

[GCA302] MATHEMATICS II

GENERAL INFORMATION

Studies	DEGREE IN ENGINEERING IN ECO-TECHNOLOGY IN INDUSTRIAL PROCESS		Subject	MATHEMATICS
Semester	2	Course	1	Mention / Field of specialisation
Character	BASIC TRAINING		Language	EUSKARA
Plan	2022	Modality	Face-to-face	Total hours 71 class hours + 79 non-class hours = 150 total hours
Credits	6	Hours/week	3.94	

PROFESSORS

AROSTEGUI OCHOA, ASIER

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
G-RA07 - To solve mathematical problems that may arise in engineering, demonstrating the ability to apply knowledge of: linear algebra; geometry; differential geometry and differential and partial differential equations		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

SECONDARY LEARNING RESULTS

RGC113 [!] *Modeliza y resuelve los problemas geométricos, los físicos y los de ingeniería, utilizando las ecuaciones diferenciales*

LEARNING ACTIVITIES

	CH	NCH	TH
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2 h.	10 h.	12 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		4 h.	4 h.
Computer simulation exercises, individually and/or in teams	10 h.	5 h.	15 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
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	90%

MAKE-UP MECHANISMS

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

CH - Class hours: 17 h.

NCH - Non-class hours: 19 h.

TH - Total hours: 36 h.

RGC114 [!] *Utiliza el álgebra lineal para modelizar y resolver problemas de ingeniería, utilizando software matemático*

LEARNING ACTIVITIES

CH	NCH	TH
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Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	4 h.	17 h.	21 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		10 h.	10 h.
Computer simulation exercises, individually and/or in teams	30 h.	18 h.	48 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	20 h.		20 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

90%

MAKE-UP MECHANISMS

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

CH - Class hours: 54 h.

NCH - Non-class hours: 45 h.

TH - Total hours: 99 h.

RGC190 [!] *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

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

100%

MAKE-UP MECHANISMS

(No mechanisms)

CH - Class hours: 0 h.

NCH - Non-class hours: 4 h.

TH - Total hours: 4 h.

RGC191 [!] *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

Self-assessment

50%

Co-assessment

50%

MAKE-UP MECHANISMS

(No mechanisms)

CH - Class hours: 0 h.

NCH - Non-class hours: 3 h.

TH - Total hours: 3 h.

RGC193 [!] *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

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

CH

NCH

TH

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.

RGC194 [!] *Realiza una presentación oral y defensa del proyecto clara y concisa, haciendo uso correcto, inclusivo y no discriminatorio del lenguaje.*

LEARNING ACTIVITIES

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

CH

NCH

TH

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
 Slides of the subject
 Computer practical training

Bibliography

http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_in_k.pl?grupo=EKOTEKNOLOGIA12&ejecuta=5&_