Course guide
250722 - 250722 - Advanced Technics in Construction

Last modified: 09/02/2023

Unit in charge: Barcelona School of Civil Engineering
Teaching unit: 751 - DECA - Department of Civil and Environmental Engineering.

Degree: MASTER'S DEGREE IN STRUCTURAL AND CONSTRUCTION ENGINEERING (Syllabus 2015). (Optional subject).

Academic year: 2022  ECTS Credits: 5.0  Languages: Spanish

LECTURER

Coordinating lecturer: NIKOLA TOSIC
Others: ANTONIO AGUADO DE CEA, ALBERTO DE LA FUENTE ANTEQUERA, EVA MARIA OLLER IBARS, GONZALO RAMOS SCHNEIDER, NIKOLA TOSIC, JOSE TURMO CODERQUE

TEACHING METHODOLOGY

The communication of the teachers will be mostly in Spanish. Workshops and interventions by speakers other than the teachers of the subject are planned for the course. These will be held in Spanish and very exceptionally in Catalan or English. Student queries may be answered in Spanish, Catalan or English. The exam can be answered in Spanish, Catalan or English. Support material is used through the virtual campus: contents and bibliography. The material can be in Spanish, Catalan and English. Site visits made within the framework of the subject, if applicable, will be in Spanish or Catalan.

Although most of the sessions will be given in the language indicated, sessions supported by other occasional guest experts may be held in other languages.

LEARNING OBJECTIVES OF THE SUBJECT

Subject to deepen in modern construction techniques

- Knowledge of the most modern and with more future construction techniques in the field of civil engineering, building and industrial constructions.


STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours large group</td>
<td>19,5</td>
<td>15.59</td>
</tr>
<tr>
<td>Guided activities</td>
<td>6,0</td>
<td>4.80</td>
</tr>
<tr>
<td>Hours medium group</td>
<td>9,8</td>
<td>7.83</td>
</tr>
<tr>
<td>Hours small group</td>
<td>9,8</td>
<td>7.83</td>
</tr>
<tr>
<td>Type</td>
<td>Hours</td>
<td>Percentage</td>
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<td>-------------</td>
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<td>------------</td>
</tr>
<tr>
<td>Self study</td>
<td>80.0</td>
<td>63.95</td>
</tr>
</tbody>
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**Total learning time:** 125.1 h

**CONTENTS**

### Block 1: General Issues concerning the construction sector

**Description:**
Block 1: General Issues concerning the construction sector practice
Lab

**Specific objectives:**

**Full-or-part-time:** 31h 12m
Theory classes: 7h
Practical classes: 4h 18m
Laboratory classes: 1h 42m
Self study : 18h 12m

### Block 2: Basics of execution. Policy cases

**Description:**
Block 2: Basics of execution. Policy cases practice
Lab

**Specific objectives:**
Review basics of construction. Critical analysis of different cases called type. From the macro-micro processes. See examples attached sheets. Standard, spatial and temporal climatic incidents

**Full-or-part-time:** 31h 12m
Theory classes: 7h
Practical classes: 4h 18m
Laboratory classes: 1h 42m
Self study : 18h 12m
### Block 3: Aspects específicos implementation

**Description:**
Block 3: Specific aspects of implementation practice
Lab

**Specific objectives:**
Construction in adverse situations: Climate (hot-cold), under water, at high altitude, difficult sites, etc. Special Techniques: pushing, lifting, turning, transportation. Rationale for them. Description with specific cases. Construction foundation elements and other works directly related field (extensions, tunnels, screens, etc.). Hormigo singular constructions (elevated tanks, towers, blades, etc.). Singular constructions of metal structures (tall buildings, towers, covers, etc.). Other singular constructions (marine environments, waterworks, etc.). Demolition techniques works.

**Full-or-part-time:** 31h 12m
Theory classes: 7h  
Practical classes: 4h 18m  
Laboratory classes: 1h 42m  
Self study: 18h 12m

### GRADING SYSTEM

The grade for the subject is obtained from the continuous assessment grades. The evaluation of the subject is done based on attendance at the different sessions and an exam on the content of the sessions of the subject. NA class attendance has a weight of up to 50% of the final grade for the subject (NFA). The NE exam grade has a weight of between 50 and 100% of the NFA, which is obtained according to the following formula NFA=max(0.50 NA+0.50 NE; NE)

### EXAMINATION RULES.

Non-attendance at one of the sessions, whatever the cause, supposes a grade of zero in the evaluation of the attendance of that session. If you do not take the exam, you will not be able to pass the subject.

### BIBLIOGRAPHY

**Basic:**