Unmanned aerial vehicles (UAVs)/drones

Academic Year: (2019 / 2020)   **Review date: 13-05-2020**

Department assigned to the subject: Systems Engineering and Automation Department

Coordinating teacher: MARTINEZ BORJA, ALBERTO PEDRO

Type: Electives ECTS Credits : 3.0

Year : 1 Semester : 2

OBJECTIVES

The main objectives are:

- Obtain a first knowledge on unmanned air systems (UAS) including platforms, data links, ground segment and payloads,
- Design and size a UAS for a specific set of requirements
- Implement a SWOT analysis

DESCRIPTION OF CONTENTS: PROGRAMME
   1. Types & Missions
   2. Main systems and future trends
   3. Conceptual design / Architecture (air and ground segments)
   4. Data Links (LOS & SATCOM)
   5. Payloads (EO/IR, SAR, ELS,...)
   6. SWOT Analysis

LEARNING ACTIVITIES AND METHODOLOGY
   - Basic concepts based on instructor experience on real systems design.
   - Team Challenge: UAS design for specific set of requirements
   - Students Support: 1 hour per week.

ASSESSMENT SYSTEM
   Learning is based on the execution and class presentation of a real design project.

   Class attendance and active contribution will be appreciated.

% end-of-term-examination:	0
% of continuous assessment (assigments, laboratory, practicals…):	100

BASIC BIBLIOGRAPHY
    - US - DOD Unmanned Systems Integrated Roadmap 13-38, US DOD, 2013