[GDW301] METHODOLOGICAL FOUNDATIONS

GENERAL INFORMATION

Studies	DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING	**Subject**	DESIGN METHODOLOGY
Semester	1	**Course**	1
Character	COMPULSORY	**Mention / Field of specialisation**	
Plan	2022	**Modality**	Face-to-face
Credits	6	**Hours/week**	5.28
Language	EUSKARA		
Total hours	95 class hours + 55 non-class hours = **150 total hours**		

PROFESSORS

BEITIA AMONDARAIN, AMAIA

ARDANZA CUEVAS, ASIER

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
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*		3,92
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*		2,08
			Total:	**6**

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.	0,8
ENAE05 - Analysis in engineering: Ability to apply their knowledge and understanding in identifying, formulating and solving engineering problems using established methods.	0,8
ENAE06 - Analysis in engineering: Ability to apply their knowledge and understanding in analysing product, process and method engineering.	0,8
ENAE10 - Research & innovation: Ability to perform bibliographic searches, to use databases and other sources of information.	1,2
ENAE13 - Practical application of engineering: Ability to select and use suitable equipment, tools and methods.	0,52
ENAE18 - Transversal competences: To use different methods to communicate effectively with the engineering community and society in general.	1,88
Total:	**6**

SECONDARY LEARNING RESULTS

RGD190 **[!]** ***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
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	1 h.	2 h.	3 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	25 h.	12 h.	37 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	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	50%	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,	40%	Presentation and defence of exercises, case studies, computer

computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems		practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems
Individual written and/or oral tests or individual coding/programming tests	10%	

CH - Class hours: 30 h.
NCH - Non-class hours: 14 h.
TH - Total hours: 44 h.

RGD191 **[!]** ***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
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	8 h.	13 h.	21 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	4 h.		4 h.
Carrying out exercises and solving problems individually and/or in teams	7 h.		7 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	90%	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
Individual written and/or oral tests or individual coding/programming tests	10%	

CH - Class hours: 19 h.
NCH - Non-class hours: 13 h.
TH - Total hours: 32 h.

RGD192 **[!]** ***Conoce y describe las fases para desarrollar los equipos de su ingeniería, e identifica y describe las funciones profesionales de un ingeniero, tomando conciencia de la contribución al logro de los objetivos de desarrollo sostenible (ODS)***

LEARNING ACTIVITIES	CH	NCH	TH
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	4 h.	5 h.	9 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	4 h.	4 h.	8 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	1 h.		1 h.
Seminars, debates and/or workshops to deepen and/or share experiences.	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	90%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
Individual written and/or oral tests or individual coding/programming tests	10%	

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

RGD193 **[!]** ***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	8 h.	7 h.	15 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	6 h.		6 h.
Carrying out exercises and solving problems individually and/or in teams	3 h.	2 h.	5 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: 17 h.
NCH - Non-class hours: 9 h.
TH - Total hours: 26 h.

RGD194 **[!]** ***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
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	14 h.	10 h.	24 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	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	75%	*(No mechanisms)*
Self-assessment	25%	

CH - Class hours: 16 h.
NCH - Non-class hours: 10 h.
TH - Total hours: 26 h.

CONTENTS

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Moodle Platform
Slides of the subject

Bibliography

Kolmos, A., Du, X., Holgaard, J. E. and Jensen, L. P.: Facilitation in a PBL Environment, Aalborg University, 2008. (Irakurtzeko 23-34)

Edutopia, (2012a), "An Introduction to Project-Based Learning", (https://youtu.be/dFySmS9_y_0)

Why interdisciplinarity and project work?, Roskilde University, (https://youtu.be/NBGIdWwGylE)

Edutopia, (2012b), "Wing Project: Manage the Process" (https://youtu.be/pBWd8JMwmRU)

Bustos, C.; Moreno. A.; 2011 Los equipos: cómo trabajar juntos, sin tirarnos los trastos. ISBN 978-84-614-3951-5

Arana, N.; Astigarraga, E.; Carrera, X.; Rodríguez, V.; Zubizarreta, M. 2007. Marco conceptual y pedagógico para la implementación de la Formación por Proyectos en el Sena. Didáctica Proyectos

Educativos. Bogotá. (irakurtzeko 172-181)
http://se9eedc8ee51a848c.jimcontent.com/download/version/1328453 718/module/5838456578/name/TRABAJO%20EN%20EQUIPO.pdf