220145 - Uav Fundamentals & Operations

Coordinating unit: 205 - ESEIAAT - Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 758 - EPC - Department of Project and Construction Engineering
Academic year: 2018
Degree: BACHELOR'S DEGREE IN AEROSPACE TECHNOLOGY ENGINEERING (Syllabus 2010). (Teaching unit Optional)
BACHELOR'S DEGREE IN AEROSPACE VEHICLE ENGINEERING (Syllabus 2010). (Teaching unit Optional)
ECTS credits: 3
Teaching languages: English

Teaching staff
Coordinator: Aitor Martin

Teaching methodology
The course is developed on one side through lectures including theoretical sessions imparted with the aid of presentations and videos, and on the other side through dynamic workshops, oral expositions and discussions.

Learning objectives of the subject
The main aim of this course is provide students a comprehensive knowledge of the unmanned aerial vehicles (UAV/RPAS) industry. Students will learn the basic fundamentals about UAV/RPAS regulations, operations and business.

Study load

<table>
<thead>
<tr>
<th>Total learning time: 75h</th>
<th>Hours large group: 30h</th>
<th>40.00%</th>
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<tr>
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<td>Self study: 45h</td>
<td>60.00%</td>
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## Module 1: UAV Regulatory Framework

**Description:**
- Comprehensive understanding of current regulation related to unmanned aircraft certification and operations.

**Related activities:**
- Activity 1 - International rules analysis

**Learning time:** 20h
- Theory classes: 10h
- Self study: 10h

## Module 2: Unmanned Aircraft System

**Description:**
- Analysis of the UAV as a system that includes the aerial platform (the aircraft itself) but also the C3 systems, the ground station and the support equipment.

**Related activities:**
- Activity 2 - Aircraft type models
- Activity 3 - Aircraft system description

**Learning time:** 40h
- Theory classes: 15h
- Self study: 25h

## Module 3: Unmanned Aircraft Business

**Description:**
- The UAV is just a vehicle to carry a payload, while the final applications related to this payload is the real business associated to this technology.

**Related activities:**
- Activity 4 - Payload and applications

**Learning time:** 15h
- Theory classes: 5h
- Self study: 10h
Qualification system

The final grade depends on the following assessment criteria:
- Activity 1, weight: 25%
- Activity 2, weight: 25%
- Activity 3, weight: 25%
- Activity 4, weight: 25%

Bibliography

Basic:

European RPAS regulations.

Others resources:

UAVs manufacturer websites
UAVs operators websites