HAD501 - Payload & sensors for UAVs
From the MS HADA (Helicopter, Aircraft and Drone Architecture)

This module illustrates the various payloads and sensors embedded on UAVs fitting with operational missions.

**Prerequisites**
Master level

**Highlights**
- EO/IR sensors for UAVs
- Laser imaging techniques
- Navigation through vision

**Key elements**
- **Period:** February
- **Estimated duration:** 25 hours
- **For whom:** recent graduates, jobseekers and experienced employees
- **Location:** ISAE-SUPAERO, Toulouse
- **Language:** English

**Learning objectives**
After completing this course, participants will be able to:
- Recognize different kinds of sensors for UAVs;
- Use laser imaging techniques.

**Information and registration**
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Course content

- Introduction to usual sensors and payload for UAVs
- Review of EO/IR sensors, radars
- Review of laser range finders, LiDAR, laser imaging techniques
- Review of passive imaging techniques
- Image processing
- Autonomous navigation based on visual sensors: an introduction to navigation through vision and SLAM
- Payload and sensors for UAVs: Applications
- Visit of DELAIR company

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