210270 - MEB - From Rough Material to Design with Parametric Tools

Coordinating unit: 210 - ETSAB - Barcelona School of Architecture
Teaching unit: 735 - PA - Department of Architectural Design
Academic year: 2019
Degree: DEGREE IN ARCHITECTURE STUDIES (Syllabus 2014). (Teaching unit Optional)
DEGREE IN ARCHITECTURE (Syllabus 2010). (Teaching unit Optional)
ECTS credits: 5
Teaching languages: Catalan, Spanish, English

Teaching staff
Coordinator: MARTA DOMENECH RODRIGUEZ

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:
EP20. Translation from Spanish slope
EP22. Translation from Spanish slope
EP23. Translation from Spanish slope
ET15. Translation from Spanish slope
EP19. Translation from Spanish slope

Generical:
CG4. Translation from Spanish slope
CG1. Translation from Spanish slope
CG2. Translation from Spanish slope

Transversal:
CT1. Translation from Spanish slope
CT2. Translation from Spanish slope
CT4. Translation from Spanish slope
CT5. Translation from Spanish slope
The main purpose of this course is the reintroduction of material thinking in the practice of the architectural project with new digital tools and through applied research. The course will have a theoretical part and a practical one, in which the students will build a small vaulted pavilion in the schoolyard, projected by them. During 2019-20, the materials to be used will be cork and earth.

### Learning objectives of the subject

The main purpose of this course is the reintroduction of material thinking in the practice of the architectural project with new digital tools and through applied research. The course will have a theoretical part and a practical one, in which the students will build a small vaulted pavilion in the schoolyard, projected by them. During 2019-20, the materials to be used will be cork and earth.

### Study load

<table>
<thead>
<tr>
<th>Total learning time: 125h</th>
<th>Hours large group:</th>
<th>55h</th>
<th>44.00%</th>
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<td>Hours medium group:</td>
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<td></td>
<td>Hours small group:</td>
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<td></td>
<td>Guided activities:</td>
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<td>Self study:</td>
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<td>56.00%</td>
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## Content

<table>
<thead>
<tr>
<th>title english</th>
<th>Learning time: 110h</th>
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<tr>
<td></td>
<td>Theory classes: 60h</td>
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<tr>
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<td>Self study: 50h</td>
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### Description:

1. Introduction. Designing with raw material:
   - The materiality in the architectural project.
   - Durability and productive cycle of natural materials used in architecture.
     (Course 2019/2020: Cork and earth)
   - Reasons to design with unprocessed materials: economic and environmental transformations.
2. Matter to design:
   - Cork
   - Earth
3. Introduction to parametric design tools and formal optimization:
   - Introduction to graphic statics and structural design.
   - Introduction to the new software of parametric design and formal optimization.
4. Development and construction of a small pavilion: Practice in parametric design + practice in the construction of the project.

### Bibliography

#### Basic: