[GDI304] MANUFACTURING PROCESSES 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**	3.5	**Total hours**	63 class hours + 49.5 non-class hours = **112.5 total hours**

PROFESSORS

FERNANDEZ MANCHADO, RAUL
ARISTIMUÑO OSORO, PATXI XABIER

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
GRAPHIC EXPRESSION I	*(No previous knowledge required)*
GRAPHIC EXPRESSION II	
MANUFACTURING PROCESSES I	

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GDR205 - To identify and select the production processes related to the transformation of plastic and the machining of its metal tools, and select the most appropriate one for the tooling of each component and the plastic components of a product		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.	1,14
ENAE04 - Knowledge and understanding: To be aware of the multidisciplinary context of engineering.	0,4
ENAE06 - Analysis in engineering: Ability to apply their knowledge and understanding in analysing product, process and method engineering.	0,2
ENAE07 - Analysis in engineering: Ability to choose and apply relevant modelling and analytical methods.	0,6
ENAE08 - Engineering projects: Ability to apply their knowledge in the development and completion of projects which meet specific requirements.	0,28
ENAE09 - Engineering projects: Understanding of the different methods and ability to use them.	0,28
ENAE10 - Research & innovation: Ability to perform bibliographic searches, to use databases and other sources of information.	0,2
ENAE11 - Research & innovation: Ability to design and carry out experiments, to interpret data and draw conclusions.	0,2
ENAE13 - Practical application of engineering: Ability to select and use suitable equipment, tools and methods.	0,2
ENAE14 - Practical application of engineering: Ability to combine theory and practice in order to solve engineering problems.	0,24
ENAE15 - Practical application of engineering: Understanding of applicable methods and techniques and their limitations.	0,2
ENAE16 - Practical application of engineering: To be aware of the implications of the practical application of engineering.	0,2
ENAE17 - Transversal competences: To work effectively, both individually and in a team.	0,12
ENAE18 - Transversal competences: To use different methods to communicate effectively with the engineering community and society in general.	0,12
ENAE19 - Transversal competences: Demonstrate that they are aware of the responsibility implied in the practical application of engineering, the social and environmental impact, and show commitment with professional ethics, responsibility and regulations of the practical application of engineering.	0,12
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 estrategia de***

aprendiz

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		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%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems

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
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		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	80%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
Co-assessment	20%	

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
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		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%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems

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
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		3 h.	3 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	100%	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

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

RGD206 **[!]** ***Ser capaz de utilizar herramientas de Fabricación Asistida por Ordenador CNC-CAM-CAE***

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 h.	13 h.
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning	4 h.	8 h.	12 h.
Computer simulation exercises, individually and/or in teams	16 h.	4 h.	20 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	35 h.	2,5 h.	37,5 h.
Carrying out exercises and solving problems individually and/or in teams	8 h.	10 h.	18 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	8%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
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	20%	Individual written and/or oral tests or individual coding/programming tests
Individual written and/or oral tests or individual coding/programming tests	72%	

CH - Class hours: 63 h.
NCH - Non-class hours: 37,5 h.
TH - Total hours: 100,5 h.

CONTENTS

1) CHIP REMOVAL MACHINING- Theory- Cutting conditions- Process sheets2) SPECIAL MANUFACTURING PROCESSES- Wire and die sinking EDM- Finishing processes3) CNC AND CAD-CAM PROGRAMMING- Basic CNC programming- CAD-CAM programming focused on molds

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Subject notes Topic related web quires Labs Moodle Platform Video projections	PROCESS SELECTION From Design to Manufacture, Swift and Booker

Computer practical training