

SUBJECT TEACHING GUIDE

G1464 - Construction of Civil Infrastructure

BILINGUAL UC-CU CIVIL ENGINEERING PROGRAM

Academic year 2025-2026

1. IDENTIFYING DATA					
Degree	BILINGUAL UC-CU CIVIL ENGINEERING PROGRAM			Type and Year	Compulsory. Year 1
Faculty	School of civil Engineering				
Discipline	Obligatory Subjects				
Course unit title and code	G1464 - Construction of Civil Infrastructure				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Web					
Language of instruction	English	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. TRANSPORTES Y TECNOLOGIA DE PROYECTOS Y PROCESOS				
Name of lecturer	JORGE RODRIGUEZ HERNANDEZ				
E-mail	jorge.rodriguez@unican.es				
Office	E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 1. CUBICULO I+D (grupo Prof. Ballester) (1010A)				
Other lecturers	ELENA BLANCO FERNANDEZ				

3.1 LEARNING OUTCOMES
- Command the main engineering concepts related with the construction of civil infrastructure: types of civil infrastructures, machinery used in civil engineering, construction procedures and management systems in construction engineering.

4. OBJECTIVES
Allocate resources during the construction process with effectiveness and efficiency.
Use interdisciplinary approach as basic mechanism of value-creating in construction engineering.
Respect the built heritage and the cultural expression in construction.
Be sensitivity to problems of health and safety in construction, minimizing the risks in all the activities.

6. SUBJECT PROGRAM	
CONTENTS	
1	BASICS OF CONSTRUCTION: Brief history of construction. Peculiarities of the construction sector. Construction companies. The structure of the construction projects.
2	EARTHMOVING: Basics of earthmoving. Excavation, load, transport, laid and compaction. Earthmoving and fleet production exercises.
3	CONSTRUCTION PROCEDURES: Aggregates and asphalt production. Concrete production and cranes. Construction of foundations, walls, tunnels and bridges. Peculiarities of dams, canals, piping and ports.
4	CONSTRUCTION MANAGEMENT: Project management. Scheduling and monitoring of works. Project management exercises. Health and safety in construction. Quality and environment management 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
Workshops.	Work	No	No	20,00
TOTAL				100,00
Observations				
Attendance is require with a minimum of the 80%. Students should recover only those parts of the subject that have failed (grade under 5 out of 10). Only obtaining the minimum grade of 4 out of 10 in theory and exercises, the application of the indicated weights is possible. Only for duly justified causes (e.g. health restrictions) the evaluation tests may be organized remotely, with prior authorization from the Center's Management.				
Observations for part-time students				
Students with parcial dedication are not required to attend the minimum of the 80% and they have to agree with the lecturer in charge of the workshops the specific conditions to be evaluated of this practical part of the subject.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS
BASIC
Recommended Reading available in the library of the Civil Engineering School: http://catalogo.unican.es/cgi-bin/abnetopac?ACC=DOSEARCH&xsqf99=G1464
Lindeburg, Michael R. Civil engineering reference manual for the PE exam / Michael R. Lindeburg. Edición: 10th ed. Editorial: Belmont, CA : Professional Publications, Inc, cop. 2006. ISBN: 978-1-59126-043-11-59126-043-4