250702 - Workshops and Research Seminars

Coordinating 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: 5,5
Teaching languages: Spanish, English

Teaching staff
Coordinator: EVA OLLER IBARS
Others: JESÚS MIGUEL BAIRÁN GARCÍA, ROLANDO ANTONIO CHACÓN FLORES, ALBERT MAS SOLER, EVA OLLER IBARS, ESTHER REAL SALADRIGAS

Opening hours
Timetable: The schedule of consultations is on Wednesday from 12 to 14h in room C1 201.

Degree competences to which the subject contributes

Specific:
13364. To conceive and design civil and building structures that are safe, durable, functional and integrated into its surroundings.
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?).
13366. To evaluate, maintain, repair and strengthen existing structures, including the historic and artistic heritage.
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.
250702 - Workshops and Research Seminars

**Teaching methodology**

The course consists of 3 hours per week of classroom activity (large size group).

The 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.

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 know the latest trends in research related to structural engineering and construction and other cross-cutting issues

- Knowledge of the latest trends in research related to structural engineering and construction. - Knowledge of analysis programs and management structures.

- Seminars on the latest advances in research related to the three masters itineraries: structural analysis, technology of structures and construction. - Seminars related to the development of the master thesis: scientific method, writing scientific and technical documents, using database to search scientific articles for the development of state of the art. - Workshops on the development of a draft structural engineering.
## 250702 - Workshops and Research Seminars

### Study load

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Theory classes:</td>
<td>21h 27m</td>
<td>15.60%</td>
</tr>
<tr>
<td>Practical classes:</td>
<td>10h 43.8m</td>
<td>7.80%</td>
</tr>
<tr>
<td>Laboratory classes:</td>
<td>10h 43.8m</td>
<td>7.80%</td>
</tr>
<tr>
<td>Guided activities:</td>
<td>6h 36m</td>
<td>4.80%</td>
</tr>
<tr>
<td>Self study:</td>
<td>88h</td>
<td>64.00%</td>
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<table>
<thead>
<tr>
<th><strong>Total learning time:</strong></th>
<th>137h</th>
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Last update: 16-12-2019
# Content

## Computer programs

**Learning time:** 40h 48m  
- Theory classes: 9h  
- Practical classes: 3h  
- Laboratory classes: 5h  
- Self study: 23h 48m  

**Description:**  
Explain how it works and what possibilities the program offers for calculating Midas  
- Midas Program. Case study  
- Program SAP2000  
- SAP2000 program. Case study  
- BIM Software  
- BIM software. Case study  
- Digital Manufacturing

## Subjects related with the master thesis

**Learning time:** 62h 24m  
- Theory classes: 10h  
- Practical classes: 6h  
- Laboratory classes: 10h  
- Self study: 36h 24m

**Description:**  
Gathering information and bibliography  
References  
How to write scientific and technical documents  
Making presentations  
Budget of a project  
Budget of a project. Case study  
Workshop project conception
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.

Bibliography

Basic: