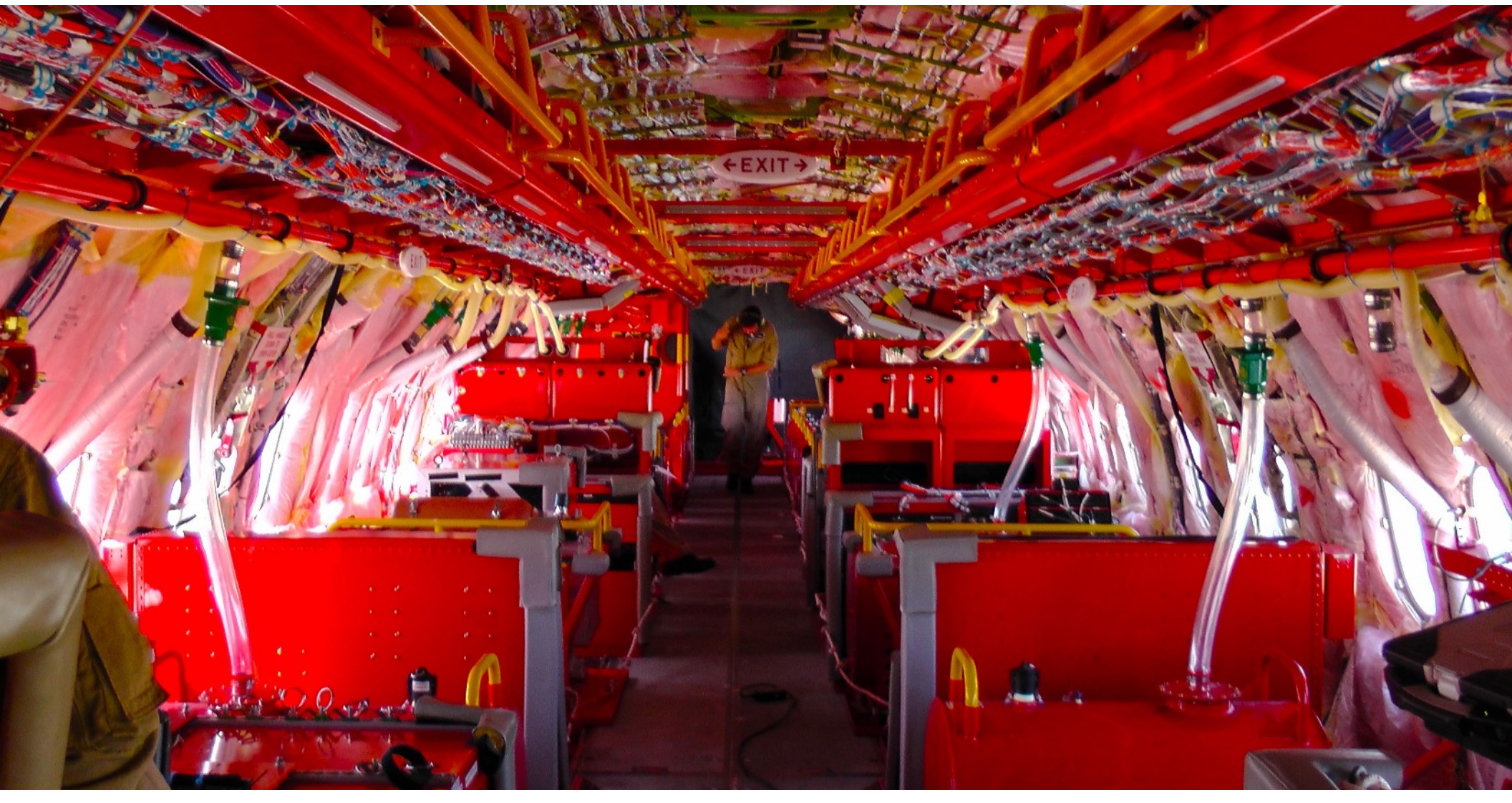
Monday May 7 - Friday May 11, 2018
9:00 - 17:00
Concordia University
Engineering, Computer Science and
Visual Arts Integrated Complex
1515 Ste. Catherine West

The **Canadian Aeronautics and Space Institute (Quebec)** *and the* **Concordia Institute of Aerospace Design and Innovation**
present

AIRCRAFT CERTIFICATION FLIGHT TEST COURSE

with J. C. T. (Jim) Martin and Hany Sadek



C Series Hot Weather Flight Tests in Arizona
Image courtesy of Bombardier Inc.

Montreal is Canada's aerospace capital and the 3rd largest aerospace hub in the world. The Canadian Aeronautics and Space Institute Quebec Branch (CASI Quebec) and the Concordia Institute of Aerospace Design and Innovation (CIADI) are key players in this dynamic sector, offering hands-on experience and vital networking opportunities.

