

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: 2019
 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: 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

Total learning time: 75h	Hours large group:	30h	40.00%
	Self study:	45h	60.00%

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Content

<p>Module 1: UAV Regulatory Framework</p>	<p>Learning time: 20h Theory classes: 10h Self study : 10h</p>
<p>Description: - Comprehensive understanding of current regulation related to unmanned aircraft certification and operations.</p> <p>Related activities: Activity 1 - International rules analysis</p>	
<p>Module 2: Unmanned Aircraft System</p>	<p>Learning time: 40h Theory classes: 15h Self study : 25h</p>
<p>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.</p> <p>Related activities: Activity 2 - Aircraft type models Activity 3 - Aircraft system description</p>	
<p>Module 3: Unmanned Aircraft Business</p>	<p>Learning time: 15h Theory classes: 5h Self study : 10h</p>
<p>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.</p> <p>Related activities: Activity 4 - Payload and applications</p>	

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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.

Circular 328, Sistemas de aeronaves no tripuladas (UAS) [on line]. Montréal: Organización de Aviación Civil Internacional, 2011 [Consultation: 30/06/2016]. Available on: <http://www.icao.int/Meetings/UAS/Documents/Circular%20328_es.pdf>. ISBN 9789292318093.

Others resources:

- UAVs manufacturer websites
- UAVs operators websites