Course guide
220145 - UAVF - Uav Fundamentals & Operations

Unit in charge: Terrassa School of Industrial, Aerospace and Audiovisual Engineering
Teaching unit: 758 - EPC - Department of Project and Construction Engineering.
Degree: BACHELOR'S DEGREE IN AEROSPACE TECHNOLOGY ENGINEERING (Syllabus 2010). (Optional subject).
BACHELOR'S DEGREE IN AEROSPACE VEHICLE ENGINEERING (Syllabus 2010). (Optional subject).
Academic year: 2022 ECTS Credits: 3.0 Languages: English

LECTURER

Coordinating lecturer: XAVIER ROCA RAMON
Others: Segon quadrimestre: JOSEP BRUGUERA ARNES - 1

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>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self study</td>
<td>45,0</td>
<td>60.00</td>
</tr>
<tr>
<td>Hours large group</td>
<td>30,0</td>
<td>40.00</td>
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</tbody>
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Total learning time: 75 h

CONTENTS

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

Full-or-part-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

Full-or-part-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

Full-or-part-time: 15h
Theory classes: 5h
Self study: 10h

GRADING 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.

RESOURCES

Other resources:
UAVs manufacturer websites
UAVs operators websites