



Course guide

310730 - 310730 - Workshop 5: Diagnosis

Last modified: 15/05/2023

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: 2023 **ECTS Credits:** 6.0 **Languages:** Catalan, Spanish

LECTURER

Coordinating lecturer: Mireia Bosch Prat

Others: Emili Hormias
Inmaculada Rodríguez
Joan Ramon Rosell
Claudia Sanmartí
Pedro Sarró
Mireia Bosch

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.

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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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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.

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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.

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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.

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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.

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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.

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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.

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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.

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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. The case study allows you to go out of school.

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

Type	Hours	Percentage
Hours small group	60,0	40.00
Self study	90,0	60.00

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 :

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-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.

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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 activities:

ITE work with a specific weight in the final grade of 15%.

Work on habitability specific weight with respect to the final grade of 5%.

Accessibility work specific weight with respect to the final grade of 5%.

Energy Saving work specific weight with respect to the final grade of 5%.

Related competencies :

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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 activities:

Case study that represents 70% of the final grade of the subject.

Related competencies :

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.

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.

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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: 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:

- Basiana, Xavier. Barcelona, ciutat de fàbriques = Barcelona, ciudad de fábricas [on line]. Barcelona: Nau Ivanow, 2000 [Consultation: 22/10/2020]. Available on: <https://bit.ly/3jTF77y>. ISBN 8492264640.
- Corredor-Matheos, José. Arquitectura industrial a Catalunya : del 1732 al 1929. Barcelona: C.G. Creaciones Gráficas, 1981. ISBN 8485332075.
- Carol, Màrius. Cien años de diseño industrial en Cataluña. Barcelona: ENHER, 1989. ISBN 844045709X.
- La Arquitectura de la industria : 1925-1965 : registro DOCOMOMO Ibérico. Barcelona: Fundación DOCOMOMO Ibérico, 2005. ISBN 8460911969.
- Prieto Rius, Francesc. Sudor, vapor y lágrimas. Patrimonio Industrial : artículos divulgativos sobre Patrimonio Industrial [on line]. Molins de Rei: [s. l.], 2016 [Consultation: 22/10/2020]. Available on: <http://www.baixllobregatadebat.cat/wp-content/uploads/2016/04/F.-Prieto1.pdf>.
- Preservación de la arquitectura industrial en Iberoamérica y España. Sevilla: Junta de Andalucía, Consejería de Cultura : COMARES, 2001. ISBN 8482661825.
- López López, David; Domènech Rodríguez, Marta. Tile vaults. Structural analysis and experimentation = Voltes de maó de pla. Anàlisi estructural i experimentació = Bóvedas tabicadas. Análisis estructural y experimentación [on line]. [Barcelona]: Imatge i Serveis Editorials. Ajuntament de Barcelona, 2015 [Consultation: 22/10/2020]. Available on: http://www.vilassardedalt.org/ARXIUS/2017/Documents/treballs_guastavino/D_M_web.pdf. ISBN 9788498509854.
- Rosell, Jaume; Serra, Isabel. "Estudis d'Esteve Terradas sobre la volta de maó de pla". Cinquanta anys de Ciència i Tècnica a Catalunya. Entorn i activitat científica d'E. Terradas (1883-1950) [on line]. Barcelona: Institut d'Estudis Catalans, 1987. p. 23-33 [Consultation: 22/10/2020]. Available on: <http://hdl.handle.net/2117/9370>.- Cent elements del patrimoni industrial a Catalunya. Barcelona: Lunewerg, 2002. ISBN 847782827X.
- Gumà i Esteve, Ramon. Del petit taller a la gran fàbrica. Barcelona: Rafael Dalmau, 2015. ISBN 9788423208029.
- "El patrimonio industrial, el legado material de la historia económica". Áreas. Revista Internacional de Ciencias Sociales [on line]. Núm. 29 (2010) [Consultation: 22/10/2020]. Available on: <https://revistas.um.es/areas/issue/view/9711>.- Casanelles Rahola, E. "El patrimonio industrial en Cataluña". Artigrama [on line]. núm. 14, 1999, p. 49-63 [Consultation: 22/10/2020]. Available on: <http://www.unizar.es/artigrama/pdf/14/3monografico/2.pdf>.

RESOURCES

Other resources:

Sudor, vapor y lágrimas. Patrimonio Industrial : artículos divulgativos sobre Patrimonio Industrial