[MHD201] METAL AND REINFORCED CONCRETE STRUCTURES

GENERAL INFORMATION

Studies	UNIVERSITY MASTER IN INDUSTRIAL ENGINEERING			**Subject**	?
Semester	1	**Course**	1	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2022	**Modality**	Face-to-face	**Language**	CASTELLANO
Credits	6	**Hours/week**	3.61	**Total hours**	65 class hours + 85 non-class hours = **150 total hours**

PROFESSORS

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REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
MATERIAL ELASTICITY AND STRENGTH	*(No previous knowledge required)*
INDUSTRIAL STRUCTURAL AND CONSTRUCTION THEORY	

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
MHRA17 - To demonstrate capacity for the design, construction and operation of industrial plants		x		1,08
MHRA18 - To demonstrate knowledge about construction, building, facilities, infrastructure and urban planning in the field of industrial engineering		x		0,36
MHRA19 - To demonstrate capacity for the management of technological Research, Development and Innovation		x		2,88
MHRA23 - To demonstrate knowledge and capabilities to carry out certifications, audits, verifications, tests and reports		x		0,48
MHRA27 - To demonstrate the ability to integrate knowledge and face the complexity of formulating judgments based on information that, being incomplete or limited, includes reflections on the social, health and safety, environmental, economic and industrial implications and responsibilities		x		0,36
MHRA28 - To communicate your conclusions and the knowledge and ultimate reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way		x		0,28
MHRA30 - To work with people, involving and directing them in a dynamic aimed at a common objective that includes reflection on their ethical and social responsibility, with a global vision of the work to be carried out and the characteristics that it requires (quality, deadlines,...), assuming responsibility for the decisions made		x		0,24
MHR126 - To apply the knowledge acquired and your problem-solving skills in new, little-known or changing environments within broader (or multidisciplinary) contexts related to your area of study		x		0,08
MHR129 - To possess the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous		x		0,24
			Total:	6

KC: Knowledge or Content / SK: Skills / AB: Abilities

ENAEE LEARNING RESULTS	ECTS
ENA123 - Knowledge and comprehension: Deep knowledge and comprehension of mathematics and other basic sciences inherent in their engineering speciality, allowing them to achieve the other competencies of the degree.	0,6
ENA124 - Knowledge and comprehension: Deep knowledge and comprehension of the engineering disciplines of their speciality, at the level necessary to acquire the rest of the competencies of the degree.	0,5
ENA127 - Analysis in engineering: Ability to analyse new and complex engineering products, processes and systems within a broader multidisciplinary context; select and apply the most appropriate analysis, calculation and experimental methods already established, as well as innovative methods; and critically interpret the results of such analyses.	0,6
ENA128 - Analysis in engineering: Ability to conceive new products, processes, and systems.	0,7
ENA131 - Engineering projects: Ability to project, develop and design new complex products (parts, components, finished products, etc.), processes and systems with specifications defined incompletely and/or with conflicts, which require the integration of knowledge from different disciplines, and consider social, health and safety, environmental, economic and industrial aspects; to select and apply the appropriate methodologies or employ creativity to develop new project methodologies.	0,5
ENA134 - Research and innovation: Ability to carry out bibliographic searches and consult and use databases and other information sources with discretion, in order to carry out simulations with the aim of conducting research on complex topics of their speciality.	0,5
ENA135 - Research and innovation: Ability to consult and apply codes of good practices and security in their speciality.	0,5
ENA136 - Research and innovation: High-level capacity and ability to project and carry out experimental investigations, interpret data with criteria, and draw conclusions.	0,5
ENA138 - Practical application of engineering: Complete knowledge of the applicable techniques and methods of analysis,	0,5

project and research, as well as their limitations.

ENA141 - Practical application of engineering: Ability to apply standards of engineering practice.	0,5
ENA145 - Preparation of judgements: Ability to manage complex technical or professional activities or projects that require new approach approaches, assuming responsibility for the decisions made.	0,6
Total:	**6**

CONTENTS

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Subject notes

[!] *Programas de Simulación (CYPE)*

Presentations by external Lecturers

Topic related web quires

Video projections

Computer practical training

[!] *Visita a edificios/obras*

[!] *http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_lnk. pl?grupo=INGINDUSTRIAL11&ejecuta=20*

Moodle Platform

[!] *https://www.mitma.gob.es/organos-colegiados/comision-permanente-de-estructuras-de-acero/cpa/codigo-estructural*

Bibliography

A. Hirt MA, Crisinel M. Charpentes Métalliques. Presses polytechniques et universitaries romandes; 2005

Montoya PJ, Meseguer ÁG, Cabré FM, Portero JC. Hormigón armado 15º edición basada en la EHE08. Gustavo Gili; 2009

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