HAD500 - Drone systems: design & mission

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

Key elements

Period: **January**

Estimated duration: **25 hours**

For whom: **recent graduates, jobseekers and experienced employees**

Location: **ISAE-SUPAERO, Toulouse**

Language: **English**

Highlights

- A review of UAS in the world
- Designing Unmanned Aerial Systems
- Drone missions

This module provides a complete overview on Unmaned Aerial Systems, with a good balance between theoretical concepts and use cases approach, be that on civil or military operations.

Learning objectives

After completing this course, participants will be able to:

- analyze a full Unmanned Aerial System (UAS) in response to technical requirements.

Prerequisites

- Basic knowledge in Aeronautics
- System design knowledge

Information and registration

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Course content

- UAS markets, missions and roadmaps
- Overview of UAS in the world
- Short-range UAS, VTOL UAS, MALE, HALE, UCAV
- Civil Drone: surveillance , inspection , delivery, Taxi…
- Consumer and prosumer drones
- Optionally-piloted vehicles (OPV)
- Introduction to UAS design
- Safety challenge and regulations
- Flight avionics
- Mission system & data links: LOS, BLOS, SATCOM, RVT, LTE
- Sense & avoid capabilities
- Payload selection
- Ground control station
- Introduction to micro- and mini-UAS.

Teaching methods

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

Assessment

- Oral exam