This summer, CIADI and CASI Quebec welcome students and industry professionals to take the Aircraft Certification Flight Test Course.

This one week long course is designed to provide the 'Big Picture" of flight testing best practices used in the industry and government certification agencies in support of civil transport aircraft certification. The course mainly aims to provide practical experience in aircraft performance, stability and control and handling qualities flight testing, flight test instrumentation and real time and post-flight data analysis.

Throughout the course, aircraft operational and certification design requirement are introduced as they relate to the scope and extent of the flight testing discussed. civil transport aircraft.

Highlights

Renowned Subject Matter Experts
Networking Cocktail and Dinner

Program Fees

Regular	$1200	+tax
CASI Members	$800	+tax
Students	$400	+tax

Become a CASI member and save!
Contact us for company/group course rates.

Qualifies towards admissible OIQ credits!

A certificate attesting to the completion of the course will be granted to students who successfully complete the program.

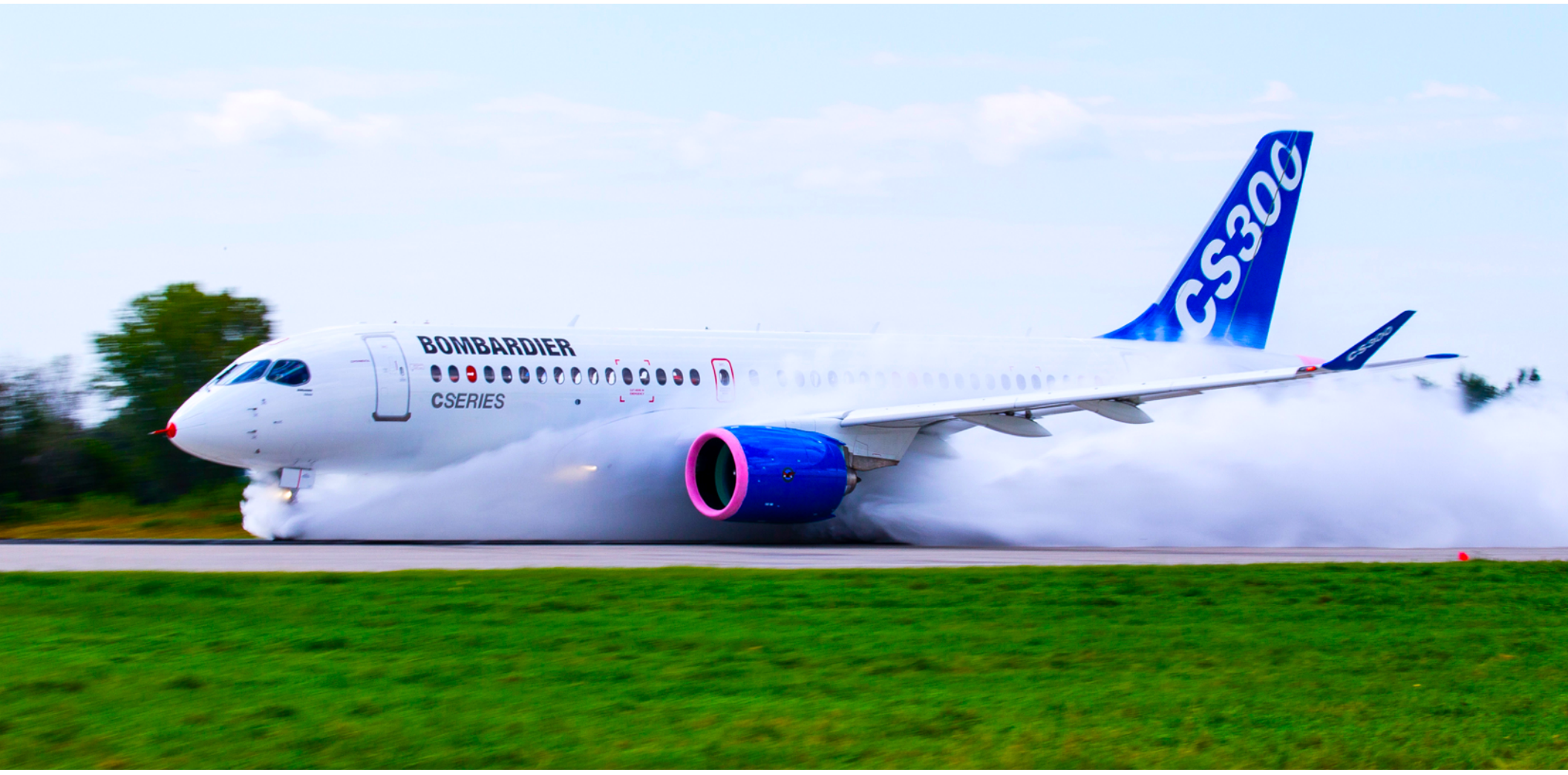
Register Now!

