310404 - Introduction to Renovations of Existing Building

Coordinating unit: 310 - EPSEB - Barcelona School of Building Construction
Teaching unit: 753 - TA - Department of Architectural Technology
756 - THATC - Department of History and Theory of Architecture and Communication Techniques
751 - DECA - Department of Civil and Environmental Engineering

Academic year: 2018
Degree: MASTER'S DEGREE IN ADVANCED BUILDING CONSTRUCTION (Syllabus 2014). (Teaching unit Compulsory)
ECTS credits: 5

Teaching languages: Spanish

Teaching staff
Coordinator: Joan Ramon Rosell
Others: Rossello Nicolau, M. Isabel
Buill Pozuelo, Felipe
Casanovas Boixereu, Francesc X.

Opening hours
Timetable: Generally to agreed.

Degree competences to which the subject contributes

Basic:
2. Possess and understand knowledge which provide a basis or opportunity to be original in the development and/or application of ideas, usually in a context of research.
3. The students must be able to apply the acquired knowledges and their ability of resolution of problems in new or little known environments inside more wide environments (or multidisciplinary) related with their study field.
4. The students must be able to integrate knowledges and front to the complexity to formulate opinions from an information which, being incomplete or limited, includes reflections about the social and ethical responsabilities linked to the application of their knowledges and opinions.
5. The students must be able to communicate their conclusions and the knowledges and ultimate reasons which support to specialised and non-specialised audiences in a clear mode and without ambiguities.
1. The students must possess the learning abilities which allow them to continue studying in a way which should be to a large extent self-directed and autonomous.

Specific:
6. Capacity of innovation: identify the reasons and the mechanisms of the technologic and technical changes.
7. Evaluate the performance of a ground according to its characteristics and the kind of foundation.

General:
9. Prepare to communicate with efficiency, orally but also in written.
10. Develope and/or apply ideas with originality in a context of investigation, identifying and formulating hypothesis or innovative ideas and submit them to a objectivity, coherence, and viability test.
17. Provide to the student the capacity to apply the knowledge acquired in the resolution of complex problems in any sector of the building construction.
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Transversal:

12. SUSTAINABILITY AND SOCIAL COMMITMENT. Being aware of and understanding the complexity of social and economic phenomena that characterize the welfare society. Having the ability to relate welfare to globalization and sustainability. Being able to make a balanced use of techniques, technology, the economy and sustainability.

13. EFFECTIVE USE OF INFORMATION RESOURCES. Managing the acquisition, structure, analysis and display of information from the own field of specialization. Taking a critical stance with regard to the results obtained.

Teaching methodology

Master class, brief exercises and compulsory readings.

Learning objectives of the subject

- Have a general methodological approaches to address the knowledge and diagnosis of a building and subsequent rehabilitation.
- Use appropriate to the historical documentation of the building documentary sources.
- Know the various techniques of graphic survey of buildings and their applications.
- Be able to organize a multidisciplinary team to raise a quality rehab.

Study load

<table>
<thead>
<tr>
<th>Total learning time: 125h</th>
<th>Hours large group: 17h 30m</th>
<th>14.00%</th>
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<tbody>
<tr>
<td></td>
<td>Hours medium group: 5h</td>
<td>4.00%</td>
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<tr>
<td></td>
<td>Hours small group: 5h</td>
<td>4.00%</td>
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<tr>
<td></td>
<td>Guided activities: 7h 30m</td>
<td>6.00%</td>
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<tr>
<td></td>
<td>Self study: 90h</td>
<td>72.00%</td>
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### Content

<table>
<thead>
<tr>
<th>INTRODUCTION TO REHABILITATION OF EXISTING BUILDING</th>
<th>Learning time: 125h</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Theory classes: 17h 30m</td>
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<tr>
<td></td>
<td>Practical classes: 5h</td>
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<tr>
<td></td>
<td>Laboratory classes: 5h</td>
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<tr>
<td></td>
<td>Guided activities: 7h 30m</td>
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<tr>
<td></td>
<td>Self study: 90h</td>
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#### Description:

1. **Construction restoration: General view.**
   This content broaches a general view around the intervention in the constructed heritage from the perspective of the restoration.

2. **General methodology for the restoration.**
   There will be defined and put into practice a work methodology which allows the students to front the intervention in the existing buildings. The established phases are:
   2.1 The knowledge.
   2.2 The reflection and the project.
   2.3 The construction.
   2.4. The useful life.

3. **There will be developed these aspects:**
   3.1 Historical and documentary study: graphical and written documentary sources, files and their consultation, the building as historical document.
   3.2 Methods and techniques of surveying and graphical representation of buildings.
   3.3 General knowledge of the tools and techniques of the diagnosis processes of the construction elements and the materials.
   3.4 General study of the building, its damages and evaluation.
   3.5 Basic intervention criteria which allow to front the making of a restoration project.

### Qualification system

The subject is divided in four sections, one for each professor. Each part is evaluated from the works done during the course. The final mark is unique and comes from the combination valuation of the four parts.
Bibliography

Complementary:


