HE2 - Helicopter Engineering 2

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

Key elements

Period: **March to April**

Estimated duration: **55 hours**

For whom:
Recent graduates, jobseekers and experienced employees

Location:
AIRBUS HELICOPTERS, Marignane

Language: **English**

Highlights

- Helicopter Avionics & flight control Systems
- Cockpit Cognitive Ergonomics
- Certification of helicopters and prototyping
- Helicopter maintenance

This certificate provides a comprehensive knowledge of helicopter avionics systems and flight control systems. It also tackles to key topic of certification, through the analysis of prototypes, tests and production that are implemented by all manufacturers who aim to achieving quality standards.

Learning objectives

After completing this course, participants will be able to:

- Describe and explain the design methodology for avionic systems and the cockpit cognitive ergonomics.
- Describe and discuss the manufacturing of a helicopter from prototype adjustment to large-scale production.

Prerequisites

- Basics of aerospace engineering
- Basic knowledge in flight mechanics

Information and registration

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Course content

THE4 – Helicopter avionic systems (31 h):

- Helicopter systems
- System tools and methodology
- Operating safety
- Maintainability/testability
- Flight control & automatic pilot
- Civil missions and associated systems
- Fly-by-wire control
- Generalized active control
- Cockpit ergonomics
- Compatibility with the use of light-intensifier tubes
- Piloted simulation / training-test simulation
- Navigation - Air control
- Navigation and guidance for helicopters
- Radio communication, navigation and identification
- Equipment / Qualification
- System integration testing

THE5 – Helicopter: Prototypes, tests, production, quality (26 h):

- Certification of helicopters
- Role of prototype manufactures in the development and industrialization process.
- Ground & in-flight tests
- Cost analysis and methods
- Quality insurance
- Computer-aided production management
- Helicopter maintenance
- Site visit
- Purchasing and subcontracting
- Inspection

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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 exams