

[MHF205] LABORATORY OF MATERIALS AND PROCESSES II

GENERAL INFORMATION

Studies	UNIVERSITY MASTER IN INDUSTRIAL ENGINEERING	Subject	?
Semester	2	Course	1
Character	OPTIONAL	Mention / Field of specialisation	???
Plan	2022	Modality	Face-to-face
Credits	3	Hours/week	1.67
		Language	CASTELLANO/EUSKARA
		Total hours	30 class hours + 45 non-class hours = 75 total hours

PROFESSORS

ARISTIMUÑO OSORO, PATXI XABIER
SARRIONANDIA ARIZNABARRETA, MARIASUN
LLAVORI OSA, IÑIGO
BASKARAN RAZKIN, MAIDER
ARRIETA GALDOS, IÑAKI

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	[!] Haber cursado la asignatura de ingenieria de materiales del 1er semestre

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
MHMP01 - To project, calculate and design integrated manufacturing systems, optimizing the most suitable manufacturing processes for different industrial sectors, based on their material and design, identifying the machinery to be used, the parameters to control and establishing the designs of the tools to be used.		x		1,04
MHMP02 - To project, calculate and design integrated manufacturing systems taking into account the performance of polymeric, metallic, composite and biomaterial materials and be able to establish the relationship between properties-microstructure-processing		x		0,92
MHMP04 - To design and carry out machine tests predicting the chemical, physical and mechanical behavior of a material in service		x		0,28
MHRA22 - To demonstrate knowledge and capabilities to carry out verification and control of facilities, processes and products		x		0,2
MHRA23 - To demonstrate knowledge and capabilities to carry out certifications, audits, verifications, tests and reports		x		0,2
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		0,04
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		0,08
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		0,08
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		0,04
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		0,04
MHR129 - To possess the learning skills that allow them to continue studying in a way that will be largely self-directed or autonomous		x		0,08
Total:				3

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

ENAE LEARNING RESULTS

ENAE LEARNING RESULTS	ECTS
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.	0,37
ENA126 - Knowledge and comprehension: Critical knowledge of the broad multidisciplinary context of engineering and the interrelations existing between the knowledge of the different fields.	0,37
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.	0,23
ENA130 - Analysis in engineering: Ability to identify, formulate and solve engineering problems in emerging areas of their speciality.	0,52
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.	0,37
ENA137 - Research and innovation: Ability to investigate the application of the most advanced technologies in their speciality.	0,37

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
ENA140 - Practical application of engineering: Complete knowledge of application of materials, equipment and tools, engineering technology and processes, and their limitations.	0,37

Total: 3

SECONDARY LEARNING RESULTS

RMH141 [!] *Analiza procesos de fabricación en casos prácticos y reale*

LEARNING ACTIVITIES

	<i>CH</i>	<i>NCH</i>	<i>TH</i>
Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams	14 h.	21 h.	35 h.
Practical work in workshops and/or laboratories, individually and/or in teams	8 h.	16 h.	24 h.
Carrying out visits and/or learning trips to other university centres, laboratories, companies and/or thermal power plants	5 h.		5 h.
Reading and personal and/or shared analysis of relevant and current publications (books, articles, catalogues, etc.) related to the speciality	3 h.	8 h.	11 h.

EVALUATION SYSTEM

	<i>W</i>
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	60%
Individual written and/or oral tests or individual coding/programming tests	40%

MAKE-UP MECHANISMS

Individual written and/or oral tests or individual coding/programming tests

CH - Class hours: 30 h.
NCH - Non-class hours: 45 h.
TH - Total hours: 75 h.

CONTENTS

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Technical articles
 Labs
 Moodle Platform
 Lab practical training
 Specific Master Software
 Topic related web quires

Bibliography

(No bibliography)