

# EASA Part 66 – Module 2 – Physics – 3 Days

## Introduction

Module 2 Covers Physics and looks at Fundamental Units, Matter, Mechanics Static, Kinetic, Dynamic, Fluid Dynamics & Thermodynamics. Optics & Sound & Wave Motion.

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?

The course is designed to provide you with a thorough understanding of the fundamental principles of physics and their application to aircraft maintenance. It will provide you with a strong foundation in the fundamental principles of physics and their application to aircraft maintenance.

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<b>Date</b>	On Demand
<b>Category</b>	Personal Development
<b>Venue</b>	On Demand
<b>Level</b>	Basic
<b>Price</b>	On Demand

## Detailed Content / Topics - The following Subjects will be addressed

### 1. Introduction

### 2. Matter

- Nature of matter: the chemical elements, the structure of atoms, molecules;
- Chemical compounds;
- States: solid, liquid, and gaseous;
- Changes between states.

### 3. Mechanics

#### 3.1. Statics

- Forces, moments, and couples, representation as vectors;
- Centre of gravity;
- Elements of the theory of stress, strain, and elasticity: tension, compression, shear, and torsion;
- Nature and properties of solid, fluid, and gas;
- Pressure and buoyancy in liquids (barometers).

#### 3.2. Kinetics

- Linear movement: uniform motion in a straight line, motion under constant acceleration (motion under gravity);
- Rotational movement: uniform circular motion (centrifugal/centripetal forces);
- Periodic motion: pendular movement; Simple theory of vibration, harmonics, and resonance;
- Velocity ratio, mechanical advantage, and efficiency.

#### 3.3. Dynamics

- Mass;
- Force, inertia, work, power, energy (potential, kinetic, and total energy), heat, efficiency;
- Momentum; conservation of momentum;
- Impulse;
- Gyroscopic principles;
- Friction: nature and effects, coefficient of friction (rolling resistance).

#### 3.4. Fluid dynamics

- Specific gravity and density;
- Viscosity, fluid resistance, effects of streamlining;
- Effects of compressibility on fluids;
- Static, dynamic and total pressure: Bernoulli's Theorem, venture

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## Detailed Content / Topics - The following Subjects will be addressed

### 4. Thermodynamics

- Temperature: thermometers and temperature scales: Celsius, Fahrenheit and Kelvin;
- Heat definition;
- Heat capacity, specific heat;
- Heat transfer: convection, radiation, and conduction;
- Volumetric expansion;
- First and second law of thermodynamics;
- Gases: ideal gases laws; specific heat at constant volume and constant pressure, work done by expanding gas;
- Isothermal, adiabatic expansion and compression, engine cycles, constant volume and constant pressure, refrigerators, and heat pumps;
- Latent heat of fusion and evaporation, thermal energy, heat of combustion.

### 5. Optics (Light)

- Nature of light; speed of light;
- Laws of reflection and refraction: reflection at plane surfaces, reflection by spherical mirrors, refraction, lenses;
- Fibre optics

### 6. Wave Motion and Sound

- Wave motion: mechanical waves, sinusoidal wave motion, interference phenomena, standing waves;
- Sound: speed of sound, production of sound, intensity, pitch, and quality, Doppler effect.

## 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](http://www.easaonline.com) Part 66 where you can enroll to review the material and practice the examination.

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## 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

3 days – Start at 09.00 and finish at 17.00, with appropriate refreshment breaks.  
To register for this training, please email [team@sassofia.com](mailto:team@sassofia.com) or Call +359 28210806

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