

SUBJECT TEACHING GUIDE

G1137 - CONSTRUCTION OF PUBLIC WORKS

Degree in Civil Engineering

Academic year 2020-2021

1. IDENTIFYING DATA					
Degree	Degree in Civil Engineering			Type and Year	Compulsory. Year 2
Faculty	School of civil Engineering				
Discipline	Subject Area: Construction of Public Works Module: Training in Applied Technology				
Course unit title and code	G1137 - CONSTRUCTION OF PUBLIC WORKS				
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. TRANSPORTES Y TECNOLOGIA DE PROYECTOS Y PROCESOS				
Name of lecturer	JORGE RODRIGUEZ HERNANDEZ				
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Other lecturers	MARIA LUISA RUIZ BEDIA LUIS MANUEL ACEBES ESCUDERO DANIEL CASTRO FRESNO ELENA BLANCO FERNANDEZ				

3.1 LEARNING OUTCOMES

- Valuation of works built throughout history and major advances in construction technology.
- General knowledge of the construction sector and the main roles of civil engineering in it.
- Understanding of public works contracts, its main phases and documents.
- Command of the definitions, elements and applications of the main machinery, plants and construction equipment.
- Knowledge of the main procedures associated with linear construction, waterworks, foundations, tunnels and structures.
- Comparison of major scheduling procedures for time control in construction projects.
- Understanding the importance of health and safety in construction and management of major associated concepts.
- Knowledge of the main management systems in a construction company.

4. OBJECTIVES

- Value the work of civil engineers in the construction sector.
- Promote efficiency and effectiveness in the selection of machinery, equipment, plants and construction procedures.
- Respect interdisciplinarity as a basis for the correct execution of any work.
- Value the built heritage and its conservation.
- Cultivate a culture of risk prevention and certification of management systems.

6. COURSE ORGANIZATION

CONTENTS

1	BASIS OF CONSTRUCTION: Brief historical review. Special features of the construction sector. Construction companies. Structure of construction projects.
2	EARTHMOVING: Basis of earthworks. Excavation, loading, transportation, laying and compaction. Exercises of earthworks and fleet production.
3	CONSTRUCTION PROCEDURES: Types of works, particularities of roads and railways. Technical-material base and lifting equipment. Production and application of aggregates, concrete and asphalt mixes. Execution of foundations, walls, tunnels and bridges. Peculiarities of dams, canals and ports.
4	CONSTRUCTION MANAGEMENT: Organization and control of works. Programming and monitoring of works. Exercises of project management. Prevention of occupational hazards in construction. Quality and environment in construction.

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Theory Exam	Written exam	No	Yes	50,00
Exercises Exam	Written exam	No	Yes	30,00
Construction assignment	Work	No	No	20,00
TOTAL				100,00
Observations				
<p>Both to be evaluated for the first time or to have recovery option, students must have attended 80% of the classroom lessons (are exempted repeaters who have met this condition in previous courses). Students should recover in September only those parts of the subject that have failed (grade under 5) and may not repeat any part already approved (grade over 5). Obtaining the minimum score of 4 in theory and exercises allows the application of the weighting shown in both June and in September, but in the case the student don't pass the full course in June, the grade will not be saved and the student must recover in September all parts of the subject that has failed (grade <5). The 20% of the total grade correspond to the assignment and it is not recoverable in September and requires attendance to practical classes in the classroom during the semester.</p> <p>Only for duly justified causes (eg health restrictions) the evaluation tests may be organized remotely, with prior authorization from the Center's Management.</p>				
Observations for part-time students				
<p>The part-time students are exempt from the condition of 80% of attendance needed to be evaluated in both June and in September, having to speak personally with Professor Luis Acebes to fix the particular conditions of attendance and development of the construction assignment along the term.</p>				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

- Alzola y Minondo, Pablo de.
Las obras públicas en España : estudio histórico / Pablo de Alzola y Minondo.
Editorial: Madrid : Colegio de Ingenieros de Caminos, Canales y Puertos,D.L. 2001.
ISBN: 84-380-0208-0
- Ballester Muñoz, Francisco.
Máquinas de movimiento de tierras : criterios de selección / Francisco Ballester, Jorge A. Capote.
Editorial: [Madrid?] : Pedeca, 1992.
ISBN: 84-604-4413-9
- Castro Fresno, Daniel.
Organización y control de obras / Daniel Castro Fresno, José Luis Aja Setién.
Editorial: Santander : Servicio de Publicaciones de la Universidad de Cantabria, D.L. 2005.
ISBN: 84-8102-962-9
- Prevención de riesgos laborales en la construcción / Daniel Castro Fresno, Francisco Ballester Muñoz, Emilio Laborda Valle, Jorge Rodríguez Hernández.
Editorial: [s.l.] : [s.n.], [2008]