EASA Part 66 – Module 5 – Digital Techniques / Electronic Instrument Systems – 4 Days

Introduction

Module 5 covers the following subjects – Electronic Instrument Systems, Data Conversion and Buses, Basic Computers, and Processors. Fibre Optics, ESD, Software Management, EM Environment, and Typical Electronic/Digital Aircraft Systems

On completion of the module you will be able to sit a multi-choice exam and on passing will receive a completion certificate.

All Part 66 training courses are provided under the direct control, oversight, and guidance of EAI.

European Aviation Institute (EAI) is an EASA Part 147 approved Maintenance Training Organization (MTO) with Certificate of Approval No RO.147.0003. Providing Part 147 and other specialized "non-EASA Part 147" training courses. Providing both integrated and modular packaged quality training solutions from our center in Bucharest or at other preferred locations.

European Aviation Institute was established with the goal of raising the standards of aeronautical training, with access to skilled instructors, the focus is on delivering best-in-class skills to existing and new generations of aviation technicians and engineers.

Who is the course for?

This course is suitable for Licensed Aircraft Engineers who are essential to maintain the global aviation industry. Employment in the field of aviation offers the potential of a wide and varied career with an attractive salary.

What is the Benefit of this Training – What will I learn?

The course will provide you with the knowledge and skills necessary to maintain and troubleshoot electronic instrument systems in aircraft and can lead to improved job prospects, career advancement opportunities, and compliance with aviation regulations.

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email team@sassofia.com

Date	On Demand
Category	Personal Development
Venue	On Demand
Level	Basic
Price	On Demand

Detailed Content / Topics - The following Subjects will be addressed

1. Electronic Instrument Systems
– Typical systems arrangements and cockpit layout of electronic instrument systems.

2. Numbering Systems
– Numbering systems: binary, octal, and hexadecimal;
– Demonstration of conversions between the decimal and binary, octal and hexadecimal systems, and vice versa.

3. Data Conversion
– Analogue Data, Digital Data; Operation and application of analog to digital, and digital to analog converters, inputs, and outputs, limitations of various types.

4. Data Buses
– Operation of data buses in aircraft systems, including knowledge of ARINC and other specifications. Aircraft Network/Ethernet.

5. Logic Circuits
– Identification of common logic gate symbols, tables, and equivalent circuits; Applications used for aircraft systems, schematic diagrams.
– Interpretation of logic diagrams.

6. Basic Computer Structure
– Computer terminology (including bit, byte, software, hardware, CPU, IC, and various memory devices such as RAM, ROM, and PROM);
– Computer technology (as applied in aircraft systems).
– Computer-related terminology;
– Operation, layout, and interface of the major components in a microcomputer including their associated bus systems;
– Information contained in single and multi-address instruction words;
– Memory-associated terms;
– Operation of typical memory devices;
– Operation, advantages, and disadvantages of the various data storage systems.

7. Microprocessors
– Functions performed and overall operation of a microprocessor;
– Basic operation of each of the following microprocessor elements: control and processing unit, clock, register, and arithmetic logic unit.

8. Integrated circuits
– Operation and use of encoders and decoders;
– Function of encoder types; Uses of medium, large, and very large scale integration.

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Detailed Content / Topics - The following Subjects will be addressed

9. Multiplexing
– Operation, application, and identification in logic diagrams of multiplexers and demultiplexers.

10. Fibre Optics
– Advantages and disadvantages of fiber optic data transmission over electrical wire propagation;
– Fibre optic data bus;
– Fibre optic-related terms;
– Terminations;
– Couplers, control terminals, remote terminals;
– Application of fiber optics in aircraft systems

11. Electronic Displays
– Principles of operation of common types of displays used in modern aircraft, including Cathode Ray Tubes, Light Emitting Diodes, and Liquid Crystal displays.

12. Electrostatic Sensitive Devices
– Special handling of components sensitive to electrostatic discharges;
– Awareness of risks and possible damage, component, and personnel anti-static protection devices.

13. Software Management Control
– Awareness of restrictions, airworthiness requirements, and possibly catastrophic effects of unapproved changes to software programs.

14. Electromagnetic Environment
– Influence of the following phenomena on maintenance practices for electronic systems:
– EMC-Electromagnetic Compatibility EMI-Electromagnetic Interference HIRF-High Intensity Radiated Field Lightning/lightning protection.

15. Typical Electronic / Digital Aircraft Systems
The general arrangement of typical electronic/digital aircraft systems and associated BITE (Built In Test Equipment) such as:

– For B1 and B2 only: ACARS-ARINC Communication and Addressing and Reporting System EICAS-Engine Indication and Crew Alerting System FBW-Fly-by-Wire FMS-Flight Management System IRS-Inertial Reference System;
– For B1, B2, and B3: ECAM-Electronic Centralised Aircraft Monitoring EFIS-Electronic Flight Instrument System GPS-Global Positioning System TCAS-Traffic Alert Collision Avoidance System Integrated Modular Avionics Cabin Systems Information Systems.

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Target Groups

Mechanics & Technicians wishing to develop a detailed understanding of subject material in preparation for the sitting of the EASA Part 147 Module examination.

Pre-requisites

This is a review course so it is important that you spend time studying the material in preparation for your examination – see also www.easaonline.com Part 66 where you can enroll to review the material and practice the examination.

Learning Objectives

To support the achievement of gaining credit in the EASA Part 66 Basic Licence Module Exam.

What do People Say about Sofema Aviation Services Training?

"I found satisfying answers to all my questions."
"The instructor demonstrated very deep knowledge of the subject."
"The length of the course fit my needs and expectations."
"The content was really effective, I gained a lot of new knowledge."
"The practical examples were perfectly delivered."

Duration

4 days – Start at 09.00 and finish at 17.00, with appropriate refreshment breaks.
To register for this training, please email team@sassofia.com or Call +359 28210806

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