

## SUBJECT TEACHING GUIDE

G1145 - Organization and Control of Works

Degree in Civil Engineering

Academic year 2016-2017

1. IDENTIFYING DATA					
Degree	Degree in Civil Engineering			Type and Year	Optional. Year 3
Faculty	School of civil Engineering				
Discipline	Subject Area: Construction Engineering				
Course unit title and code	G1145 - Organization and Control of Works				
Number of ECTS credits allocated	6	Term	Semester based (2)		
Web	<a href="http://www.unican.es/WebUC/catalogo/planes/detalle_od_ac.asp?id=114&amp;cad=2013">http://www.unican.es/WebUC/catalogo/planes/detalle_od_ac.asp?id=114&amp;cad=2013</a>				
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. TRANSPORTES Y TECNOLOGIA DE PROYECTOS Y PROCESOS
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Other lecturers	PABLO PASCUAL MUÑOZ FELIPE COLLAZOS ARIAS

### 3.1 LEARNING OUTCOMES

- The student will need to acquire the following knowledge:
  - .General aspects of the tendering process
  - .Identifying and definition of the different stakeholders in a work site
  - .Identification and analysis of the different documents within a project.
  - .Preliminary activities to carry out before the beginning of works in a construction site.
  - .Cost control.
  - .Time-schedule techniques: Gantt chart, activities on nodes chart, space-time chart.
  - .Management of the construction contract: payments, prices updating, guaranties, penalties, contract termination

The student will be able to:

- .Extract and analyse the information from the contract documents need to execute a specific construction project
- .Select the most adequate constructive techniques in relation to their cost and duration
- .Schedule the activities sequence of a project by means of Gantt charts, activity on nodes charts and space-time charts.
- .Carry out the cost and schedule control along the project execution: control the real costs and compared them with planned costs and also selling prices.
- .Management the project contract: elaborate a monthly payment, price updating, carry out the classification of a contractor, etc.
- .Being able to understand drawings and carrying out measurements of excavations, formworks, concrete and reinforcement bars.

The student will develop the following skills:

- .Being able to express in written documents with a logical structure, adequate grammar and spelling, and also paying attention to aesthetic.

### 4. OBJECTIVES

Provide to the student knowledge and strategies that allows him or her to properly manage the execution of a construction project from an economical and time-schedule point of view, fulfilling with the technical specifications of the contract and also further legal regulations.

### 6. COURSE ORGANIZATION

#### CONTENTS

1	Theory/Practise. Introduction: Stakeholders, project and contract documents analysis, initial planning of the project, project control.
2	Theory/Practise. Costs: Work units, PG3, work rates, cost estimation of work units.
3	Theory/Practise. Time-scheduling: bar charts (Gantt), activity on node charts, space-time charts.
4	Theory/Practise. Measurements: excavations, back-fillings, formwork, concrete, reinforcement bars.
5	Laboratory practises. Software: Learning a budget software (Menfis or similar) and another one related with time-scheduling (Microsoft Project or similar).

## 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Written exam. At the end of the term.	Written exam	Yes	Yes	30,00
Written exam. At the end of the term.	Written exam	Yes	Yes	30,00
Individual assignments along the whole term.	Others	No	No	20,00
Practical exam. at the end of the term, in the laboratory, using the software.	Laboratory evaluation	Yes	Yes	20,00
<b>TOTAL</b>				<b>100,00</b>
<b>Observations</b>				
<p>Students will only have to be reevaluated for those parts that have failed (mark below 5), not being able to take the exam in September of a part that has been already passed (mark equal or above 5). In order to be able to make the average between parts, a minimum of a mark of 4 is needed. Those students with a mark between 4 and 5 can chose to take or not the resit exam in September. In case that the decide not to present, that mark obtained in June will be kept. In case that they decide to take the resit exam in September, maximum mark between June and September will be taken in order to calculate the final module mark.</p> <p>According to RD 1125/2003 about the European credit and assessment system in the official higher education degrees in Spain, the marking system for all modules will score numerically from 0 to 10, with one decimal, to which an alphabetical grade might be added: 0,0-4,9: Failed. 5,0-6,9: Pass, 7,0-8,9: Merit. 9,0-10: Distinction.</p>				
<b>Observations for part-time students</b>				
<p>Students who choose to study part-time course and which therefore cannot attend regularly to classes, will be evaluated in the same manner as students with an ordinary regime of dedication. The only particularity is that the laboratory evaluation will take place the same day that the written examination of theory and problems (regular examination period in June or September). The student will be responsible for learning on their own the use of softwares that are taught in the laboratory practices.</p>				

## 8. BIBLIOGRAPHY AND TEACHING MATERIALS

### BASIC

Apuntes de la asignatura disponibles en el Aula Virtual.  
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.