210140 - EST IV - Structures IV

Coordinating unit: 210 - ETSAB - Barcelona School of Architecture
Teaching unit: 753 - TA - Department of Architectural Technology
Academic year: 2017
Degree: DEGREE IN ARCHITECTURE STUDIES (Syllabus 2014). (Teaching unit Compulsory)
ECTS credits: 5

Teaching languages: Catalan, Spanish

Teaching staff
Coordinator: ALBERT ALBAREDA VALLS
Others: Primer quadrimestre:
ALBERT ALBAREDA VALLS - 11
JAUME ALENTORN PUIGCERVER - 11
DAVID GARCÍA CARRERA - 11
JORDI PAYOLA LAHOZ - 11

Segon quadrimestre:
ALBERT ALBAREDA VALLS - 41
JAUME ALENTORN PUIGCERVER - 41
DAVID GARCÍA CARRERA - 41
JORDI PAYOLA LAHOZ - 41

Degree competences to which the subject contributes

Basic:
CB1. Translation from Spanish slope
CB2. Translation from Spanish slope
CB3. Translation from Spanish slope
CB4. Translation from Spanish slope
CB5. Translation from Spanish slope

Specific:
ET1. Translation from Spanish slope
ET13. Translation from Spanish slope
ET14. Translation from Spanish slope
ET10. Translation from Spanish slope
ET2. Translation from Spanish slope
ET3. Translation from Spanish slope
ET4. Translation from Spanish slope
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ET6. Translation from Spanish slope
ET7. Translation from Spanish slope
ET8. Translation from Spanish slope

General:
CG4. Translation from Spanish slope

Transversal:
CT2. Translation from Spanish slope
CT3. Translation from Spanish slope
CT4. Translation from Spanish slope
CT5. Translation from Spanish slope

Teaching methodology
Go to catalan or spanish version.

Learning objectives of the subject
To achieve the necessary principles to understand the mechanical behaviour of the soil.
To comprehend the forces which arrive to the soil derived from a building, making compatible structure and foundations.
To comprehend the geotechnical studies of the ground in order to be able to decide the typology of foundation and to calculate it.

Study load

<table>
<thead>
<tr>
<th>Total learning time: 125h</th>
<th>Hours large group: 21h</th>
<th>16.80%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hours medium group: 22h</td>
<td>17.60%</td>
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<tr>
<td></td>
<td>Hours small group: 0h</td>
<td>0.00%</td>
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<tr>
<td></td>
<td>Guided activities: 12h</td>
<td>9.60%</td>
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<tr>
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<td>Self study: 70h</td>
<td>56.00%</td>
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</tbody>
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## Content

<table>
<thead>
<tr>
<th>Structures IV</th>
<th>Learning time: 4h</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 2h</td>
</tr>
<tr>
<td></td>
<td>Practical classes: 2h</td>
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### Description:
- Introduction to the soil mechanics.
- Classification and physical properties of the soil.
- Introduction to the elasticity and plasticity theory.
- Mechanical tests in laboratory.
- Rankine and Coulomb Equilibrium.
- Retaining walls.
- Slope Stability.
- In situ mechanical tests.
- Superficial foundations, strength.
- Deep foundations.

## Qualification system

Go to catalan or spanish version.

## Bibliography

### Basic: