

Space Safety

Academic Year: (2022 / 2023)

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Department assigned to the subject: Aerospace Engineering Department

Coordinating teacher: SANJURJO RIVO, MANUEL

Type: Compulsory ECTS Credits : 3.0

Year : 1 Semester : 2

OBJECTIVES

Basic competences

CB6 To possess and understand knowledge that provides a basis or opportunity to be original in the development and / or application of ideas, often in a research context

CB7 Students must know how to apply the knowledge acquired and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study

CB8 Students must be able to integrate knowledge and face the complexity of making judgments based on information that, being incomplete or limited, includes reflections on social and ethical responsibilities linked to the application of their knowledge and judgments

CB9 Students must know how to communicate their conclusions and the knowledge and ultimate reasons that sustain them to specialized and non-specialized audiences in a clear and unambiguous way

CB10 Students must have the learning skills allowing them to continue studying in a way that will be largely self-directed or autonomous.

General competences

CG3 Ability to analyze and correct the environmental and social impact of the technical solutions of any space system

CG4 Ability to work in multidisciplinary teams in a cooperative way to complete work tasks

CG5 Ability to handle the English, technical and colloquial language.

CG6 Ability to know adequately the business context of the professional sector, as well as to know and understand the applicable legislation in the exercise of the profession

Specific competences

CE3 Ability to develop a complete system that meets the design specifications and the expectations of the interested parties. This includes the production of products; acquire, reuse or code products; integrate products in top-level assemblies; verify products against design specifications; validate the products against the expectations of the interested parties; and the transition of products to the next level of the system.

CE14 Ability to understand and apply the knowledge, methods and tools of space engineering to space surveillance and clean space.

DESCRIPTION OF CONTENTS: PROGRAMME

Common topics to all the subjects, as indicated in the learning outcomes, are related to the social and business context of space engineering.

Specific topics of each subject:

Space Security. The program of the subject includes:

- 1 Space Situational Awareness. Definition and history
- 2 Space Surveillance and Tracking
- 3 NEOs
- 4 Space Weather

LEARNING ACTIVITIES AND METHODOLOGY

Theory sessions in master classes
Problem sessions in reduced groups
Personal and group work

ASSESSMENT SYSTEM

% end-of-term-examination/test:	60
% of continuous assessment (assignments, laboratory, practicals...):	40

End-of-term exam (60%)
Continuous evaluation (40%)

In order to pass the subject, two requirements need to be met:

- 1) to have a MINIMUM mark of 4.0/10 in the end-of-term exam;
- 2) to have a minimum overall mark of 5.0/10 (weighing 60% the end-of-term exam mark and 40% the mark of the continuous evaluation).