

[GEQ301] METHODOLOGICAL FOUNDATIONS

GENERAL INFORMATION

Studies	DEGREE IN INDUSTRIAL ELECTRONICS ENGINEERING	Subject	ELECTRONIC PROJECTS
Semester	1	Course	1
Character	COMPULSORY	Mention / Field of specialisation	
Plan	2022	Modality	Face-to-face
Credits	6	Hours/week	5.06
		Language	EUSKARA
		Total hours	91 class hours + 59 non-class hours = 150 total hours

PROFESSORS

MARZO ELGUERO, IOSU

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
<i>(No specific previous subjects required)</i>	<i>(No previous knowledge required)</i>

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

ENAAE LEARNING RESULTS

- ENA102** - Knowledge and comprehension: Knowledge and comprehension of the engineering disciplines of their speciality, at the level necessary to acquire the rest of the competencies of the degree, including notions of the latest advances.
- ENA103** - Knowledge and comprehension: Awareness of the multidisciplinary context of engineering.
- ENA106** - Engineering projects: Ability to project, design and develop complex products (parts, components, finished products, etc.), processes and systems of their speciality, which meet the established requirements, including awareness of the social, health and safety, environmental, economic and industrial aspects, as well as selecting and applying appropriate project methods.
- ENA108** - 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 simulation and analysis with the aim of conducting research on technical topics of their speciality.
- ENA119** - Communication and Teamwork: Ability to effectively communicate information, ideas, problems and solutions in the field of engineering and with society in general.
- ENA120** - Communication and Teamwork: Ability to operate effectively in domestic and international contexts, individually and as a team, and to cooperate with both engineers and people from other disciplines.
- ENA121** - Continued training: Ability to acknowledge the need for their own continued training and to undertake this activity throughout their professional life independently.
- ENA122** - Continued training: Ability to stay up to date on science and technology innovations.

SECONDARY LEARNING RESULTS

RGE190 [!] *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
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	5 h.	3 h.	8 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	10 h.		10 h.
Carrying out exercises and solving problems individually and/or in teams	6 h.	10 h.	16 h.
Seminars, debates and/or workshops to deepen and/or share experiences.	6 h.	4 h.	10 h.

EVALUATION SYSTEM

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

W

33%

MAKE-UP MECHANISMS

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

<p>Individual written and/or oral tests or individual coding/programming tests 49%</p> <p>Observation (technical capacity, attitude and participation) 18%</p> <p>Comments: - Control point: minimum grade 5. - Courseworks: minimum grade 5.</p>	<p>Individual written and/or oral tests or individual coding/programming tests</p> <p>Observation (technical capacity, attitude and participation)</p> <p>Comments: - Students with less than a 5 at the control point must retake the exam. - Final note of the control point: control point 25% and retake 75%. - For the courseworks, their correction will be asked. The maximum mark for the corrected courseworks will be 5.0. - In the project continuous assessment.</p>
<p>CH - Class hours: 27 h. NCH - Non-class hours: 17 h. TH - Total hours: 44 h.</p>	

RGE191 [!] *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
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning	1 h.		1 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	5 h.	3 h.	8 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	8 h.		8 h.
Carrying out exercises and solving problems individually and/or in teams	5 h.	10 h.	15 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	75%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
Observation (technical capacity, attitude and participation)	25%	Observation (technical capacity, attitude and participation)
Comments: - Courseworks: minimum grade 5.		Comments: - In the project continuous assessment. - For the courseworks, their correction will be asked. The maximum mark for the corrected courseworks will be 5.0.

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

RGE192 [!] *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
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning	4 h.	4 h.	8 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	5 h.	5 h.	10 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	30%	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	70%	Individual written and/or oral tests or individual coding/programming tests
Comments: - Control point: minimum grade 5. - Courseworks: minimum grade 5.		Comments: - Students with less than a 5 at the control point must retake the exam. - Final note of the control point: control point 25% and retake 75%. - For the courseworks, their correction will be asked. The maximum mark for the corrected courseworks will be 5.0.

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

RGE193 [!] *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.	8 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	2 h.		2 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	4 h.	6 h.	10 h.

EVALUATION SYSTEM

W

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
Comments: - Courseworks: minimum grade 5.

MAKE-UP MECHANISMS

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
Comments: - In the project continuous assessment. - It may be asked to redo the document. - For the courseworks, their correction will be asked. The maximum mark for the corrected courseworks will be 5.0.

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

RGE194 [!] *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	11 h.	10 h.	21 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	5 h.		5 h.

EVALUATION SYSTEM

W

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
Comments: - Presentations: minimum grade 5.

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
Comments: - In the project continuous assessment. - For the presentations, their repetition will be asked. The maximum mark will be 5.0.

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

CONTENTS

0. Elkar ezagutzen

1. Ekipo-lana
2. Ikasten ikas
3. Idatzizko komunikazioa
4. Ahozko komunikazioa
5. MATLAB®

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Subject notes	Johansen, Lars G., "Project Planning and Management", chapter 3 from: Project-Organised and Problem-Based Learning, Preliminary version.
Technical articles	Kolmos, A., Du, X., Holgaard, J. E. and Jensen, L. P.: Facilitation in a PBL Environment, Aalborg University, 2008. (Irakurtzeko 23-34)
Presentations by external Lecturers	Edutopia, (2012a), "An Introduction to Project-Based Learning", (https://youtu.be/dFySmS9_y_0)
Moodle Platform	Why interdisciplinarity and project work?, Roskilde University, (https://youtu.be/NBGldWwGylE)
Video projections	Edutopia, (2012b), "Wing Project: Manage the Process" (https://youtu.be/pBWd8JMwmRU)
Topic related web quires	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/1328453718/module/5838456578/name/TRABAJO%20EN%20EQUIPO.pdf