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.

Prerequisites
- General knowledge in flight mechanics
- Basics of aerodynamics

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.

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

<table>
<thead>
<tr>
<th>Teaching methods</th>
<th>Yes</th>
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<tbody>
<tr>
<td>Lectures / tutorial</td>
<td>X</td>
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<tr>
<td>Collaborative learning</td>
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<td>Flipped classroom</td>
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<td>Blended learning (online and face to face)</td>
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<td>Learning by doing</td>
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<td>Project-based</td>
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<td>Simulation</td>
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<td>Case study</td>
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Assessment

Written exam