

## SUBJECT TEACHING GUIDE

G1180 - Further Structures Technology

Degree in Civil Engineering

Academic year 2022-2023

1. IDENTIFYING DATA					
Degree	Degree in Civil Engineering			Type and Year	Optional. Year 4
Faculty	School of civil Engineering				
Discipline	Optional Subjects: Open to all Itineraries				
Course unit title and code	G1180 - Further Structures Technology				
Number of ECTS credits allocated	6	Term	Semester based (1)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA ESTRUCTURAL Y MECANICA				
Name of lecturer	ARTURO JOSE SANTAMARIA SALLAN				
E-mail	arturo.santamaria@unican.es				
Office	E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 2. DESPACHO (2064)				
Other lecturers	CLAUDIO LOPEZ CASTILLO OSCAR RAMON RAMOS GUTIERREZ				

### 3.1 LEARNING OUTCOMES

- To analysis and design structural elements of steel and concrete.

### 4. OBJECTIVES

The student will acquire sufficient competence in the field of the design and construction of prestressed concrete and composite steel and concrete structures

## 6. COURSE ORGANIZATION

CONTENTS	
1	Steel structures. Plastic analysis
2	Steel structures. Torsion.
3	Joints. Structural bearings
4	Residential and industrial building design
5	Strut and tie models
6	Creep and shrinkage of concrete. Structural effects
7	Prestressed concrete.
8	Structural elements of prestressed concrete
9	Composite steel and concrete structures

## 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Midterm exam (Parts 1 a 4)	Written exam	No	Yes	50,00
Final exam (Parts 5 a 9)	Written exam	Yes	Yes	50,00
TOTAL				100,00
Observations				
Observations for part-time students				
The assessment will be the same as that of full-time students.				

## 8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC
Estructuras de acero. Vol II. Argüelles Alvarez et. al. Bellisco Ediciones ISBN: 84-95279-15-0
Hormigón pretensado. Lacroix R. Editores Técnicos Asociados. ISBN: 84-7146-099-8
Construcción mixta hormigón-acero. Ortiz Herrera J. y Martínez Calzón J. Ed. Rueda. ISBN: 84-7207-010-7