

[GDB302] PHYSICS II

GENERAL INFORMATION

Studies	DEGREE IN INDUSTRIAL DESIGN AND PRODUCT DEVELOPMENT ENGINEERING		Subject	PHYSICS
Semester	2	Course	1	Mention / Field of specialisation
Character	BASIC TRAINING		Language	EUSKARA
Plan	2022	Modality	Face-to-face	Total hours
Credits	6	Hours/week	4.22	76 class hours + 74 non-class hours = 150 total hours

PROFESSORS

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VIDAL EZQUERRA, IKER

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
G-RA09 - 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
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		0,28
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		0,32
Total:				6

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

ENAE LEARNING RESULTS

ENAE LEARNING RESULTS	ECTS
ENAE01 - Knowledge and understanding: Knowledge and understanding of the underlying scientific and mathematical principles in their branch of engineering.	1,6
ENAE02 - Knowledge and understanding: A systematic understanding of the key aspects and concepts of their branch of engineering.	1,12
ENAE05 - Analysis in engineering: Ability to apply their knowledge and understanding in identifying, formulating and solving engineering problems using established methods.	1,36
ENAE07 - Analysis in engineering: Ability to choose and apply relevant modelling and analytical methods.	0,4
ENAE08 - Engineering projects: Ability to apply their knowledge in the development and completion of projects which meet specific requirements.	0,36
ENAE09 - Engineering projects: Understanding of the different methods and ability to use them.	0,4
ENAE14 - Practical application of engineering: Ability to combine theory and practice in order to solve engineering problems.	0,36
ENAE15 - Practical application of engineering: Understanding of applicable methods and techniques and their limitations.	0,4
Total:	6

SECONDARY LEARNING RESULTS

RGD117 [!] *Identifica, examina y calcula la oscilación y los fenómenos de onda*

LEARNING ACTIVITIES

	CH	NCH	TH
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	10 h.	5 h.	15 h.
Carrying out exercises and solving problems individually and/or in teams	5 h.	2 h.	7 h.
Self-assessment tests in a context of autonomous and continuous learning		5 h.	5 h.

EVALUATION SYSTEM

	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	5%
Presentation and defence of exercises, case studies, computer practical work, simulation practical work,	10%

MAKE-UP MECHANISMS

Individual written and/or oral tests or individual coding/programming tests

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	80%
Self-assessment	5%

CH - Class hours: 15 h.
NCH - Non-class hours: 12 h.
TH - Total hours: 27 h.

RGD118 [!] *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		5 h.	5 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	20 h.	10 h.	30 h.
Carrying out exercises and solving problems individually and/or in teams	5 h.	10 h.	15 h.
Self-assessment tests in a context of autonomous and continuous learning		4 h.	4 h.

EVALUATION SYSTEM

	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	5%
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	80%
Self-assessment	5%

MAKE-UP MECHANISMS

Individual written and/or oral tests or individual coding/programming tests

CH - Class hours: 25 h.
NCH - Non-class hours: 29 h.
TH - Total hours: 54 h.

RGD119 [!] *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	5 h.	5 h.	10 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	20 h.	10 h.	30 h.
Carrying out exercises and solving problems individually and/or in teams	5 h.	5 h.	10 h.
Self-assessment tests in a context of autonomous and continuous learning		4 h.	4 h.

EVALUATION SYSTEM

	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	5%
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	80%

MAKE-UP MECHANISMS

(No mechanisms)

Self-assessment 5%

CH - Class hours: 30 h.
NCH - Non-class hours: 24 h.
TH - Total hours: 54 h.

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
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.	4 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%

MAKE-UP MECHANISMS

(No mechanisms)

CH - Class hours: 2 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 4 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
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.	2 h.	3 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%

MAKE-UP MECHANISMS

Individual written and/or oral tests or individual coding/programming tests

CH - Class hours: 1 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 3 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	1 h.	3 h.	4 h.

EVALUATION SYSTEM

W

Presentation and defence of exercises, case studies, computer practical work, simulation practical work,

100%

MAKE-UP MECHANISMS

Individual written and/or oral tests or individual coding/programming tests

laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems

CH - Class hours: 1 h.
NCH - Non-class hours: 3 h.
TH - Total hours: 4 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	2 h.	2 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: 2 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 4 h.

CONTENTS

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Subject notes	Física Universitaria; Hugh D. Young y Roger A. Freedman; Pearson Ed.14, 2018 (2. Bol.).
Moodle Platform	Fisika Zientzialari eta Ingeniarientzat; P. M. Fishbane, et al., EHU-ko argitalpen zerbitzua, 2018.
Class presentations	Mecánica para ingenieros: Dinámica; J. L. Meriam, L. G. Kraige; Ed. Reverté, 3º Ed., 2014 (3. eta 8. kapituluak).
Slides of the subject	Análisis de circuitos en ingeniería; W. H. Hayt, J. E. Kemmerly, S. M. Durbin; Mc Graw Hill, 9 Ed., 2019.
Student book	Circuitos eléctricos; M. Nahvi, J. A. Edminister, Schaum – Mc Graw Hill, 4º Ed., 2005.