

## [GAB202] PHYSICS II

### GENERAL INFORMATION

<b>Studies</b>	DEGREE IN ENERGY ENGINEERING	<b>Subject</b>	PHYSICS
<b>Semester</b>	2	<b>Course</b>	1
<b>Character</b>	BASIC TRAINING	<b>Mention / Field of specialisation</b>	
<b>Plan</b>	2022	<b>Modality</b>	Face-to-face
<b>Credits</b>	6	<b>Language</b>	EUSKARA
		<b>Total hours</b>	75 class hours + 75 non-class hours = <b>150 total hours</b>

### PROFESSORS

ZARATE LARRINAGA, ENRIQUE

### REQUIRED PREVIOUS KNOWLEDGE

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

### LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
<b>G-RA09</b> - To understand and master the basic concepts of the general laws of fields and waves; and electromagnetism and its application to solve engineering problems		x		5,4
<b>G-RTR1</b> - 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
<b>G-RTR2</b> - 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

### SECONDARY LEARNING RESULTS

#### **RG117** [!] *Identifica, examina y calcula la oscilación y los fenómenos de onda*

#### 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.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	3 h.	6 h.	9 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	2 h.	5 h.	7 h.
Practical work in workshops and/or laboratories, individually and/or in teams	2 h.		2 h.

#### EVALUATION SYSTEM

	W
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	80%
Self-assessment	10%

#### MAKE-UP MECHANISMS

(No mechanisms)

**CH - Class hours:** 13 h.

**NCH - Non-class hours:** 14 h.

**TH - Total hours:** 27 h.

#### **RG118** [!] *Resuelve los problemas y las operaciones en el campo del electromagnetismo, relacionando correctamente las magnitudes físicas implicadas*

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		6 h.	6 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	4 h.	9 h.	13 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	18 h.		18 h.
Carrying out exercises and solving problems individually and/or in teams	8 h.	9 h.	17 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%	(No mechanisms)	
Individual written and/or oral tests or individual coding/programming tests	80%		
Self-assessment	10%		
<b>CH - Class hours:</b> 30 h.			
<b>NCH - Non-class hours:</b> 24 h.			
<b>TH - Total hours:</b> 54 h.			

RGA119 [!] Analiza y resuelve los circuitos de corriente directa y la corriente alterna			
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		6 h.	6 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	3 h.	6 h.	9 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	16 h.		16 h.
Carrying out exercises and solving problems individually and/or in teams	7 h.	10 h.	17 h.
Practical work in workshops and/or laboratories, individually and/or in teams	6 h.		6 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%	(No mechanisms)	
Individual written and/or oral tests or individual coding/programming tests	80%		
Self-assessment	10%		
CH - Class hours: 32 h.			
NCH - Non-class hours: 22 h.			
TH - Total hours: 54 h.			

<b>RGA190</b> [!] <i>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</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		4 h.	4 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANISMS	
Observation (technical capacity, attitude and participation)	100%	(No mechanisms)	

**CH - Class hours:** 0 h.  
**NCH - Non-class hours:** 4 h.  
**TH - Total hours:** 4 h.

**RG191** [!] *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

33%

(No mechanisms)

Co-assessment

34%

Observation (technical capacity, attitude and participation)

33%

**CH - Class hours:** 0 h.  
**NCH - Non-class hours:** 3 h.  
**TH - Total hours:** 3 h.

**RG193** [!] *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.

**RG194** [!] *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

### LEARNING RESOURCES AND BIBLIOGRAPHY

#### Learning resources

Moodle Platform  
Subject notes  
Class presentations  
Lab practical training

#### Bibliography

[http://katalogoa.mondragon.edu/janium-bin/janium\\_login\\_opac\\_re\\_Ink.pl?grupo=ENERGIA12&ejecuta=10](http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_Ink.pl?grupo=ENERGIA12&ejecuta=10)