

[GOA301] MATHEMATICS I

GENERAL INFORMATION

Studies	DEGREE IN INDUSTRIAL ORGANIZATION ENGINEERING	Subject	MATHEMATICS
Semester	1	Course	1
Character	BASIC TRAINING	Mention / Field of specialisation	
Plan	2022	Modality	Face-to-face
Credits	6	Language	EUSKARA
		Total hours	123 class hours + 27 non-class hours = 150 total hours

2030 AGENDA GOALS



PROFESSORS

ALBISTEGUI ZAMACOLA, GERMAN ALBERTO

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
G-RA01 - To solve mathematical problems that may arise in engineering, demonstrating the ability to apply knowledge of: differential and integral calculus; numerical methods; and optimization		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		0,36
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:				6

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

ENAE LEARNING RESULTS

ENAAE LEARNING RESULTS	ECTS
ENAAE01 - Knowledge and understanding: Knowledge and understanding of the underlying scientific and mathematical principles in their branch of engineering.	4,36
ENAAE05 - Analysis in engineering: Ability to apply their knowledge and understanding in identifying, formulating and solving engineering problems using established methods.	1
ENAAE08 - Engineering projects: Ability to apply their knowledge in the development and completion of projects which meet specific requirements.	0,22
ENAAE17 - Transversal competences: To work effectively, both individually and in a team.	0,21
ENAAE18 - Transversal competences: To use different methods to communicate effectively with the engineering community and society in general.	0,21
Total:	6

SECONDARY LEARNING RESULTS

1RGO190 (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	2 h.	1 h.	3 h.

EVALUATION SYSTEM

	W
Individual written and/or oral tests or individual coding/programming tests	100%

MAKE-UP MECHANISMS

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

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

RG0101 [I] *Utiliza el cálculo diferencial para resolver los problemas de optimización, de cálculo aproximado y la expansión de los errores*

LEARNING ACTIVITIES	CH	NCH	TH
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	10 h.	5 h.	15 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	60 h.	6 h.	66 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANISMS	
Individual written and/or oral tests or individual coding/programming tests	100%	Individual written and/or oral tests or individual coding/programming tests	

CH - Class hours: 70 h.

NCH - Non-class hours: 11 h.

TH - Total hours: 81 h.

1RGO194 (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	2 h.	1 h.	3 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANISMS	
Individual written and/or oral tests or individual coding/programming tests	100%	Individual written and/or oral tests or individual coding/programming tests	

CH - Class hours: 2 h.

NCH - Non-class hours: 1 h.

TH - Total hours: 3 h.

1RGO193 (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	1 h.	2 h.	3 h.
EVALUATION SYSTEM	W	MAKE-UP MECHANISMS	
Individual written and/or oral tests or individual coding/programming tests	100%	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.

1RGO192 (1 sem)

LEARNING ACTIVITIES	CH	NCH	TH
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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.

1 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)

CH - Class hours: 2 h.

NCH - Non-class hours: 1 h.

TH - Total hours: 3 h.

1RGO191 (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

2 h.

1 h.

3 h.

EVALUATION SYSTEM

W

MAKE-UP MECHANISMS

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

100%

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

CH - Class hours: 2 h.

NCH - Non-class hours: 1 h.

TH - Total hours: 3 h.

RGO102 [!] Utiliza el cálculo integral para resolver problemas físicos y geométricos

LEARNING ACTIVITIES

CH

NCH

TH

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

4 h.

2 h.

6 h.

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

40 h.

8 h.

48 h.

EVALUATION SYSTEM

W

MAKE-UP MECHANISMS

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

100%

(No mechanisms)

CH - Class hours: 44 h.

NCH - Non-class hours: 10 h.

TH - Total hours: 54 h.

CONTENTS

1. Equations 2. Inequalities 3. Complex numbers 4. Derivation and applications 5. Integral calculus and applications

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

[!] *Apuntes de la asignatura*

[!] *Plataforma Moodle*

[!] *Presentaciones en clase*

[!] *Software específico de la titulación*

Bibliography

Calculus Salas/Hille Reverté

Calculus Larson/Hostetler/Edwards McGraw Hill

