

[MHB204] QUANTITATIVE RESEARCH METHODS

GENERAL INFORMATION

Studies	UNIVERSITY MASTER IN INDUSTRIAL ENGINEERING	Subject	?
Semester	1	Course	2
Character	OPTIONAL	Mention / Field of specialisation	???
Plan	2022	Modality	Face-to-face
Credits	3	Hours/week	1.56
		Language	CASTELLANO
		Total hours	28 class hours + 47 non-class hours = 75 total hours

PROFESSORS

SOLER MALLOL, DANIEL

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
<i>(No specific previous subjects required)</i>	<i>(No previous knowledge required)</i>

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
MHRA19 - To demonstrate capacity for the management of technological Research, Development and Innovation		x		1,5
MHR125 - To possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context		x		1,5
Total:				3

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

ENAAE LEARNING RESULTS

ENAAE 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.	0,75
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.	0,37
ENA130 - Analysis in engineering: Ability to identify, formulate and solve engineering problems in emerging areas of their speciality.	0,37
ENA132 - Engineering projects: Ability to project while applying the knowledge and cutting-edge understanding of their engineering speciality.	0,37
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.	0,75
ENA139 - Practical application of engineering: Practical skills, such as the use of computer tools to solve complex problems, carry out complex engineering projects, and design and guide complex investigations.	0,37
Total:	3

SECONDARY LEARNING RESULTS

RAH201 [!] *Demostrar capacidad para la gestión de la Investigación, Desarrollo e Innovación tecnológica*

LEARNING ACTIVITIES

	CH	NCH	TH
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	14 h.	23,5 h.	37,5 h.

EVALUATION SYSTEM

Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems

W
100%

MAKE-UP MECHANISMS

(No mechanisms)

CH - Class hours: 14 h.

NCH - Non-class hours: 23,5 h.

TH - Total hours: 37,5 h.

RAH202 [!] *Poseer y comprender conocimientos que aporten una base u oportunidad de ser originales en el desarrollo y/o aplicación de ideas, a menudo en un contexto de investigación*

LEARNING ACTIVITIES

	<i>CH</i>	<i>NCH</i>	<i>TH</i>
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	14 h.	23,5 h.	37,5 h.

EVALUATION SYSTEM

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MAKE-UP MECHANISMS

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CH - Class hours: 14 h.

NCH - Non-class hours: 23,5 h.

TH - Total hours: 37,5 h.

CONTENTS

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Moodle Platform
 Subject notes
 Programmes
 Class presentations

Bibliography

Manuales oficiales de Mathworks
 Mastering MATLAB 7, Duane C. Hanselman, Bruce L. Littlefield, Prentice Hall
 Mastering SIMULINK, James B. Dabney, Thomas L. Harman, Prentice Hall
 Métodos numéricos para ingeniero, Chapra, Steven C. and Canale, Raymond P., McGraw-Hill
 An engineer's guide to MATLAB, Edward B. Magrab Shapour Azarm, Balakumar Balachandran, James Duncan, Keith Herold, Gregory Walsh, Prentice Hall, 2011
 Applied numerical methods using MATLAB, Yang, W. Y.; Cao, W.; Chung, T.-S. & Morris, J, John Wiley & Sons, 2005