

Inflight Icing and Its Effects on Aircraft Handling Characteristics

September 21 - 24, 2010

Course Director:

Mr. B. Martos

Course Description

This course will consist of a ground school covering all pertinent aspects of aircraft icing, and use of two simulation devices to provide practical training and experience with icing effects on aircraft performance, stability and control, and handling qualities. One simulator will provide attendees with the necessary background to NASA's Ice Contamination Flight Training Device (ICEFTD), and its use in the development of ICEPro. The other, which is NASA's ICEFTD, will provide a unique opportunity for course attendees to experience the effects of icing on performance and aircraft handling qualities in a scenario based pilot training format. Participation in simulator training is limited to 16 students, but an unlimited number of individuals may attend the Tuesday and Wednesday ground school and LEWICE 2D / 3D training at a reduced fee and observe the simulation sessions. A combination of guest lecturers and UTSI staff, who are experts in various fields of icing technology, flight testing, and flight operations, will provide a comprehensive curriculum covering the following subject matter:

- Icing Meteorology including Supercooled Large Droplet (SLD) icing
- Ice shape formations and how they relate to the physical properties of icing clouds
- Aerodynamic effects of icing on airfoils
- Practical applications of aircraft stability control and performance to selected icing certification testing
- Flight test results of icing effects on aircraft performance, stability and control, including SLD and Ice Contaminated Tailplane Stall
- Icing related upsets
- Methods and facilities for icing simulation: computational fluid dynamics codes (LEWICE and LEWICE 3D), wind tunnels, airborne tankers
- FAR 23/25 icing certification requirements including discussion of AC 25-25
- Simulator training to provide practical applications for flight test planning and execution in the context of experiencing the unique affects of icing on aircraft handling characteristics

Course Fee: \$ 1,899.00

Course Fee AIAA Member: \$ 1,709.10