250713 - Experimental Techniques for the Characterization of Structural Materials

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 Optional)
ECTS credits: 5
Teaching languages: Spanish

Teaching staff

Coordinator: ROLANDO ANTONIO CHACÓN FLORES
Others: ANTONIO AGUADO DE CEA, DIEGO FERNANDO APONTE HERNÁNDEZ, JESÚS MIGUEL BAIRÁN GARCÍA, JUAN RAMON CASAS RIUS, ROLANDO ANTONIO CHACÓN FLORES, LUCA PELA, ESTHER REAL SALADRIGAS, IGNACIO SEGURA PEREZ

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.
13368. Mathematically modelling structural engineering problems.
13369. To apply methods and advanced design software and structural calculations, based on knowledge and understanding of forces and their application to the structural types of civil engineering.

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.

Learning objectives of the subject
# Study load

<table>
<thead>
<tr>
<th>Total learning time: 125h</th>
<th>Hours large group: 19h 30m</th>
<th>15.60%</th>
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<tbody>
<tr>
<td></td>
<td>Hours medium group: 9h 45m</td>
<td>7.80%</td>
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<td></td>
<td>Hours small group: 9h 45m</td>
<td>7.80%</td>
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<td>Guided activities: 6h</td>
<td>4.80%</td>
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<td>Self study: 80h</td>
<td>64.00%</td>
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## Content

### Block 1

**Learning time: 7h 11m**
- Theory classes: 3h
- Self study: 4h 11m

### Block 2

**Learning time: 36h**
- Theory classes: 9h
- Practical classes: 3h
- Laboratory classes: 3h
- Self study: 21h

### Block 3

**Learning time: 50h 24m**
- Laboratory classes: 21h
- Self study: 29h 24m

## Bibliography

### Basic:


