250701 - Construction Management

Coordination unit: 250 - ETSECCPB - Barcelona School of Civil Engineering
Teaching unit: 751 - DECA - Department of Civil and Environmental Engineering
Academic year: 2019
Degree: MASTER’S DEGREE IN STRUCTURAL AND CONSTRUCTION ENGINEERING (Syllabus 2015). (Teaching unit Compulsory)
ECTS credits: 5
Teaching languages: Spanish, English

Teaching staff
Coordinator: JOSE TURMO CODERQUE
Others: JAVIER PABLO AINCHIL LAVIN, ALBERT MAS SOLER, GONZALO RAMOS SCHNEIDER, JOSE TURMO CODERQUE

Opening hours
Timetable: Appointments will be done with the teachers of the subject

Degree competences to which the subject contributes

Specific:
13365. Designing and building using traditional materials (reinforced concrete, prestressed concrete, structural steel, masonry, wood) and new materials (composites, stainless steel, aluminum, shape memory alloys?).
13367. To apply innovative and sustainable technological aspects in the management and implementation of projects and works.
13370. 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.

General:
13360. To conceive, design, analyze and manage structures or structural elements of civil engineering or building, encouraging innovation and the advance of knowledge.
13361. To develop, improve and use conventional materials and new construction techniques to ensure the safety requirements, functionality, durability and sustainability.
13362. To define construction processes and methods of organization and management of projects and works.
13363. To design plans for safety, quality and environmental and socioeconomic impacts related to the construction process.
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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.

Learning objectives of the subject

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


Study load

<table>
<thead>
<tr>
<th>Study load</th>
<th>Total learning time: 125h</th>
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</thead>
<tbody>
<tr>
<td>Theory classes:</td>
<td>19h 30m</td>
</tr>
<tr>
<td>Practical classes:</td>
<td>9h 45m</td>
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<tr>
<td>Laboratory classes:</td>
<td>9h 45m</td>
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<tr>
<td>Guided activities:</td>
<td>6h</td>
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<tr>
<td>Self study:</td>
<td>80h</td>
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## Content

<table>
<thead>
<tr>
<th>Unit</th>
<th>Learning time: 52h 48m</th>
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<tbody>
<tr>
<td></td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td></td>
<td>Practical classes: 10h</td>
</tr>
<tr>
<td></td>
<td>Laboratory classes: 10h</td>
</tr>
<tr>
<td></td>
<td>Self study : 30h 48m</td>
</tr>
</tbody>
</table>

### Unit 1

**Description:**
Analysis of project and construction agents
Practical work

**Specific 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

<table>
<thead>
<tr>
<th>Unit</th>
<th>Learning time: 4h 48m</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td></td>
<td>Self study : 2h 48m</td>
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### Unit 2

**Description:**
Bidding. Technical and economic planning

**Specific objectives:**
Knowing the different bidding strategies and to prepare an offer and a work plan.

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<tr>
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</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td></td>
<td>Self study : 2h 48m</td>
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</tbody>
</table>

### Unit 3

**Description:**
Occupational risk prevention

**Specific objectives:**
Learn to manage health and safety in construction work.

<table>
<thead>
<tr>
<th>Unit</th>
<th>Learning time: 4h 48m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td></td>
<td>Self study : 2h 48m</td>
</tr>
</tbody>
</table>

### Unit 4

**Description:**
Quality and Environmental Management

**Specific objectives:**
Learn to prepare a quality plan and work instructions and learn the basics of environmental management work
Qualification system

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.

Regulations for carrying out activities

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

Basic:


ICE. CESMM4: Examples (CESMM4 Series).


NEC. NEC4: Contracts.


EquipmentWatch. Rental Rate Blue Book for Construction Equipment.

Complementary: