

Course guide

310422 - TFM-EDIF - Master's Thesis

Last modified: 15/05/2023

Unit in charge: Barcelona School of Building Construction
Teaching unit: 753 - TA - Department of Architectural Technology.

Degree: MASTER'S DEGREE IN ADVANCED BUILDING CONSTRUCTION (Syllabus 2014). (Project subject).

Academic year: 2023 **ECTS Credits:** 20.0 **Languages:** Catalan, Spanish, English

LECTURER

Coordinating lecturer: Haurie Ibarra, Laia
Others: Profesorado del máster

REQUIREMENTS

The TFM is carried out when all the subjects of the degree have been passed

DEGREE COMPETENCES TO WHICH THE SUBJECT CONTRIBUTES

Specific:

- CE1. Capacity of innovation: identify the reasons and the mechanisms of the technologic and technical changes.
- CE2. Recognise the materials and construction techniques of each historical period and value its influence in the architecture design.
- CE3. Use the physic principles in the thermic, luminic and acoustic scope.
- CE4. Carry out the modelization of physic processes and the resolution according to numeric methods.
- CE5. Describe phenomenons of exchange of heat, thermic perception, quality of the interior air, ventilation, illumination conditions and propagation and control of noise.
- CE6. Design climatization objects, lifts, security systems and surveillance, domotic installations and network of communication and information.
- CE7. Manage the installations, its costs and maintenance.
- CE8. Elaborate and manage installation projects.
- CE9. Make a model of structures of buildings and evaluate the load they can support.

Generical:

- CG1. Provide to the student the capacity to apply the knowledge acquired in the resolution of complex problems in any sector of the building construction.
- CG2. Prepare to communicate with efficiency, orally but also in written.
- CG3. Prepare the student in the using of tools that are common in the investigation activities, like the analysis and treatment of data, just like methodology and investigation techniques.
- CG4. Developpe 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.
- CG5. Analyse, evaluate and synthesise critically, new and difficult ideas of promotion, in academic and professional contexts, cientific advances, technologists, socials or culturals in the society of knowledge.
- CG6. Obtain results that can be transfered to the building construction sector, through the applied investigation, the technological developement and the innovation.

Basic:

- CB9. 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.
- CB10. 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.

TEACHING METHODOLOGY

The TFM is, usually an individual work, on a topic related to the contents of the master's degree. The work will be directed by at least one lecturer from the EPSEB and may be co-supervised by other UPC or external teaching staff (upon prior request to the center). The student must previously make a work proposal which briefly describes the methodology to be followed and the objectives to be achieved.

At the beginning of the work, the supervisor and the student will prepare a work plan, and during its development they will have regular meetings where the student will show the progress made and will ask any doubts that may arise so that the supervisor can guide the student. The TFM concludes with the presentation of a written document that will be defended in a public exhibition in front of a jury that will evaluate it.

LEARNING OBJECTIVES OF THE SUBJECT

The main goal of the TFM is to apply the knowledge acquired during the master's degree to develop an original work in one of the fields of specialisation of the master's degree. The performance of the TFM involves the drafting of a technical report and the public presentation of the results obtained.

STUDY LOAD

Type	Hours	Percentage
Hours small group	60,0	12.00
Guided activities	60,0	12.00
Self study	380,0	76.00

Total learning time: 500 h

CONTENTS

Area of the construction sector in which the TFM proposal is focused

Description:

Develop, present and defend an original work in front of a jury, in which the skills acquired in the master are synthesised, adopting the advances and novelties related to the subject of the proposal.

Full-or-part-time: 600h

Guided activities: 66h 40m

Self study : 533h 20m

GRADING SYSTEM

The TFM is evaluated by a panel of three UPC professors appointed for this purpose, which decides the final grade of the work. The presentation of the TFM by the student consists of an oral presentation of 20 minutes followed by some time to answer the questions of the panel.