

## SUBJECT TEACHING GUIDE

M1471 - The Profession of Civil Engineer

Master's Degree in Civil Engineering

Academic year 2019-2020

1. IDENTIFYING DATA					
Degree	Master's Degree in Civil Engineering			Type and Year	Optional. Year 2
Faculty	School of civil Engineering				
Discipline	Optional Training				
Course unit title and code	M1471 - The Profession of Civil Engineer				
Number of ECTS credits allocated	3	Term	Semester based (1)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. CIENCIA E INGENIERIA DEL TERRENO Y DE LOS MATERIALES
Name of lecturer	PEDRO SERRANO BRAVO
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Other lecturers	

### 3.1 LEARNING OUTCOMES

- The student will get a knowledge of the history of civil engineering.
- The student will have an understanding of the profession of "Ingeniero de Caminos, Canales y Puertos" (civil engineers). The student will learn about the activities that can be performed in the field of civil engineering.
- The student will have an understanding of the concept of public works and will know the role developed by the "Ingeniero de Caminos, Canales y Puertos", from the conception to the management of public works.
- The student will learn about job opportunities and how to access it from the "Ingeniero de Caminos, Canales y Puertos", from the public administration for construction companies or consultants.
- The student will know the training systems of the university for the "Ingeniero de Caminos, Canales y Puertos" in Spain and the engineers in other countries where they develop his professional job.
- The student will know the objectives and functioning of professional associations in Spain and other countries.
- The student will know the relationship between vocational training in the countries of its environment and the access mode to the professional qualification in other countries.

### 4. OBJECTIVES

- Obtaining a knowledge of employment opportunities in the profession of "Ingeniero de Caminos, Canales y Puertos".
- Obtaining a knowledge of the profession of "Ingeniero de Caminos, Canales y Puertos" and the activities that can be performed in the field of civil engineering, both from a historical point of view.
- Obtaining a knowledge of the concept of public works and the role played by the "Ingeniero de Caminos, Canales y Puertos" in public works.
- Obtaining a knowledge of the objectives and the functioning of professional associations.

## 6. COURSE ORGANIZATION

### CONTENTS

1	<p>HISTORY OF THE CONSTRUCTION AND THE CIVIL ENGINEERING</p> <ul style="list-style-type: none"> <li>• From ancient civilizations to the Romans</li> <li>• Middle ages</li> <li>• The State (18th century)</li> <li>• Spain in the 19th century</li> <li>• Spain in the 20th century</li> <li>• 21st century. The future.</li> <li>• Other European countries and USA.</li> </ul>
2	<p>THE PUBLIC WORK AND CIVIL ENGINEERING</p> <ul style="list-style-type: none"> <li>• Communications. Roads, rail, ports.</li> <li>• Structures, geotechnics and materials. Bridges, skyscraper, geotechnical engineering and construction materials.</li> <li>• Planning, urban planning and transport systems. Management of the territory, Urbanism and city, planning and transport engineering.</li> <li>• Water and environment. Coasts and oceanography, rivers, channels, water resources, sanitary engineering environmental, engineering pipeline.</li> <li>• Energy. Energy transport, water works, power systems, renewable energy.</li> <li>• Construction. Building systems, planning, organization and management of work.</li> <li>• Planning, management and operation of infrastructures related to civil engineering.</li> </ul>
3	<p>THE "INGENIERO DE CAMINOS, CANALES Y PUERTOS"</p> <ul style="list-style-type: none"> <li>• Training of "Ingeniero de Caminos, Canales y Puertos". Universities, Schools of "Ingeniero de Caminos, Canales y Puertos". Plans of study. The Case of Spain and the comparison with other countries and other professionals.</li> <li>• Public administration. The access of the "Ingeniero de Caminos Canales y Puertos" to the different public administration jobs.</li> <li>• Construction companies. Organization and access.</li> <li>• The consulting companies and free professional.</li> <li>• University.</li> <li>• The research.</li> </ul>

## 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Minimum mark =5.0  The student may recover by modifying the same job or a new job.	Work	Yes	Yes	70,00
Along the course.  Student participation in course development will be evaluated . Attending conferences during the course will be considered and any other activity designated by the Professor .	Others	No	No	30,00
<b>TOTAL</b>				<b>100,00</b>
<b>Observations</b>				
<p>Besides the 'individual work', the evaluation is continuous. The students will be evaluated for their class participation, practical work and delivery of exercises. In connection with the resolutions adopted at the regular meeting of the School Board held on June 10, 2010, provides that, with respect to evaluation activities having the character of recoverable,</p> <ul style="list-style-type: none"> <li>- As a general criterion, the student will have to retrieve the exam that he has failed that have failed, that is, which has not obtained a grade five out of ten.</li> <li>- As a general criterion in this guide the student's participation in the class will be evaluated.</li> </ul> <p>Note: According to the RD 1125/2003 on the European credit system and the system of qualifications in the degrees of official and valid throughout the national territory, the results obtained by the student in each of the subjects of the curriculum will qualify according to the following numerical scale from 0 to 10 with a decimal expression, it can be added that its corresponding qualitative rating: 0,0-4, 9: Suspenso (SS). 5, 0-6, 9: Aprobado (AP). 7,0-8, 9: Notable (NT). 9,0-10: Sobresaliente (SB).</p>				
<b>Observations for part-time students</b>				
<p>Part-time students must attend 50% of the theoretical clases. Part-time students must deliver 70% of the required class work to full-time students.</p>				

## 8. BIBLIOGRAPHY AND TEACHING MATERIALS

### BASIC

Orden CIN/309/2009, de 9 de febrero, por la que se establecen los requisitos para la verificación de los títulos universitarios oficiales que habiliten para el ejercicio de la profesión de Ingeniero de Caminos, Canales y Puertos. BOE de 18 de febrero de 2009.

Cuadernos para la ordenación del ejercicio profesional. Colegio de Ingenieros de Caminos, Canales y Puertos

Libro Blanco: Título de grado en Ingeniería Civil, Agencia Nacional de Evaluación de la Calidad y Acreditación. 2004

Real Orden de 26 de Julio de 1803. Creación del Título de Ingeniero de Caminos y Canales.

Real Decreto 30 Abril de 1835. Ley de Presupuestos de 26 de Mayo de 1835 añadiendo Puertos. (Ingenieros de Caminos, Canales y Puertos).

Directiva 2005/36/CE, regula el sistema de reconocimiento de los títulos académicos y profesionales entre los distintos Estados miembros de la Unión Europea.

Historia de las obras públicas en España. (Primera edición 1899). Pablo Alzola y Minondo. Editorial Turner. Colegio de Ingenieros de Caminos Canales y Puertos.

Memoria para la solicitud de verificación de títulos oficiales. Propuesta de título de Máster Universitario en Ingeniería de Caminos, Canales y Puertos. Universidad de Cantabria

Escuela Técnica Superior de Ingenieros de Caminos, Canales y Puertos de Santander. 50 Años (1966-2016).

Pedro Serrano Bravo.  
Editorial UC. 2017

