SUBJECT TEACHING GUIDE

G761 - Industrial and Machine Metal Structures

Degree in Mechanical Engineering

Academic year 2024-2025

1. IDENTIFYING DATA					
Degree	Degree in Mechanical Engineering			Type and Year	Optional. Year 4
Faculty	School of Industrial Engineering and Telecommunications				
Discipline	Subject Area: Structures and Industrial Installations Optional Module: Mechanical Engineering				
Course unit title and code	G761 - Industrial and Machine Metal Structures				
Number of ECTS credits allocated	6	Term		Semester based (1)	
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. INGENIERIA ESTRUCTURAL Y MECANICA
Name of lecturer	HAYDEE BLANCO WONG
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Office	E.T.S. de Ingenieros de Caminos, Canales y Puertos. Planta: + 2. DESPACHO (2066)
Other lecturers	YOSBEL BOFFILL ORAMA

3.1 LEARNING OUTCOMES

- Knowledge for the design of steel structures for industrial buildings and machines

4. OBJECTIVES

Knowledge needed for the design of steel structures.
Spanish and European Codes.
Use of professional software for analysis and design of steel structures.

6. SUBJECT PROGRAM

CONTENTS	
1	Introduction to steel structures
2	Design rules for steel structures
3	Loads on structures
4	Steel cross-section classes
5	Ultimate limit states. Resistance of cross-sections
6	Ultimate limit states. Buckling resistance
7	Joints
8	Plate base design

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Practices	Work	No	No	15,00
Robot Structural Analysis lab	Laboratory evaluation	No	No	20,00
1st partial exam	Written exam	No	Yes	20,00
2nd partial exam	Written exam	No	Yes	20,00
Final exam	Written exam	Yes	Yes	25,00
TOTAL				100,00

Observations

ORDINARY EVALUATION
The final grade will be the result of adding the grades obtained in each of the assessment activities, weighted by the corresponding percentage. To pass the course, a grade of 5.0 or higher out of 10.0 is required.

EXTRAORDINARY EVALUATION
The final grade will be the best of those obtained using the following criteria:
Criterion 1: The first criterion is similar to that of the ordinary evaluation, substituting the grade of the ordinary final exam with the grade obtained in the extraordinary exam.
Criterion 2: The second criterion is obtained by assessing the extraordinary exam with a weight of 65%, with the remaining 35% corresponding to the laboratory evaluation activity and the practices.

Observations for part-time students

No part-time students do not need to attend softwares classes in order to be evaluated.

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

- Código Estructural. Dimensionamiento y comprobación de estructuras de acero.
- Código Técnico de la Edificación (CTE). http://www.codigotecnico.org/
- Estructuras de acero. Vol 1. Argüelles Alvarez R. et al. Bellisco Ediciones. 3ra edición.
- Estructuras de acero. Vol 2. Argüelles Alvarez R. et al. Bellisco Ediciones. 3ra edición.
- Apuntes de la asignatura (Aula virtual)