

SUBJECT TEACHING GUIDE

G1965 - CONSTRUCTION MATERIALS

Degree in Civil Engineering

Academic year 2022-2023

1. IDENTIFYING DATA					
Degree	Degree in Civil Engineering			Type and Year	Compulsory. Year 2
Faculty	School of civil Engineering				
Discipline	CONSTRUCTION MATERIALS				
Course unit title and code	G1965 - CONSTRUCTION MATERIALS				
Number of ECTS credits allocated	6	Term	Semester based (1)		
Web					
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. CIENCIA E INGENIERIA DEL TERRENO Y DE LOS MATERIALES				
Name of lecturer	SERGIO CICERO GONZALEZ				
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Office	E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 0. DESPACHO (0006)				
Other lecturers	JUAN ANTONIO POLANCO MADRAZO CARLOS THOMAS GARCIA				

3.1 LEARNING OUTCOMES
- Knowledge about the experimental tests that allow the mechanical properties of construction materials to be determined
- To gain the basic knowledge related to the mechanical behaviour of materials, which allows following the courses of subsequent semesters
- To dominate the technical vocabulary related to construction materials
- To know the different types of structural steels and the different strategies that may be used to modify their mechanical properties
- To know the different fabrication and placement processes of construction materials, specially the design, fabrication and pouring of concrete

4. OBJECTIVES

Determine the relation between (micro)structure and mechanical behaviour of materials
To identify the main construction materials
To define and analyse the physical and mechanical properties of construction materials
To know and compare the properties of the different construction materials

6. COURSE ORGANIZATION

CONTENTS	
1	Lesson 1. Introduction: general properties of materials
2	Lesson 2. Physical properties of materials
3	Lesson 3. Mechanical properties of materials
4	Lesson 4. Metals
5	Lesson 5. Binders, mortars and concretes
6	Lesson 6. Polymers, ceramics and composites
7	Lesson 7. Other construction materials
8	Lesson 8. Materials selection

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Mid-term exam	Written exam	No	Yes	35,00
Final exam	Written exam	Yes	Yes	35,00
Continuous evaluation	Others	No	No	20,00
Course work	Work	No	No	10,00
TOTAL				100,00
Observations				
Lab practices are mandatory				
Observations for part-time students				
The final grade of part-time students will be determined by considering the results of both the mid-term and the final exam, not considering the continuous evaluation.				
In any case, lab practices (or any alternative course work) are mandatory to pass the course.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC
- Materiales para ingeniería civil. M.S. Mamlouk, J.P. Zaniewski. ISBN: 978-84-8322-510-3
- Hormigón. M. Fernández Cánovas. ISBN: 978-84-3800-364-0
- EHE-08. ISBN: 978-84-498-0825-8
- Materiales para la ingeniería 2: Introducción a la microestructura, el procesamiento y el diseño. M.F. Ashby, D.R.H. Jones. ISBN: 978-84-291-7256-0.

