[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**		

2030 AGENDA GOALS

PROFESSORS

MUXIKA OLASAGASTI, EÑAUT
MARZO ELGUERO, IOSU
MIGUELEZ PEREZ, NAHIKARI

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

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

1RGE190 **(1 sem)**

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	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	33%
Individual written and/or oral tests or individual coding/programming tests	49%
Observation (technical capacity, attitude and participation)	18%

Comments: - Control point: minimum grade 5. - 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
Individual written and/or oral tests or individual coding/programming tests
Observation (technical capacity, attitude and participation)

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.

CH - Class hours: 27 h.
NCH - Non-class hours: 17 h.
TH - Total hours: 44 h.

1RGE191 (1 sem)

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
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	75%
Observation (technical capacity, attitude and participation)	25%

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
Observation (technical capacity, attitude and participation)

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.

1RGE192 (1 sem)

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
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	30%
Individual written and/or oral tests or individual coding/programming tests	70%

Comments: - Control point: minimum grade 5. - 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
Individual written and/or oral tests or individual coding/programming tests

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.

1RGE193 **(1 sem)**

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	100%

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.

1RGE194 **(1 sem)**

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	100%

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. Getting to know each other1. Teamwork2. Learning to learn3. Written communication4. Oral communication

5. MATLAB®

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Subject notes
Technical articles
Presentations by external Lecturers
Moodle Platform
Video projections
Topic related web quires

Bibliography

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

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

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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)

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