

## SUBJECT TEACHING GUIDE

### G1185 - History and Heritage of Civil Engineering Degree in Civil Engineering

Academic year 2021-2022

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	G1185 - History and Heritage of Civil Engineering				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Web					
Language of instruction	Spanish	English Friendly	Yes	Mode of delivery	Face-to-face

Department	DPTO. TRANSPORTES Y TECNOLOGIA DE PROYECTOS Y PROCESOS				
Name of lecturer	MARIA LUISA RUIZ BEDIA				
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Other lecturers					

3.1 LEARNING OUTCOMES
- historical analysis as a tool to study civil engineering
- Use concepts of landscape and heritage in the assessment of public works
- To place in time-space historical public works
- Know how to access to reliable information sources, to contrast contents, and use them to implement an own idea
- Explain the meaning of "heritage of public works "
- Learn to identify the cultural values of public works
- National cultural laws

#### 4. OBJECTIVES

Use historical knowledge in the profession of civil engineer
Learn how the civil engineering heritage is valued
Historical-technical documentation. Bibliography
Understanding how public works give character to the landscape
Learn to identify, analyze and assess public works in the field of cultural heritage
Discuss examples of rehabilitation of public works
Refurbishment projects. Reuse projects

#### 6. COURSE ORGANIZATION

##### CONTENTS

1	Studying history of civil engineering, public works and cultural heritage. A perspective from Spain
2	Civil engineering in Ancient Ages.
3	Civil engineering in Classical Antiquity. Greco-Roman culture.
4	Civil engineering in the Middle Ages.
5	Civil engineering in Modern Ages.
6	Civil engineering in 18th century. The beginning of modern engineering
7	Civil engineering in 19th century. Roads and railway
8	Civil engineering in 19th century. Harbour works. Water works
9	Spanish contributions of civil engineering in 20th century.
10	Public works: a type of cultural resources. Notion. Method. Examples.

#### 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Group work	Work	No	Yes	30,00
Short reports (single/couple) written and/or spoken	Work	No	Yes	60,00
Discussion	Work	No	Yes	10,00
<b>TOTAL</b>				<b>100,00</b>
<b>Observations</b>				
Skills evaluation Continuous evaluation Reassessment (Single)				
<b>Observations for part-time students</b>				
Activities selection to do (agree on professor/student)				

## 8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC
<p>BLOQUE I BERLOW, L: The reference guide to famous engineering landmarks of the world: bridges, tunnels, dams, roads and other structures. Chicago, Fitzroy Dearbon Pubsh, 1998</p>
<p>BLOQUE II WRIGHT, G.: Ancient building technology. Leiden, Brill, 2000</p>
<p>BLOQUE III MALISSARD, A: Los romanos y el agua. Barcelona, Herder, 1996</p>
<p>BLOQUE IV Ars Mechanicae. Ingeniería medieval en España. Madrid, Ministerio de Fomento – Fundación Juanelo Turriano, 2008</p>
<p>BLOQUE V LÓPEZ PIÑERO, J. M: Ciencia y técnica en la sociedad española de los siglos XVI y XVII. Barcelona, Labor, 1979</p>
<p>BLOQUE VI RUMEU DE ARMAS, A: Ciencia y tecnología en la España ilustrada, la Escuela de Caminos y Canales. Madrid, Colegio de Ingenieros de Caminos, 1980</p>
<p>BLOQUE VII FERNÁNDEZ TROYANO, L: Tierra sobre agua. Visión histórica universal de los puentes. Madrid, Colegio de Ingenieros de Caminos, 1999</p>
<p>BLOQUE VIII ESPINOSA, J. y GONZALEZ, J.J. (Coords): 1851: La creación del Canal de Isabel II. Madrid, Fundación Canal de Isabel II, 2001</p>
<p>BLOQUE IX BURGOS NÚÑEZ, A: Los orígenes del hormigón armado en España. Madrid, CEDEX-CEHOPU, 2009</p>
<p>BLOQUE X RUIZ BEDIA, M. y HERNÁNDEZ LAMAS, P: Patrimonio y paisaje de la ingeniería civil, I Jornadas de Trabajo. Madrid, 2014</p>