EUROSAE
ADVANCED TRAINING

AED008D

Nombre de jours
Blended course with tutored

INTRODUCTION TO FLIGHT MECHANICS

2280 € HT *

But

This training gives an overview of flight mechanics. It is proposed through blended learning, a series of lectures delivered with tutored distant learning, through videos, quiz and exercises. Then, a one day session at EUROSAE training center in Toulouse is proposed, including a flight on a light instrumented aircraft and a guided tutorial dedicated to flight data analysis.

Esprit Général

Blended learning with tutored distant and in presence learning.
- Distant learning: The first part of this training is available through the tutored online Learning platform, allowing to learn at your own pace, whenever you want, wherever you want.
- Classroom learning: Part of the training is in EUROSAE Toulouse training center (1 day), allowing to deepen certain aspects and to benefit from concrete experiments with a flight simulator and a test flight.
- Tutoring: A personal tutoring is set up throughout the training to help you understand the concepts and ask the questions you want.
- Certification: A certificate of competence is delivered at the end of training to those who pass all the tests offered during the course.

Prérequis

Niveau du stage : Intermediate

Scientific background
Language : English

Durée et emploi du temps

Blended course with tutored distant learning and one day session in the training center.

Eric POQUILLON
Flight Test Engineer / Flight Dynamics Professor

Date
TOULOUSE 27 Mai 2024

Catalogue Complet des formations

* Conditions Générales

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Sommaire

- **The airplane and its environment**
  - **Context of Flight Mechanics**

This section is dedicated to the general context of the activity. It concentrates first on the aircraft itself, how to describe properly the various parts and measure the main characteristics like the span or the reference area. The basics of the atmosphere physics are provided, focusing on the effect of altitude, and the differences between standard and actual atmospheres.

- **Basics of Flight Mechanics**
  - Concepts and Foundations

After a reminder on Newton's laws applied to an airplane, the basic notions of flight mechanics are introduced, from the principal angles describing the attitude or the flight path, to the concepts of total energy, total height or load factor. The fundamental lift and propulsion equations are introduced.

- **Lift and Trajectory**
  - Lift modelling and trajectory

This section concentrates on the lift modelling and its effect on the control of the trajectory. The limitation of lift due to stall and Mach number are explored and the concept of flight domain is exposed. The basic mechanisms of trajectory control, in the vertical plan or during a turn, are analyzed.

- **Energy management**

This last section is dedicated to energy management, i.e. speed and altitude control. The various sources of drag are described and modelled, as well as thrust origin, and evolution with speed and altitude. Important concepts like flight regime or propulsion ceiling are introduced.

Pour faire une demande

Bulletin d'inscription

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