

## SUBJECT TEACHING GUIDE

G1987 - Metallic Structures

Degree in Civil Engineering

Academic year 2022-2023

1. IDENTIFYING DATA					
Degree	Degree in Civil Engineering			Type and Year	Compulsory. Year 4
Faculty	School of civil Engineering				
Discipline	ANALYSIS AND TECHNOLOGY OF STRUCTURES				
Course unit title and code	G1987 - Metallic Structures				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA ESTRUCTURAL Y MECANICA				
Name of lecturer	OSCAR RAMON RAMOS GUTIERREZ				
E-mail	oscar.ramos@unican.es				
Office	E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 2. DESPACHO (2063)				
Other lecturers	ARTURO JOSE SANTAMARIA SALLAN				

3.1 LEARNING OUTCOMES
- To understand the mechanical behavior of structural steel.
- To apply safety criteria to steel structures
- To identify and evaluate the actions to be considered in the project of steel structures
- To calculate structural elements of steel at ultimate limit states
- To calculate structural elements of steel at serviceability limit states .
- To understand the general and specific aspects of the project, execution and control of steel structures
- To apply structural codes concerning the design and control of metallic structures.

#### 4. OBJECTIVES

Students will acquire sufficient competence in the field of design and construction of steel structures

#### 6. COURSE ORGANIZATION

CONTENTS	
1	Introduction.Safety criteria and design basis
2	Materials data for design.
3	Resistance limit state of cross sections. Tension, compression, bending, shear, torsion
4	Instability limit state
5	Serviceability limit states. Deformations. Vibrations
6	Bolted connections
7	Welded connections
8	Steel element design
9	Introduction to composite steel and concrete structures
10	Execution, control and maintenance of steel and composite steel and concrete structures

#### 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Partial exam (Parts 1 to 5)	Written exam	No	Yes	35,00
Partial exam (Parts 6 to 10)	Written exam	No	Yes	35,00
Continuous assessment activities	Others	No	Yes	30,00
<b>TOTAL</b>				<b>100,00</b>
<b>Observations</b>				
In the recovery exam, the student who has passed any of the parts of the course (continuous assessment activities and / or partial exams) must only take the part (or parts) not passed. The recovery of the continuous assessment activities will be carried out by delivering them prior to the recovery exam.				
<b>Observations for part-time students</b>				
The assessment will be the same as that of full-time students				

#### 8. BIBLIOGRAPHY AND TEACHING MATERIALS

##### BASIC

Estructuras de acero. Vol 1. Argüelles Alvarez R. et al. Bellisco Ediciones. ISBN:84-95279-97-5

Eurocódigo EC-3 (estructuras de acero). UNE-EN 1993

Apuntes de la asignatura (Aula virtual)

