THE1 - Helicopter understanding

From the MS HADA
(Helicopter, Aircraft and Drone Architecture)

Key elements

Period: **February**

Estimated duration: **30 hours**

For whom:
recent graduates, jobseekers and experienced employees

Location:
AIRBUS HELICOPTERS, Marignane

Language: **English**

Highlights

- Rotorcraft flight mechanics
- Rotorcraft design
- Helicopter aeroacoustics

This module provides a broad overview of all helicopter aerodynamic principles and a thorough dive into rotorcraft knowledge.

Learning objectives

After completing this course, participants will be able to:

- explain and discuss the aerodynamic principles of rotors, flight qualities, performance levels, noise pollution and pre-design methods.

Prerequisites

- General knowledge in flight mechanics
- Basics of aerodynamics

Information and registration

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Course content

- Introduction to rotorcraft
- Principles of helicopter Aerodynamics
- Introduction to rotor dynamics
- High-speed helicopters and hybrid configurations
- Rotorcraft pre-design methods
- Main rotor & tail rotor sizing
- Helicopter flight mechanics
- Helicopter handling qualities
- Helicopter performance assessment methods
- Flight & mission performance
- Rotorcraft noise certification
- Principles of rotorcraft aeroacoustics
- Main rotor noise, tail rotor noise, engine noise
- Ground noise footprint

Teaching methods

Teaching methods	Yes
Lectures / tutorial	X
Collaborative learning	
Flipped classroom	
Blended learning (online and face to face)	
Learning by doing	X
Project-based	
Simulation	
Case study	X

Assessment

Written exam