Course guides
310730 - 310730 - Workshop 5: Diagnosis

Unit in charge: Barcelona School of Building Construction
Teaching unit: 753 - TA - Department of Architectural Technology.
732 - OE - Department of Management.
752 - RA - Departamento de Representación Arquitectónica.
748 - FIS - Department of Physics.

Degree: BACHELOR’S DEGREE IN ARCHITECTURAL TECHNOLOGY AND BUILDING CONSTRUCTION (Syllabus 2019).
(Compulsory subject).

Academic year: 2021 ECTS Credits: 6.0 Languages: Catalan, Spanish

LECTURER
Coordinating lecturer: Joan Ramon Rosell
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Jordi Xiqués

DEGREE COMPETENCES TO WHICH THE SUBJECT CONtributes

Specific:
FB-03. FB-3 Ability to apply the systems of spatial representation, the development of the sketch, the proportionality, the language and the techniques of the graphical representation of the constructive elements and processes.
FB-03. FB-3 Ability to apply the systems of spatial representation, the development of the sketch, the proportionality, the language and the techniques of the graphical representation of the constructive elements and processes.
FB-05. FB-5 Knowledge of the theoretical basis and the basic principles applied to the construction, of the fluid mechanics, the hydraulics, the electricity and electromagnetism, the calorimetry and thermal comfort, and the acoustics.
FB-05. FB-5 Knowledge of the theoretical basis and the basic principles applied to the construction, of the fluid mechanics, the hydraulics, the electricity and electromagnetism, the calorimetry and thermal comfort, and the acoustics.
FB-04. FB-4 Knowledge of the chemical features of the materials used in construction, its fabrication processes, the methodology of the trials for determining its features, its geologic origin, the environmental impact, the recycling and the residues management.
FB-04. FB-4 Knowledge of the chemical features of the materials used in construction, its fabrication processes, the methodology of the trials for determining its features, its geologic origin, the environmental impact, the recycling and the residues management.
FE-04. FE-4 Knowledge of the materials and traditional or prefabricated construction systems used in construction, their varieties and physical and mechanical features which define them.
FE-04. FE-4 Knowledge of the materials and traditional or prefabricated construction systems used in construction, their varieties and physical and mechanical features which define them.
FE-09. FE-9 Ability to rule about the causes and symptoms of the damages in the buildings, propose solutions to prevent or repair the diseases, and analyse the useful life cycle of the constructive elements and systems.
FE-09. FE-9 Ability to rule about the causes and symptoms of the damages in the buildings, propose solutions to prevent or repair the diseases, and analyse the useful life cycle of the constructive elements and systems.
FE-06. FE-6 Knowledge of the historical evolution of the constructive techniques and elements and the structural systems which have led to stylistic forms.
FE-06. FE-6 Knowledge of the historical evolution of the constructive techniques and elements and the structural systems which have led to stylistic forms.
Transversal:
04 COE N3. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.
05 TEQ N1. TEAMWORK - Level 1. Working in a team and making positive contributions once the aims and group and individual responsibilities have been defined. Reaching joint decisions on the strategy to be followed.
07 AAT N3. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

TEACHING METHODOLOGY
Throughout the course, different teaching methodologies will be used, combining participatory lectures with case studies, used as examples. A part of the course will be based on the case study, with an eminently practical approach.

LEARNING OBJECTIVES OF THE SUBJECT
When planning the intervention in an existing building, be it corrective maintenance, rehabilitation or restoration, it is essential to have an exhaustive knowledge of the building as a whole and of the part to be intervened, in particular. This knowledge is achieved by carrying out a diagnosis process that necessarily must contemplate different multidisciplinary studies such as the historical and documentary study, the graphic survey as a tool for understanding the building and as a document tool for the subsequent stages, the prospecting of the building, the analysis of injuries and dysfunctions, to end the corresponding diagnosis.

The subject provides knowledge and skills, at a first approximation level to the topic of building diagnosis, from the different fields of study exposed.