https://genesis.concordia.ca/events/E1801009admin

Visit **www.casi.ca/**

This course is ideal for attendees who are or will be involved in the certification of Transport Canada aircraft in accordance with FAA Part 25 requirements. This course is for Aircraft Design, Certification or Flight Test Engineers, Pilots, Integrators, Technical and Project Managers in aircraft industry, government and research laboratories. Also, for graduate Aeronautical Engineering students who seek to bridge the gaps between academia and industry.

The course is jointly taught by two highly qualified Subject Matter Experts with extensive hands-on experience in aircraft design, flight testing and certification of civil transport aircraft.

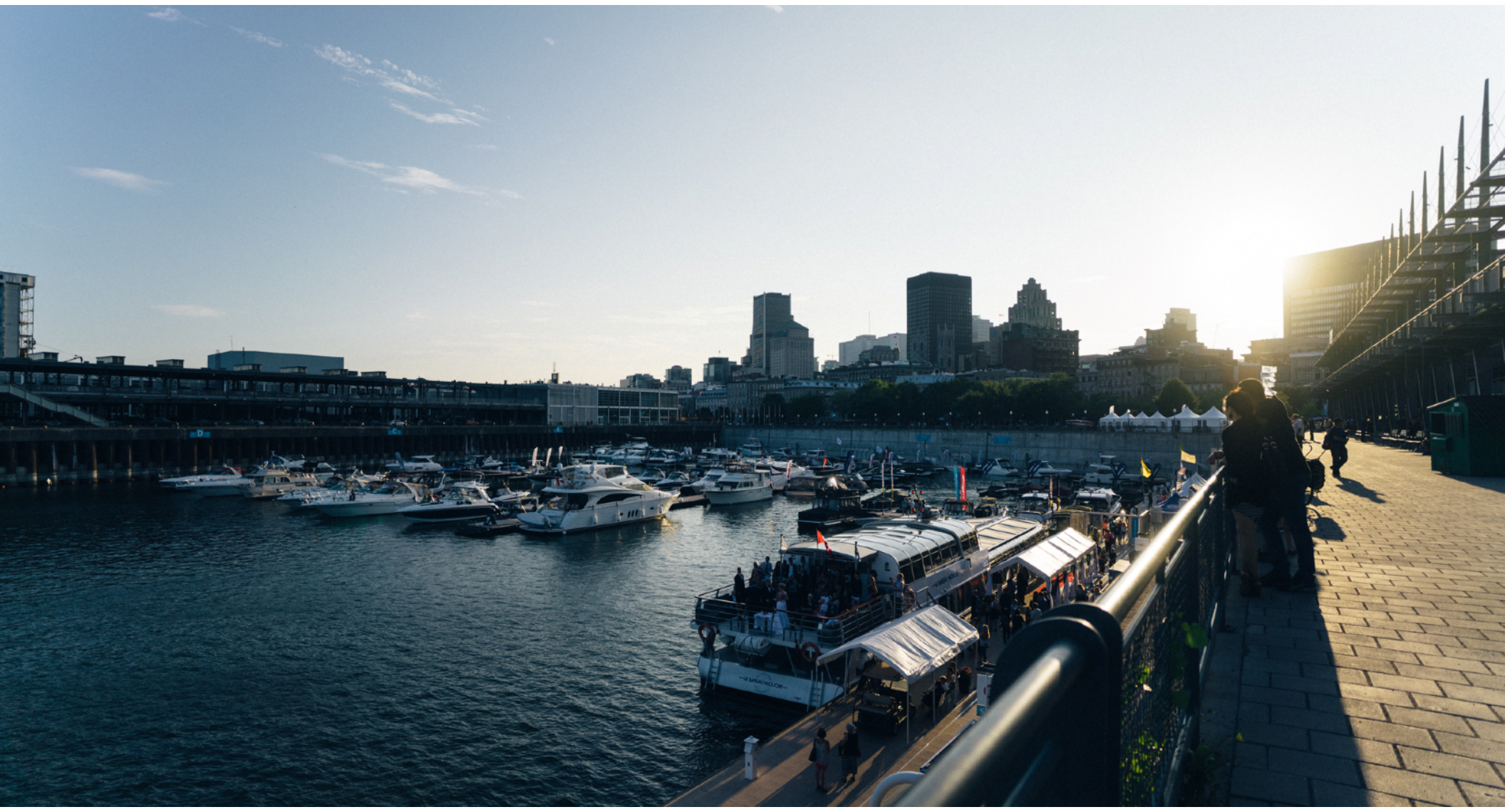


C Series Water Ingestion Test
Image courtesy of Bombardier Inc.

Course Outline

- **Module 1: Aeroplane Design Process**
    - Design Phases and Exit Gates
    - Aircraft General Configuration Selection
    - Aircraft Performance and Sizing Design Drivers
    - Aircraft Stability & Control and Sizing Design Drivers
- **Module 2: Certification Process**
    - Accidents and Civil Aeroplane Certification
    - Part 25 Certification Requirements
    - Special Conditions
    - Change Product Rule (CPR)
    - General Compliance Plan and Means of Compliance
    - Certification Reports and Findings of Compliance
- **Module 3: Flight Test Principles**
    - The Atmosphere
    - Air Data Basics
    - Weight, Center of Gravity and Inertia Basics
    - Structural Envelope Basics
    - General Aircraft Performance Concepts
    - Aircraft Stability and Control Concepts
- **Module 4: Flight Test Aircraft Configuration**
    - Production Representative Aircraft
    - Instrumentation Requirements and Sensors
    - Special In-Flight Measurement Techniques & Capabilities
        - Aircraft Weight and Center of Gravity Control
        - Aircraft Time-Space Positioning
        - Engines Thrust
        - Emergency Egress Systems
        - Stall and Spin Recovery System
- **Module 5: Flight Envelope Expansion & Development Testing**
    - Restrictions and Special Instructions (RSI's)
    - Altitude and Speed Envelope
    - Normal Acceleration, Angle of Attack and Sideslip Envelope
    - Weight and Center of Gravity Envelope
- **Module 6: Air Data Calibration Test Procedures Guidelines**
- **Module 7: Performance Test Procedures Guidelines**
    - Take-off
    - Climb
    - Landing
    - Wet and Contaminated Runways
    - Gravel Runways
    - Steep Approach and Landing
- **Module 8: Controllability and Maneuverability Test Procedures Guidelines**
    - Controllability
    - Trimmability
    - Static Stability
    - Stalls and Stall Warning
    - Ground Handling and Crosswind Takeoff and Landing
    - High Speed Characteristics
    - Aircraft Handling Qualities Rating Method
    - Systems Failures Affecting Handling Qualities and Performance
    - Firefighting Airtanker Load Dropping
- **Module 9: Flight in Icing conditions**
    - Effects of In-Flight Icing
    - Icing Accidents
    - Icing Envelopes
    - Artificial Ice Shapes Testing
    - Natural Icing Testing
    - De-Icing/Anti-Icing Fluids Take off
- **Module 10: Engine and Systems Testing**

Experience Montreal



Old Port of Montreal
Photo by Dillan Choiniere on Unsplash

Instructor's Biographies

J.C.T. (Jim) Martin
J.C.T. (Jim) Martin is the retired Superintendent of Flight Test Engineering at Transport Canada Aircraft Certification where he was involved in multiple aircraft flight test certification activities as well as taking a leading part on international harmonization of certification requirements and associated guidance. He has a B.Sc. in Aeronautical Engineering from the Queen's University of Belfast in 1969 and is a Graduate Flight Test Engineer of the Empire Test Pilot's School in 1976. Prior to joining Transport Canada he worked in the UK on military aircraft flight testing and in Canada/USA as a Flight Test Engineer on the initial Canadair CL-600 Challenger flight test program. He has over 44 years experience as a Flight Test Engineer and continues to be active in certification projects and instructing on civil certification flight test. He is a Design Approval Representative (DAR) with Transport Canada, Flight Test Analyst (Aircraft Performance and Stability and Control). He is also the recipient of the Canadian Aeronautics and Space Institute (CASI) McCurdy Award in 2006.

Hany Sadek
Hany Sadek is the retired Senior Engineering Advisor at Bombardier Aerospace where he was involved in design, integration, wind tunnel testing, flight testing and certification of several Bombardier aircraft development programs. He has a M.Sc. in Aerospace Engineering from the University of Toronto in 1983 and a B.Sc. in Aeronautical Engineering from Cairo University in 1974. He has over 35 years experience as a Flight Sciences Engineer and continues to be active in aircraft development projects and instructing on aircraft design and civil certification flight test. He is a Design Approval Representative (DAR) with Transport Canada, Flight Test Analyst (Aircraft Performance and Stability and Control).

Housing

Optional housing is available in the Grey Nuns Residence, steps away from the Engineering, Computer Science and Visual Arts Integrated Complex.
Visit **http://concordia.ca/campus-life/residences/admissions/benefits/grey-nun.html**

Montreal Skyline
Photo by Warren Wong on Unsplash