Course guide
290118 - ESTFUS - Wooden Structures

Unit in charge: Vallès School of Architecture
Teaching unit: 753 - TA - Department of Architectural Technology.

Degree: DEGREE IN ARCHITECTURE STUDIES (Syllabus 2014). (Optional subject).
Academic year: 2022 ECTS Credits: 3.0 Languages: Catalan, Spanish

LECTURER

Coordinating lecturer: Gimferrer Vilaplana, Xavier
Others: Gimferrer Vilaplana, Xavier Señis Lopez, Roger

TEACHING METHODOLOGY

LEARNING OBJECTIVES OF THE SUBJECT

Wood, despite being an excellent structural material, has a particular behavior and is different from other structural materials. In order to be able to carry out a correct analysis and development of a wooden structure, a deep knowledge of the specificities of wood as a structural material is required, as well as of the design of joints, locking systems, structural design laws, fire behavior, etc ...

A key aspect in the stability and general behavior of wooden structures is the behavior of the joining mechanisms in such a way that this behavior is one of the most influential in its design, as it depends directly on the mechanical and deformation behavior, and therefore must be controlled in order to be able to properly design a wooden structure.

At present, wood is a very good material for making new construction structures, but it is also a material widely used in previous years, so when intervening in existing buildings there are often wooden structures present, and in order to be able to intervene, apart from knowing their structural behavior, it is also necessary to know their main injuries, the level of risk they involve, as well as being able to repair them.

In the course, we will learn the specific behavior of wood as a structural material paying attention to all those specific aspects of the material in order to successfully deal with the design and calculation of a wooden structure by performing all the necessary checks.
CONTENTS

Description:
1 Material Anatomy. Physical characteristics.
2 Mechanical characteristics of the material.
3 Pre-Sizing, ELS Checks, Kdef Factors.
4 Introduction to software of a wooden structure.
5 Calculation Method: E.L.U.
6 Practical structural verification of a wooden structure.
7 Introduction Links. Case Studies pegs.
8 Structural Types. General stability. Work systems.
9 Case study.
10 Structural behavior under fire situation.
11 Injuries and consolidation of wooden structures.
12 Presentation of work.

Full-or-part-time: 33h
Theory classes: 24h 45m
Practical classes: 8h 15m

GRADING SYSTEM

BIBLIOGRAPHY

Basic: