

30151 - Missiles

Información del Plan Docente

Academic Year	2018/19
Subject	30151 - Missiles
Faculty / School	179 - Centro Universitario de la Defensa - Zaragoza
Degree	457 - Bachelor's Degree in Industrial Organisational Engineering 563 - Bachelor's Degree in Industrial Organisational Engineering
ECTS	6.0
Year	4
Semester	First semester
Subject Type	Optional
Module	---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

Learning process based on...

Teaching aimed at allowing students to learn by themselves. There will be either theory sessions, at which the teacher will explain the subject, or practice sessions, at which contents will be applied to problem resolution and case study tasks.

Under the guidance and coordination of the teacher, it is pretended that the student gets used to taking a critical stance of the information received; reasoning for himself and stimulating analysis and reflection. The teacher will pose questions with the aim that students be able, by themselves, to understand the operation of the different elements under scrutiny.

Self-study is essential in the learning process of the subject since students should get used to consulting several bibliographic sources in order to extract all the needed information.

4.2.Learning tasks

Learning planing activities used in conjunction to help students to achieve the objectives ...

1) Presential learning activities (60 hours), based on:

- Theory sessions where the main concepts of the subject will be explained.
- Problem solving and case study where theory and bibliographical sources will be used.

2) No presential learning activities (90 hours), based on:

- Autonomous work of the student outside class where he should solve problems and study the available theoretical documents to consolidate knowledge.
- Possible preparation of an autonomous work.

4.3.Syllabus

Contents of the subject:

Chapter I. Introduction to missile systems.

Chapter II. Introduction to guidance and control systems.

Chapter III. Fundamentals of Aerodynamics and Structural Design.

Chapter IV. Mechanics of Flight.

Chapter V. Control systems.

Chapter VI. Missile-objective kinematics.

Chapter VII. Navigation systems.

Chapter VIII. Thermal radiation laws. Radiometry.

Chapter IX. Infrared sensor: principles of operation and components.

Chapter X. Laser: principles of operation and control techniques.

Chapter XI. Introduction to Unmanned Aerial Vehicles (UAV).

4.4.Course planning and calendar

Learning planning activities in hours

	Class hours	Outside class hours	Total hours
Masterly lesson	46	-	46
Problems / exercises solving	4	10	14
Mixed tests	6	-	6
Final exam	4	-	4
Personal learning work	-	80	80
TOTAL HOURS	60	90	150

(*) The planning table in hours is estimated, considering the homogeneity of the students.

(**) Mixed tests include short writes, oral tests and possible papers. The hours not used in this section will be distributed in the other sections as needed.

Class sessions scheduling and delivering possible papers

It will be announced by the teacher in class and in the web adress <https://moodle2.unizar.es/add/>

4.5.Bibliography and recommended resources

Teaching materials of the subject available in the Moodle Platform