STUDY LOAD

<table>
<thead>
<tr>
<th>Type</th>
<th>Hours</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours small group</td>
<td>60,0</td>
<td>40.00</td>
</tr>
<tr>
<td>Self study</td>
<td>90,0</td>
<td>60.00</td>
</tr>
</tbody>
</table>

**Total learning time: 150 h**
CONTENTS

Module 1. Introduction to diagnosis

Description:
This module offers a first approach to the knowledge of diagnosis, from general concepts, specific vocabulary and multidisciplinary tools.

Related competencies:
FB-03. FB-3 Ability to apply the systems of spatial representation, the development of the sketch, the proportionality, the language and the techniques of the graphical representation of the constructive elements and processes.
FE-09. FE-9 Ability to rule about the causes and symptoms of the damages in the buildings, propose solutions to prevent or repair the diseases, and analyse the useful life cycle of the constructive elements and systems.
07 AAT N3. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.
05 TEQ N1. TEAMWORK - Level 1. Working in a team and making positive contributions once the aims and group and individual responsibilities have been defined. Reaching joint decisions on the strategy to be followed.

Full-or-part-time: 42h 30m
Theory classes: 5h
Practical classes: 12h
Self study: 25h 30m

Module 2. Pregdiagnosis

Description:
In this module the different pre-diagnosis documents will be worked on: report, opinion, technical note, expert, accessibility evaluations, habitability certificates, energy certificates, ITEs, etc.

Related competencies:
FE-09. FE-9 Ability to rule about the causes and symptoms of the damages in the buildings, propose solutions to prevent or repair the diseases, and analyse the useful life cycle of the constructive elements and systems.
05 TEQ N1. TEAMWORK - Level 1. Working in a team and making positive contributions once the aims and group and individual responsibilities have been defined. Reaching joint decisions on the strategy to be followed.
04 COE N3. EFFICIENT ORAL AND WRITTEN COMMUNICATION - Level 3. Communicating clearly and efficiently in oral and written presentations. Adapting to audiences and communication aims by using suitable strategies and means.
07 AAT N3. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

Full-or-part-time: 32h 30m
Theory classes: 4h
Practical classes: 9h
Self study: 19h 30m
Module 3. Case study

Description:
From a specific case, the diagnosis methodology will be applied from beginning to end, from the initial visits to the writing of the Diagnosis document.

Related competencies:
FE-04. FE-4 Knowledge of the materials and traditional or prefabricated construction systems used in construction, their varieties and physical and mechanical features which define them.
FB-03. FB-3 Ability to apply the systems of spatial representation, the development of the sketch, the proportionality, the language and the techniques of the graphical representation of the constructive elements and processes.
FE-09. FE-9 Ability to rule about the causes and symptoms of the damages in the buildings, propose solutions to prevent or repair the diseases, and analyse the useful life cycle of the constructive elements and systems.
FB-04. FB-4 Knowledge of the chemical features of the materials used in construction, its fabrication processes, the methodology of the trials for determining its features, its geologic origin, the environmental impact, the recycling and the residues management.
FE-06. FE-6 Knowledge of the historical evolution of the constructive techniques and elements and the structural systems which have led to stylistic forms.
FB-05. FB-5 Knowledge of the theoretical basis and the basic principles applied to the construction, of the fluid mechanics, the hydraulics, the electricity and electromagnetism, the calorimetry and thermal comfort, and the acoustics.
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07 AAT N3. SELF-DIRECTED LEARNING - Level 3. Applying the knowledge gained in completing a task according to its relevance and importance. Deciding how to carry out a task, the amount of time to be devoted to it and the most suitable information sources.

Full-or-part-time: 75h
Theory classes: 9h
Practical classes: 21h
Self study: 45h

GRADING SYSTEM
The works delivered will be valued. 50% of the final grade will depend on the case study and the other 50% on the different activities and presentations made throughout the Workshop.
BIBLIOGRAPHY

Basic: