AW4 – Environmental certification

From the Advanced Master ASAA (Aviation Safety Aircraft Airworthiness)

Key elements

Dates:

4 - 7 February 2020

Duration:
21 hours

For whom:
recent graduates, jobseekers and experienced employees

Location:
ISAE-SUPAERO, Toulouse

Course fees: **2 000 €**

Language: **English**

Highlights

- Environmental protection
- Icing, lightning and HIRF
- Certification strategies

This module provides the physics and aeronautical background regarding environmental protection (noise, emissions), icing and lightning phenomena, and electromagnetic hazards. It defines and explains the associated objectives, certification processes and requirements as per authorities' regulations and means of compliance.

Prerequisites

- Aircraft and engines architecture and systems
- Knowledge of aircraft certification process and procedures

Learning objectives

After completing this course, participants will be able to:

- Describe the phenomenology, physics and hazards relating to icing, lightning, high-intensity radiated field, noise and emissions;
- Determine and implement certification strategies, processes and requirements applicable for icing, lightning, high-intensity radiated field, noise and emissions when certifying an aeronautical product;
- Describe technological evolutions to improve flight safety and decrease environmental impact of aviation;
- Collect and analyze in-depth and autonomously relevant regulatory certification documents for icing, lightning, high-intensity radiated field and environmental protection.

Practical information and registration

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Course content

Icing:

- Icing phenomena and impact on flight safety
- Certification requirements for icing conditions

Lightning:

- Lightning phenomenology - Direct and Indirect effects testing (DO-160 sect. 22&23)
- Aircraft level safety analysis and protection against lightning – Certification strategy – Standardization

Electromagnetic Hazards and High-Intensity Radiated Field (HIRF):

- HIRF phenomenology and associated risks
- HIRF certification strategy

Aircraft Noise:

- Acoustics – Noise quantification – Noise sources
- Aircraft noise certification
- Noise abatement procedures

Aircraft and engine emissions:

- Pollutants emissions – Air quality
- ICAO annex 16, regulatory emission levels and associate compliance demonstration
- Technological evolutions