

# EASA Part 21 Design Engineering

## Part-time Postgraduate Module

### Outline:

This part-time postgraduate module will be delivered by Atlantic Aviation Group (AAG) in conjunction with the University of Limerick (UL). The aim is to provide students with the concepts and processes involved in the design and certification of aircraft modifications, with focus on the European Aviation Safety Agency (EASA) Certification Specification (CS) for large aeroplanes (EASA CS-25).

To suit working Aviation professionals, delivery is a blend of face-to-face tutorials/workshops supported by online learning.

The module offers a detailed presentation and analysis of the key functions performed within EASA Design Organisations, with an emphasis on the technical disciplines required for changes to Type Certificates (TCs) of large aeroplanes. Moreover, the students will learn how to apply the essential processes which are necessary for managing effectively those design changes within the EASA environment.

### Target Group:

- Professionals working or intending to work in: Part 21 Design Organisations / Part M Organisations / Part 145 Organisations; Aviation Technical Service Organisations needing to understand the Part 21 Design change process.
- New Engineering Graduates seeking to enter this sector.

### Assessment:

The module will be assessed through 100% continuous assessment, using sample modifications and the processes discussed during the course lectures assessed against the legislative and certification requirements laid down by EASA. The assessment will include: One individual report (40%) and one group project (60%).

### Accreditation:

University of Limerick, NFQ Level 9 (Postgraduate) accredited Module - 6 ECTS.

### Course Content:

- **Airworthiness Framework:** The Regulatory Authorities and an overview of the EASA Part 21 regulation and EASA CS-25.
- **EASA Part 21 Regulation:** Regulatory requirements of EASA Part 21 in relation to Design Organisation Approvals (DOA); Requirements of each of the paragraphs of Subpart J; Roles and responsibilities of the Office of Airworthiness, Compliance Verification Engineers, Design Office, Design Engineers, and the Independent Monitoring function; Processes involved in the classification of a design change or repair; Differences between minor and major changes and repairs; Processes and procedures in classifying and approving changes repairs.

- Certification Specifications for Large Aeroplanes: Evolution and development of EASA Certification Specifications; Content of and evolution of CS-25; Content of and usage of the various CS-25 Subparts; Content of and usage of the various CS-25 Appendices.
- Demonstration of Compliance: The use of the Certification Plan; Processes involved in the compilation of the Compliance Record; Requirement for and development of test programmes; Requirement for and development of equipment assessment; Requirement for and development of Electrical Wiring Interconnect System (EWIS); Requirement for and development of Operational Suitability Data (OSD).

### **Price Per Participant:**

Please contact the Atlantic Aviation Institute for pricing

### **Delivery Method:**

Delivery will be a blend of face-to-face tutorials/workshops and distance learning. The tutorials/workshops will include lecture notes on power point slides, demonstrated examples, and sample projects for students. The distance learning will be a combination of recommended reading (individual) and sample project assignments (groupwork).

### **Module Instructors and Coordinator:**

- Mr Nicholas Holdaway, Instructor, Head of Airworthiness - Atlantic Aviation Group
- Mr Colm Carty, Instructor, Engineering Manager & Head of Design Organisation - Atlantic Aviation Group
- Dr Kyriakos I. Kourousis, Module Coordinator, Senior Lecturer (Airworthiness) - University of Limerick

### **Module Dates:**

**Duration: 9:00 a.m. – 4:30 p.m.**

- **Day 1:** Friday 11th May, University of Limerick
- **Day 2:** Saturday 12<sup>th</sup> May, University of Limerick
  
- **Day 3:** Thursday 24<sup>th</sup> May, Atlantic Aviation Institute
- **Day 4:** Friday 25<sup>th</sup> May, Atlantic Aviation Institute

### **How will this course benefit me?**

There is a large need for competent Part 21 design personnel in the rapidly growing aviation industry, with 28% of EASA member states operating 80% of EASA Part 21 Design Organisations. This postgraduate module will focus on the EASA Certification Specification (CS) for large aeroplanes (EASA CS-25), concepts and processes involved in the design and certification of aircraft modifications, analysis of the key functions performed within EASA Design Organisations, application of essential processes necessary for effectively managing design changes within the EASA environment and knowledge of relevant Airworthiness Legislation.

### **Sign Up:**

Contact Aileen Cherry at the Atlantic Aviation Institute

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