th Gen Human Machine Interface (HMI) as an agile fighter trainer with transonic capability and excellent flying qualities. The Hawker Hunter has all the performance and flying qualities required to fully challenge aspiring test pilots.

5STA is an essential research tool to conduct:

- Cockpit workload and minimum crew research
- Low visibility minima operations
- CLAWs development
- In-flight simulation
- Flight test training
- On-board instrumentation and telemetry link enhance data accuracy, research efficiency and flight test safety





Aero Vodochody L-39AUP



Aero Vodochody L-29



Hawker Hunter T.7

Fixed-Wing Aircraft

- Hawker Hunter T.7
- 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 850 *
- Embraer Phenom 100 *
- Embraer Phenom 300 *
- Calspan Learjet 25 Variable Stability System *

* Leased as required





Rotary-Wing Aircraft

- Sikorsky S76C+ Helicopter
- MBB Bo 105M Helicopter
- Bell 206B JetRanger
- Variable Stability Bell 212*
- Airbus Helicopters AS350*
- Airbus Helicopters AS355*
- Leonardo AW139*
- Leonardo AW169*
- Leonardo AW189*
- MD Helicopters MD 530*
- Robinson R44*

* Leased as required



Bell 206B JetRanger



MBB Bo 105M



Sikorsky S76C+



Student Care

Topflight Support

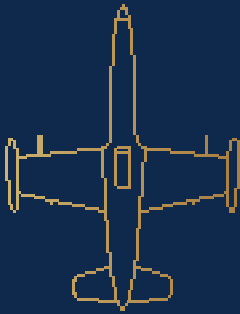
ITTC prides itself on providing outstanding support for students and their families. Our on-site Student Welfare Team ensures a smooth transition for life in Canada, whether helping place children in local schools or arranging extended medical coverage for students and their accompanying families.

From arrival to departure, ITTC helps alleviate the stress of students navigating in an unfamiliar country. Transportation is available for pick up and or drop-off at Pearson International Airport (CYYZ). Our Student Welfare Team helps students quickly settle in and be prepared to learn.





Fixed-Wing, Rotary-Wing & UAS



Graduate / Diploma / Certificate - ITPS Canada

ITPS provides four 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

Graduate Test Pilot & Flight Test Engineer Course



50 Weeks



450+ lecture hours



110+ flight hours

Fixed-Wing or Rotary-Wing

Civil or Military, EASA CAT-1 compliant

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



31 Weeks



350+ lecture hours



100+ flight hours

Fixed-Wing or Rotary-Wing

Civil, EASA CAT-1 compliant

The 31-week EASA CAT-1 Diploma Test Pilot or Lead Flight Test Engineer Course comprises in excess of 350 lecture hours and 100 flight hours. A minimum of 10 aircraft types, including a Variable Stability In-Flight Simulator are used.

It is designed for civil pilots who upon graduation will be employed as PIC in Part 25 or Part 29 Transport Category civil aircraft experimental flight tests. This course is accredited by the Society of Flight Test Engineers (SFTE).

- Aircraft Performance Flight Tests
- Aircraft Flight Control System assessment and testing
- Digital Flight Control Systems design and certification
- Aircraft Flying Qualities testing
- Avionics and Human Machine Interface testing
- Aircraft Powerplant and Systems testing
- Aircraft Structures and Loads testing

START DATES

January and June annually

Diploma Test Pilot and Flight Test Engineer Course

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

Fixed-Wing or Rotary-Wing Civil, EASA CAT-2 compliant

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-2 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-2 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

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

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

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

Diploma Test Pilot and Flight Test Engineer (Avionics) Course

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

Fixed-Wing or Rotary-Wing Military

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
- Civil or Military 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

Flight Test Instrumentation Course

 20 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 hours 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

UAS Flight Test and Evaluation

 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



Online academic short courses are available customized to customer requirements

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

Introduction to Flight Testing

DURATION 2 weeks academics - optional extra flying week on demand

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 Flight Tests

DURATION 2 weeks academics – optional extra simulator 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) Introduction to Avionics Systems Flight Tests

DURATION 1 week academics – optional extra flying week on demand

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 Flight Tests

DURATION 1 week academics - optional extra flying week on demand

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 – includes 4 hours of flight test techniques demonstrations

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.

Contact us for course start 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 Flight Test personnel
- 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
- Master of Science in Flight Test Engineering (MS FTE) post-secondary degree approved by the Ministry of Colleges and Universities of Ontario







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