

# Construction Management (250701)

## General information

<b>School:</b>	ETSECCPB
<b>Departments:</b>	751 - Departament d'Enginyeria Civil i Ambiental
<b>Credits:</b>	5.0 ECTS
<b>Programs:</b>	1140 - MÀSTER UNIVERSITARI EN ENGINYERIA ESTRUCTURAL I DE LA CONSTRUCCIÓ (pla 2015)
<b>Course:</b>	2015/2016
<b>Course language:</b>	Castellano

## Faculty

Responsible faculty: Jose Turmo Coderque

Teachers: Maria Elena Fillola Caraballo, Gonzalo Ramos Schneider, Jose Turmo Coderque

## Generic objectives

Subject to introduce the students to the knowledge of the market of public works focusing on the characteristics of the Spanish sector .

- Knowledge of the characteristics of the construction sector , their interrelationships and their complexity. - Getting to the terminology used in the project and construction work with the agents involved in construction and their interrelations. - Knowledge of the unique aspects of construction

Cycle of Project and Work Construction. Tendering of Public Works. Tendering of Private Works. Tendering and contracting mechanisms. Analysis of concessions. Execution of works constructions: Structures

## Skills

### *Specific skills*

Designing and building using traditional materials (reinforced concrete, prestressed concrete, structural steel, masonry, wood) and new materials (composites, stainless steel, aluminum, shape memory alloys?).

To apply innovative and sustainable technological aspects in the management and implementation of projects and works.

To analyze the multiple technical and legal conditions arising in the construction of public works, and use proven methods and proven technologies with the aim of achieving greater efficiency in construction while respecting the environment and protecting the safety and health of workers and users of public works.

### **Generic skills of subject**

To conceive, design, analyze and manage structures or structural elements of civil engineering or building, encouraging innovation and the advance of knowledge.

To develop, improve and use conventional materials and new construction techniques to ensure the safety requirements, functionality, durability and sustainability.

To define construction processes and methods of organization and management of projects and works.

To design plans for safety, quality and environmental and socioeconomic impacts related to the construction process.

### **ECTS credits: total hours of student work**

		Dedication	
		Hours	Percent
Supervised Learning	Theory	35.00	77.8%
	Assignments	5.00	11.1%
	Laboratory	5.00	11.1%
	Supervised activities	3.00	6.7%
Self-Learning		105.00	

### **Contents**

#### **Unit 1**

##### **Dedication**

5.0h. Theory + 5.0h. Assignments + 5.0h. Laboratory

##### **Description**

Analysis of project and construction agents

Practical work

##### **Objectives**

Identify the main parts of the project and building agents and their functions

Developing a practical work that is the technical and economic of planning a real work

#### **Unit 2**

##### **Dedication**

5.0h. Theory

##### **Description**

Bidding. Technical and economic planning

**Objectives**

Knowing the different bidding strategies and to prepare an offer and a work plan.

**Unit 3**

**Dedication**

5.0h. Theory

**Description**

Occupational risk prevention

**Objectives**

Learn to manage health and safety in construction work.

**Unit 4**

**Dedication**

5.0h. Theory

**Description**

Quality and Environmental Management

**Objectives**

Learn to prepare a quality plan and work instructions and learn the basics of environmental management work

**Unit 5**

**Dedication**

5.0h. Theory

**Description**

Management during execution

**Objectives**

Learn the main tools available to the project manager for adequate technical and financial management of the work

**Unit 6**

**Dedication**

5.0h. Theory

**Description**

Insurable risks during construction. Complaints

**Objectives**

Learn what insurance is, different figures and the main types of insurance in construction. Learn how to handle claims

**Unit 7**

***Dedication***

5.0h. Theory

***Description***

Receiving work. Claims.

***Objectives***

Learn the types of reception can be given a work and scope of the guarantees by type of construction.

**Activities**

***Visits to work site or construction company***

***Dedication***

3.0 h. Supervised activities

***Description***

Try make at least one visit to a work related project study.

**Grading rules (\*)**

***(\*) The evaluation calendar and grading rules will be approved before the start of the course.***

The mark of the course is obtained from the ratings of continuous assessment and their corresponding laboratories and/or classroom computers.

Continuous assessment consist in several activities, both individually and in group, of additive and training characteristics, carried out during the year (both in and out of the classroom).

The teachings of the laboratory grade is the average in such activities.

The evaluation tests consist of a part with questions about concepts associated with the learning objectives of the course with regard to knowledge or understanding, and a part with a set of application exercises.

**Test rules**

Failure to perform a laboratory or continuous assessment activity in the scheduled period will result in a mark of zero in that activity.

**Teaching methodology**

The course consists of 2,3 hours per week of classroom activity (large size group) and 0,3 hours weekly with half the students (medium size group).

The 2,3 hours in the large size groups are devoted to theoretical lectures, in which the teacher presents the basic concepts and topics of the subject, shows examples and solves exercises.

The 0,3 hours in the medium size groups is devoted to solving practical problems with greater interaction with the students. The objective of these practical exercises is to consolidate the

general and specific learning objectives.

The rest of weekly hours devoted to laboratory practice.

Support material in the form of a detailed teaching plan is provided using the virtual campus ATENEA: content, program of learning and assessment activities conducted and literature.

### **Office hours**

Appointments will be done with the teachers of the subject

### **Basic bibliography**

- Peurifoy et al... **Construction Planning, Equipment, and Methods.** . McGraw Hill. 2006.
- G. Reiss.. **Programme Management Demystified.** E &FN Spon. 2000.

### **Complementary bibliography**

- Frank Harris. **Modern Construction and Ground Engineering, Equipment, and Methods.** Longman. 1994.