

[GAK202] ENERGY PROJECTS WORKSHOP I

GENERAL INFORMATION

Studies	DEGREE IN ENERGY ENGINEERING	Subject	?
Semester	1	Course	3
Character	COMPULSORY	Mention / Field of specialisation	
Plan	2022	Modality	Face-to-face
Credits	3	Language	ENGLISH
		Total hours	30 class hours + 45 non-class hours = 75 total hours

PROFESSORS

AZPI-LIZAUR BEITIA, XABIER

DOKBE-AGIRREZABALA IRADI, ENEKO

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	Matlab and Simulink

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GAR308 - Plans projects to improve energy efficiency in housing, industry and services, taking into account current legislation and sustainable development objectives.		x		2,56
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		0,2
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: 3

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

SECONDARY LEARNING RESULTS

RGA390 [!] *Definir y gestionar los objetivos y la planificación de un proyecto que le permita adquirir y/o reforzar los conocimientos de tecnologías específicas de su especialidad,- que en ocasiones llegan a la vanguardia del conocimiento- y definir una estrate*

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		2 h.	2 h.

EVALUATION SYSTEM

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

Comments: Assesment of the acquired transversal skills:

Followed methodology to solve the project: team work, decision making methods, conflict management... Project management: Definition of objectives, planning,... Written communication Oral communication

W

100%

MAKE-UP MECHANISMS

(No mechanisms)

Comments: Continuous assesment. The project is managed through the tutoring meetings and the meetings held with the experts, errors are corrected and the precise guidelines are given to overcome the project.

CH - Class hours: 0 h.

NCH - Non-class hours: 2 h.

TH - Total hours: 2 h.

RGA391 [!] *Coordinar el equipo de trabajo, estimulando la cohesión y buen clima para lograr la integración de todas las personas y su contribución para alcanzar un rendimiento apropiado, tanto a nivel individual como grupal, para el desarrollo del proyecto en*

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			2 h.	2 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)	
Comments: Assessment of the acquired transversal skills: Followed methodology to solve the project: team work, decision making methods, conflict management... Project management: Definition of objectives, planning,... Written communication Oral communication			Comments: Continuous assesment. The project is managed through the tutoring meetings and the meetings held with the experts, errors are corrected and the precise guidelines are given to overcome the project.	
CH - Class hours: 0 h.				
NCH - Non-class hours: 2 h.				
TH - Total hours: 2 h.				

RG392 [!] <i>Identificar y argumentar de forma precisa los ODS en los que incide el proyecto realizado, aportando posibles acciones para la mejora.</i>				
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			1 h.	1 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)	
Comments: Assessment of the acquired transversal skills: Followed methodology to solve the project: team work, decision making methods, conflict management... Project management: Definition of objectives, planning,... Written communication Oral communication			Comments: Continuous assesment. The project is managed through the tutoring meetings and the meetings held with the experts, errors are corrected and the precise guidelines are given to overcome the project.	
CH - Class hours: 0 h.				
NCH - Non-class hours: 1 h.				
TH - Total hours: 1 h.				

RG393 [!] <i>Elabora la memoria del proyecto, aportando argumentos elaborados y haciendo un uso correcto, inclusivo y no discriminatorio del lenguaje.</i>				
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%	(No mechanisms)	
Comments: Assessment of the acquired transversal skills: Followed methodology to solve the project: team work, decision making methods, conflict management... Project management: Definition of objectives, planning,... Written communication Oral communication			Comments: Continuous assesment. The project is managed through the tutoring meetings and the meetings held with the experts, errors are corrected and the precise guidelines are given to overcome the project.	
CH - Class hours: 0 h.				

NCH - Non-class hours: 3 h.

TH - Total hours: 3 h.

RG394 [!] *Realiza una presentación oral del proyecto, justificando las soluciones propuestas con argumentos elaborados y precisos, 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

(No mechanisms)

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

100%

Comments: Continuous assesment. The project is managed through the tutoring meetings and the meetings held with the experts, errors are corrected and the precise guidelines are given to overcome the project.

Comments: Assesment of the acquired transversal skills: Followed methodology to solve the project: team work, decision making methods, conflict management... Project management: Definition of objectives, planning,... Written communication Oral communication

CH - Class hours: 0 h.

NCH - Non-class hours: 3 h.

TH - Total hours: 3 h.

RG321 [!] *Aplica conocimientos relacionados con la oficina de proyectos en el ámbito energético.*

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

16 h.

16 h.

Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints

1 h.

3 h.

4 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

3 h.

6 h.

9 h.

Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects

19 h.

19 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

33%

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

57%

Comments: The following will be evaluated: The final project and the deliverables of the project individually The final document of the laboratory practices Participation and attitude Project evaluation. This will take into account: (a) Continuous assessment of performance, individual and group, during the development of the project; (b) The solution provided by the group of students at the end of the project, as well as the corresponding memory; (c) The oral defense of the project, taking into account the acquired knowledge and the quality of the presentation, the reasoned justification of the principles and the final causes that led to propose the chosen solution.

CH - Class hours: 23 h.

NCH - Non-class hours: 25 h.
TH - Total hours: 48 h.

RGA322 [!] *Gestiona la eficiencia energética en base a auditorías, implantación de energías renovables y normativa vigente*

LEARNING ACTIVITIES

	<i>CH</i>	<i>NCH</i>	<i>TH</i>
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		5 h.	5 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2 h.	2 h.	4 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.	4 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	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	33%
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	43%
Individual written and/or oral tests or individual coding/programming tests	24%

(No mechanisms)

Comments: The following will be evaluated: The final project and the deliverables of the project individually The final document of the laboratory practices Participation and attitude Project evaluation. This will take into account: (a) Continuous assessment of performance, individual and group, during the development of the project; (b) The solution provided by the group of students at the end of the project, as well as the corresponding memory; (c) The oral defense of the project, taking into account the acquired knowledge and the quality of the presentation, the reasoned justification of the principles and the final causes that led to propose the chosen solution.

CH - Class hours: 7 h.
NCH - Non-class hours: 9 h.
TH - Total hours: 16 h.

CONTENTS

Topic1: Smart gridTopic2: Renewable energies (for buildings)

–Generation: PV, solar thermal and wind

–Storage and control: BSS and MPPT

–Consumption (profiles and loads) and electric market

Topic3: Electric mobility

Topic4: NZEB and smart building

Topic5: Energy Performance Certification

–Regulations and legislation

–CE3X software

–How to do measurements

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Subject notes
Moodle Platform
Class presentations
Technical articles

Bibliography

[http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_in
k.pl?grupo=ENERGIA31&ejecuta=30](http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_in
k.pl?grupo=ENERGIA31&ejecuta=30)