Universidad Zaragoza

Year : 2020/21

30724 - Structures 2

Syllabus Information

Academic Year: 2020/21
Subject: 30724 - Structures 2
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 470 - Bachelor's Degree in Architecture Studies
ECTS: 6.0
Year: 3
Semester: Second 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

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as lectures, and problem-solving, computer laboratory.

The course is structured in 15 participatory lectures, given by teachers with multimedia support that will be previously provided to students. In addition, a total of seven practice sessions of two hours each and 15 other problem sessions have been organized in the form of conferences/seminars, in which students must face the difficulties of situations similar to those of the exam.

4.2.Learning tasks

This course is organized as follows:

- **Lectures**
- **Problem-solving**
- **Computer laboratory**

4.3.Syllabus

This course will address the following topics:

Review of Linear elasticity. Introduction to M.E.F.

Reviewing bars Bernoulli and Timoshenko. Associated finite elements.

Barrasa structures) Typology. b) Lattices. Flat and three-dimensional. c) Structures arcaded.

Plates and sheets. Associated finite elements.

a) plates. Forgings.

b) Blades.

c) Membranes. hyperbolic paraboloid and other more sophisticated ways.

d) Finite elements for plate and sheet

e) Stability of structures

4.4.Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the College of Higher Engineering and Architecture (EINA) website (https://eina.unizar.es/) and Moodle.

4.5.Bibliography and recommended resources

La estructura como arquitectura. Formas, detalles y simbolismo. Andrew Charleson. Editorial Reverte
La estructura y el proyecto. David García. Escola Sert
L?art des structures. Aurelio Muttoni. PPUR presses polytechniques
Estructuras para arquitectos. M. Salvadori & R. Heller. Nobuko
The function of form. F. Moussavi. ACTAR, Harvard Graduate School of Design
La obra de ingeniería como obra de arte. Javier Manterola. LAETOLI