[GDI303] MATERIALS II

GENERAL INFORMATION

Studies	DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING			**Subject**	MATERIALS AND PROCESS
Semester	2	**Course**	2	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2022	**Modality**	Face-to-face	**Language**	CASTELLANO/EUSKARA
Credits	4,5	**Hours/week**	2.33	**Total hours**	42 class hours + 70.5 non-class hours = **112.5 total hours**

PROFESSORS

TATO VEGA, GUILSON
CHAMORRO SANCHEZ, XABIER

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
MATERIALS I	[!] *QUIMICA* [!] *CONOCIMIENTOS DE FÍSICA Y MATEMÁTICAS DADOS EN 1º DE GRADO*

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GDR207 - To analyze, select and implement different metallic (ferrous and non-ferrous alloys) and non-metallic materials from the point of view of their behavior in service		x		4,02
G-RTR1 - To develop interdisciplinary projects specific to their specialty and of gradual complexity, - becoming aware of respect for human rights and fundamental rights, and analyzing and assessing the impact of the proposed solutions on the SDGs - to acquire and/or apply basic, advanced and /or avant-garde, demonstrating the ability to work in multidisciplinary teams and/or undertake further studies with a high degree of autonomy		x		0,24
G-RTR2 - To express information, ideas and the arguments that support them in an orderly, clear and coherent manner, orally and in writing, based on quality information, self-made or obtained from different sources, using inclusive and non-discriminatory language		x		0,24
			Total:	4,5

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

ENAEE LEARNING RESULTS	ECTS
ENAE02 - Knowledge and understanding: A systematic understanding of the key aspects and concepts of their branch of engineering.	1,68
ENAE06 - Analysis in engineering: Ability to apply their knowledge and understanding in analysing product, process and method engineering.	1,38
ENAE08 - Engineering projects: Ability to apply their knowledge in the development and completion of projects which meet specific requirements.	0,6
ENAE10 - Research & innovation: Ability to perform bibliographic searches, to use databases and other sources of information.	0,36
ENAE14 - Practical application of engineering: Ability to combine theory and practice in order to solve engineering problems.	0,3
ENAE18 - Transversal competences: To use different methods to communicate effectively with the engineering community and society in general.	0,18
Total:	4,5

SECONDARY LEARNING RESULTS

RGD290 **[!]** ***Proponer los objetivos y la planificación de un proyecto que le permita adquirir y/o reforzar los conocimientos de tecnologías propias de su especialidad,- que en ocasiones llegan a la vanguardia del conocimiento- y definir una estrategía de aprendiz***

LEARNING ACTIVITIES	CH	NCH	TH
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams		3 h.	3 h.

EVALUATION SYSTEM	W
Co-assessment	50%
Observation (technical capacity, attitude and participation)	50%

MAKE-UP MECHANISMS

(No mechanisms)

CH - Class hours: 0 h.
NCH - Non-class hours: 3 h.
TH - Total hours: 3 h.

RGD291 **[!]** ***Establecer las responsabilidades de los miembros del equipo utilizando técnicas adecuadas para fomentar la eficiencia del equipo para el desarrollo del proyecto en los plazos establecidos (compartir recursos, aportar ideas, habilidades comunicativas***

LEARNING ACTIVITIES	CH	NCH	TH
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams		3 h.	3 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	100%	*(No mechanisms)*

CH - Class hours: 0 h.
NCH - Non-class hours: 3 h.
TH - Total hours: 3 h.

RGD293 **[!]** ***Redacta y estructura correctamente la memoria del proyecto, haciendo un uso correcto, inclusivo y no discriminatorio del lenguaje. Para ello, busca y hace uso de las fuentes de información adecuadas.***

LEARNING ACTIVITIES	CH	NCH	TH
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams		3 h.	3 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	100%	*(No mechanisms)*

CH - Class hours: 0 h.
NCH - Non-class hours: 3 h.
TH - Total hours: 3 h.

RGD294 **[!]** ***Realiza una presentación oral del proyecto con argumentos elaborados por sí mismos y haciendo un uso correcto, inclusivo y no discriminatorio del lenguaje.***

LEARNING ACTIVITIES	CH	NCH	TH
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	1 h.	2 h.	3 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Individual written and/or oral tests or individual coding/programming tests	100%	*(No mechanisms)*

CH - Class hours: 1 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 3 h.

RGD209 **[!]** ***Establecer las bases del uso de materiales compuestos y conocer los principales compuestos de matriz orgánica***

LEARNING ACTIVITIES	CH	NCH	TH
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		13,5 h.	13,5 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	1 h.		1 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	6 h.		6 h.
Practical work in workshops and/or laboratories, individually and/or in teams	2 h.		2 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
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	25%	Individual written and/or oral tests or individual coding/programming tests
Individual written and/or oral tests or individual coding/programming tests	75%	

CH - Class hours: 9 h.
NCH - Non-class hours: 13,5 h.
TH - Total hours: 22,5 h.

RGD210 **[!]** ***Comprender los fundamentos de los principales fenómenos de degradación que pueden experimentar los materiales en uso y definir posibles soluciones de diseño para mejorar su comportamiento en servicio***

LEARNING ACTIVITIES	CH	NCH	TH
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		46 h.	46 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2 h.		2 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	25 h.		25 h.
Carrying out exercises and solving problems individually and/or in teams	3 h.		3 h.
Practical work in workshops and/or laboratories, individually and/or in teams	2 h.		2 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
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	25%	Individual written and/or oral tests or individual coding/programming tests
Individual written and/or oral tests or individual coding/programming tests	75%	

CH - Class hours: 32 h.
NCH - Non-class hours: 46 h.
TH - Total hours: 78 h.

CONTENTS

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Moodle Platform	Callister, W.D.; “Ciencia e Ingeniería de los Materiales” vol. I y II; Ed. Reverté; Barcelona, 1995, 3ª edición
Class presentations	
Video projections	

Lab practical training Slides of the subject Programmes	Ashby, Michael; Shercliff, Hugh; Cebon, David. “Materials: engineering, science, processing and design”. 1st edition. Elsevier, Amsterdam. 2007. ISBN-13: 978-0-7506-8391-3. ISBN-10: 0-7506-8391-0 Programa de selección de materiales GRANTA EDUPACK ANSYS "Ciencia e Ingeniería de los Materiales"; W.D. Callister, Jr., D. G. Rethwisch, 2ª edición (correspondiente a la 9ª Edición original), Ed. Reverté; Barcelona, 2016. Powered by