Aviation Regulatory Experts

SOFEMA AVIATION SERVICES

EASA Part 66 – Module 4 – Electronic Fundamentals – 2 Days

Introduction

Module 4 covers Electronic Fundamentals including Semiconductors, Diodes, Transistors, IC, and Printed Circuit Boards PCB. Servomechanisms, Principles of Synchronic Operation. Inductance & Capacitance Transmitters. Construction operation and use of the following synchronic system components

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 the European Aviation Institute (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?

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

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www.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

Semiconductors

1.1. Diodes

– Diode symbols;

– Diode characteristics and properties;

– Diodes in series and parallel;

– Main characteristics and use of silicon-controlled rectifiers (thyristors), light emitting diode, photo conductive diodes, varistors, and rectifier diodes;

– Functional testing of diodes;

– Materials, electron configuration, electrical properties;

– P and N type materials: effects of impurities on conduction, majority, and minority characters;

– PN junction in a semiconductor, development of a potential across a PN junction in unbiased, forward biased and reverse biased conditions;

– Diode parameters: peak inverse voltage, maximum forward current, temperature, frequency, leakage current, power dissipation;

– Operation and function of diodes in the following circuits: clippers, clampers, full and half wave rectifiers, bridge rectifiers, voltage doublers, and triplers;

– Detailed operation and characteristics of the following devices: silicon-controlled rectifier (thyristor), light emitting diode, Schottky diode, photoconductive diode, varactor diode, varistor, rectifier diodes, Zener diode.

1.2. Transistors

– Transistor symbols;

– Component description and orientation;

– Transistor characteristics and properties;

– Construction and operation of PNP and NPN transistors;

– Base, collector, and emitter configurations;

– Testing of transistors;

– Basic appreciation of other transistor types and their uses;

– Application of transistors: classes of amplifier (A, B, C);

– Simple circuits including bias, decoupling, feedback and stabilization;

– Multistage circuit principles: cascades, push-pull, oscillators, multivibrators, flip-flop circuits.

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Detailed Content / Topics - The following Subjects will be addressed

1.3. Integrated Circuits

– Description and operation of logic circuits and linear circuits and operational amplifiers;

– Description and operation of logic circuits and linear circuits;

– Introduction to operation and function of an operational amplifier used as: integrator, differentiator, voltage follower, and comparator;

– Operation and amplifier stages connecting methods: resistive capacitive, inductive (transformer), inductive resistive (IR), direct;

– Advantages and disadvantages of positive and negative feedback.

2. Printed Circuit Boards

– Description and use of printed circuit boards.

3. Servomechanisms

– Understanding of the following terms: open and closed loop systems, feedback, follow-up, analog transducers;

– Principles of operation and use of the following synchro system components and features: resolvers, differential, control and torque, transformers, inductance, and capacitance transmitters;

– Understanding of the following terms: open and closed loop, follow up, servomechanism, analog, transducer, null, damping, feedback, dead band;

– Construction operation and use of the following synchro system components: resolvers, differential, control and torque, E and I transformers, inductance transmitters, capacitance transmitters, synchronous transmitters; Servo mechanism defects, reversal of synchro leads, hunting.

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.

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SOFEMA AVIATION SERVICES

Learning Objectives

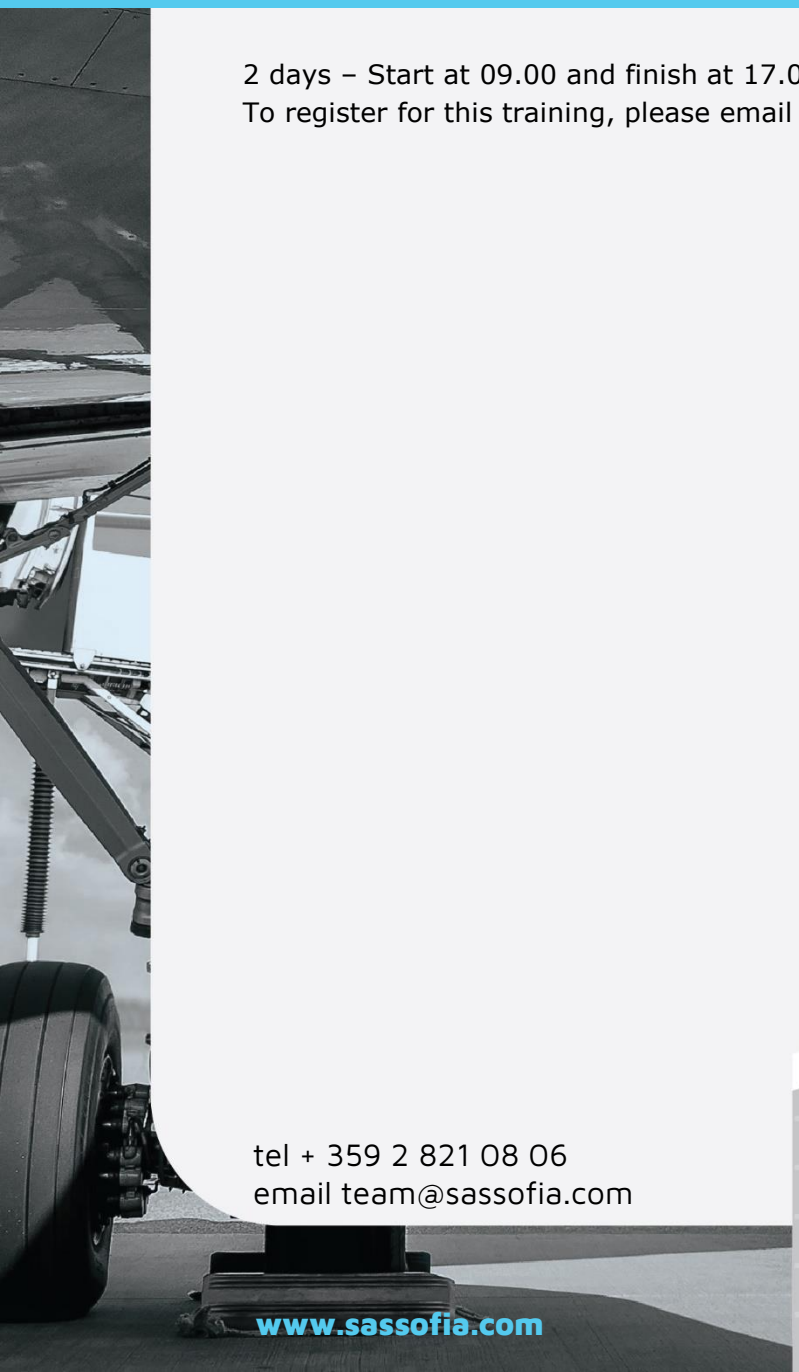
To support the achievement of gaining credit in the EASA Part 66 Basic Licence Module Exam.

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

2 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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