

[GOX301] GRAPHIC EXPRESSION

GENERAL INFORMATION

Studies	DEGREE IN INDUSTRIAL ORGANIZATION ENGINEERING		Subject	GRAPHIC EXPRESSION
Semester	1	Course	1	Mention / Field of specialisation
Character	BASIC TRAINING		Language	EUSKARA
Plan	2022	Modality	Face-to-face	Total hours
Credits	6	Hours/week	4.17	75 class hours + 75 non-class hours = 150 total hours

PROFESSORS

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REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	(No previous knowledge required)

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
G-RA02 - To demonstrate spatial vision and knowledge of graphic representation techniques, both through traditional methods of metric geometry and descriptive geometry, and through computer-aided design applications	x	x		5,4
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		0,28
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		0,32
Total:				6

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

ENAE LEARNING RESULTS

ENAE LEARNING RESULTS	ECTS	
ENAE01 - Knowledge and understanding: Knowledge and understanding of the underlying scientific and mathematical principles in their branch of engineering.	1,84	
ENAE04 - Knowledge and understanding: To be aware of the multidisciplinary context of engineering.	0,32	
ENAE05 - Analysis in engineering: Ability to apply their knowledge and understanding in identifying, formulating and solving engineering problems using established methods.	2	
ENAE08 - Engineering projects: Ability to apply their knowledge in the development and completion of projects which meet specific requirements.	0,22	
ENAE13 - Practical application of engineering: Ability to select and use suitable equipment, tools and methods.	1,2	
ENAE17 - Transversal competences: To work effectively, both individually and in a team.	0,21	
ENAE18 - Transversal competences: To use different methods to communicate effectively with the engineering community and society in general.	0,21	
Total:		6

SECONDARY LEARNING RESULTS

RG0103 [!] *Representa diferentes tipos de piezas respetando las normas de dibujo técnico*

LEARNING ACTIVITIES	CH	NCH	TH
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2 h.	3 h.	5 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	12 h.	13 h.	25 h.
Carrying out exercises and solving problems individually and/or in teams	10 h.	10 h.	20 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	20%	Individual written and/or oral tests or individual coding/programming tests	

Individual written and/or oral tests or individual coding/programming tests 80%

CH - Class hours: 24 h.
NCH - Non-class hours: 26 h.
TH - Total hours: 50 h.

RG0104 [!] *Acota y define las tolerancias necesarias de las piezas que forman un conjunto mecánico respetando las normas de dibujo técnico*

LEARNING ACTIVITIES	CH	NCH	TH
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	5 h.		5 h.
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams		20 h.	20 h.
Computer simulation exercises, individually and/or in teams	26 h.	7 h.	33 h.
Carrying out exercises and solving problems individually and/or in teams	20 h.	7 h.	27 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	10%	Individual written and/or oral tests or individual coding/programming tests
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	10%	
Individual written and/or oral tests or individual coding/programming tests	80%	

CH - Class hours: 51 h.
NCH - Non-class hours: 34 h.
TH - Total hours: 85 h.

RG0190 [!] *Conocer y aplicar las fases para desarrollar de forma guiada, con los objetivos y la planificación previamente definidos, un proyecto de complejidad técnica acorde con los conocimientos de formación básica de la ingeniería. Reflexiona sobre los cono*

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		4 h.	4 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: 4 h.
TH - Total hours: 4 h.

RG0191 [!] *Contribuir en la estrategia de funcionamiento del equipo priorizando los objetivos comunes, fomentando y valorando la participación de todas las personas y responsabilizándose de las tareas individuales, así como del cumplimiento de plazos.*

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	
Self-assessment	50%	(No mechanisms)	
Co-assessment	50%		
CH - Class hours: 0 h.			
NCH - Non-class hours: 3 h.			
TH - Total hours: 3 h.			

RG0193 [!] *Redacta una memoria de proyecto clara y concisa utilizando las fuentes de información y estructura de memoria facilitadas, 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		4 h.	4 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: 4 h.			
TH - Total hours: 4 h.			

RG0194 [!] *Realiza una presentación oral y defensa del proyecto clara y concisa, haciendo 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		4 h.	4 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%	(No mechanisms)	
CH - Class hours: 0 h.			
NCH - Non-class hours: 4 h.			
TH - Total hours: 4 h.			

CONTENTS

1. Representation of parts
 - 1.1. Orthogonal representation and cuts
 - 1.2. The quotation
2. Threaded connection
3. Tolerances (Dimensional, surface, geometric)
4. Mechanical elements and interpretation of sets
5. CAD: SolidWorks

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Subject notes
Specific Master Software
Moodle Platform
Class presentations

Bibliography

Normalización del Dibujo Técnico. Candido Preciado y Francisco Jesús Moral. Editorial Donostiarra. ISBN 9788470633096
Kendu Prácticas de Dibujo Técnico (Cortes y secciones). Joaquín Gonzalo. Editorial Donostiarra. ISBN 8470633163
Kendu Vistas y visualización de formas. Gaspar Fernández. Editorial Donostiarra. ISBN 8470633155
Prácticas de Dibujo Técnico (Cortes y secciones). Joaquín Gonzalo. Editorial Donostiarra. ISBN 8470633163
Prácticas de Dibujo Técnico (Cortes y secciones). Joaquín Gonzalo. Editorial Donostiarra. ISBN 8470633163
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