

30729 - Structures 3

Syllabus Information

Academic Year: 2019/20

Subject: 30729 - Structures 3

Faculty / School: 110 -

Degree: 470 - Bachelor's Degree in Architecture Studies

ECTS: 6.0

Year: 4

Semester: First semester

Subject Type: Compulsory

Module: ---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

In the theoretical lessons, the fundamental concepts of the subject are introduced with direct applications in understandable examples, together with an analysis of the bases of the spanish and european regulations for steel and wood structures.

These are complemented with practical activities related to the analysis of real elements, which encourage decision-making in matters of design, application of regulations, etc. Some of these practical sessions are framed in the context of a course project on a realistic structure with of steel and timber elements, and others are aimed to deepen the knowledge of some fundamental concepts in the design and testing of steel and wood structures.

4.2.Learning tasks

1. Theory lessons (T1) in which the theoretical basis of the subject are presented, illustrated with examples that help to understand them. (30 hours)
2. Applied problems lessons (T2). In these, the fundamentals of the theory lessons are strengthened through the realization of a series of problemscarefully selected to cover all the relevant matters. (15 hours)
3. Computer lessons (T3). In these, the student becomes used to the application of computational means for structural analysis, delves into some complex problems that require this kind of tools, and must understand and apply the regulations on steel and wood structures. The main objective of this part is to ensure that the student is able to

understand the obtained results and question their validity. (15 hours)

4. Course project (T6). A whole project on a real structure is carried out throughout the course, applying all the concepts acquired in the subject. A report of the project must be submitted for evaluation at the end of the course. Partial review dates may be established with the aim of correcting errors made in the initial phases of the project, so that they do not influence the final result.
5. Tutorials in which the teacher helps the student to solve the doubts raised during the learning.

4.3.Syllabus

- 1 Basis of design in steel and timber structures
- 2 Design and checking of truss structures
- 3 Design and checking of beams
- 4 Design and checking of columns
- 5 Design and checking of frames
- 6 Joints in steel structures
- 7 Joints in timber structures

4.4.Course planning and calendar

The theory lessons and practical sessions will adhere to the schedules foreseen in the Teaching Ordinance Plan of the School of Engineering and Architecture, published on its web page (eina.unizar.es).

Questionnaires with the results of the practices must be filled at the end of each session.

At the end of the course a report on the course project must be submitted for evaluation. Partial review dates will be announced in advance.

The exam of the subject will be carried out on the date indicated in the academic calendar of the School.

Each professor will inform about their tutoring attention schedule, which will also be found on the school website.

4.5.Bibliography and recommended resources