Structures and industrial constructions

Academic Year: (2023 / 2024) **Review date: 13-06-2023**

Department assigned to the subject: Continuum Mechanics and Structural Analysis Department

Coordinating teacher: GARCIA CASTILLO, SHIRLEY KALAMIS

Type: Compulsory ECTS Credits : 3.0

Year : 1 Semester : 2

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Elasticity, Strength of materials, and theory of structures.

OBJECTIVES

Ability for the design and construction of industrial complexes
Knowledge about constructions, installations and infrastructures in the field of mechanical engineering
Knowledge and ability to calculate and design structures
Application of the standards relative to industrial structures
Note: These competencies are developed when studying the subjects: Structural Engineering and Structures and industrial Constructions.

DESCRIPTION OF CONTENTS: PROGRAMME

1. Description of industrial structures
2. Design of industrial structures made of steel and concrete elements
3. Foundations calculus
4. Standards relative to industrial constructions
5. Town planning and industrial infrastructures
6. The project of industrial structures
7. Industrial installations
8. Introduction to Building Information Modeling (BIM)

LEARNING ACTIVITIES AND METHODOLOGY

- Magisterial classes, tutorship and personal work oriented to the acquisition of theoretical knowledge.
- Problems solution classes, tutorship and personal work oriented to the acquisition of practical skills.
- Practical work and computer practice . Design and calculation of a typical industrial structure, using the standard regulations.
Additionally, collective tutorship can be included in the programme

ASSESSMENT SYSTEM

Continuum assessment system based on short tests and reports.
The assessment system of subjects is:
Continuum evaluation: 40%
Final Exam 60%

In order to pass the course, the attendance and performance of the practical work foreseen in the weekly planning are compulsory. The weighting of the practical work mark in the continuous assessment corresponds to what it is established in the course, in accordance with the regulations of the university.

A minimum grade of 4.5 in the final exam and continuum evaluation are required.

In the extraordinary call, the assessment system of subjects is

Continuum evaluation: 40%
Final Exam 60%

A minimum grade of 4.5 in the final exam and continuum evaluation are required.

Students who cannot follow the continuous evaluation will have the possibility of making a final exam of

100% of the mark (only the extraordinary call)

% end-of-term-examination:	60
% of continuous assessment (assigments, laboratory, practicals…):	40

BASIC BIBLIOGRAPHY

- J. Monfort Lleonart Estructuras metálicas para edificación , Ed. Universidad Politécnica de Valencia,2006, 2006

- R. Argüelles Álvarez, et al. Estructuras de Acero, fundamentos y cálculo según CTE, AEA y EC3, Bellisco Ediciones Técnicas y Científicas, 2013

ADDITIONAL BIBLIOGRAPHY

- R. Arguelles Alvarez, J.M. Arguelles Bustillo, Arriaga Martitegui Estructuras De Acero, Editorial Bellisco, 2008

BASIC ELECTRONIC RESOURCES

- Ministerio de Fomento . Cádigo Técnico de la Edificación: https://www.codigotecnico.org/