

Academic Year: ( 2020 / 2021 )

Review date: 22-07-2020

Department assigned to the subject: Department of Bioengineering and Aerospace Engineering

Coordinating teacher: CAVALLARO , RAUNO

Type: Compulsory ECTS Credits : 2.0

Year : 1 Semester : 2

**COMPETENCES AND SKILLS THAT WILL BE ACQUIRED AND LEARNING RESULTS.**

## 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

CG1 Capacity for the formulation, critical verification and defense of hypotheses, as well as the design of experimental tests for verification.

CG2 Ability to make value judgments and prioritize in making conflicting decisions using systemic thinking.

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.

## 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.

CE5 Ability to apply and understand the knowledge, methods and tools of space engineering to the analysis and design of structures, materials and spatial mechanisms.

**DESCRIPTION OF CONTENTS: PROGRAMME**

Spacecraft Structure. The program of the subject includes:

- 1 Introduction. Structural requirements and constraints
- 2 Structural Loads: Static & Dynamic
- 3 Mechanics of Materials
- 4 Strength & Structural Life Analysis
- 4 Structural Design
- 5 Mechanisms & Deployables

**LEARNING ACTIVITIES AND METHODOLOGY**

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

## ASSESSMENT SYSTEM

### EVALUATION SYSTEMS:

#### ASSESSMENT SYSTEMS OF THE STUDY PLAN REFERRED TO SUBJECTS

SE2 Individual or group work carried out during the course

SE3 Final exam

System of Evaluation	Minimum weight (%)	Maximum weight (%)
SE2	40%	100%
SE3	0%	60%

**% end-of-term-examination:** 60

**% of continuous assessment (assignments, laboratory, practicals...):** 40