[GBA201] MATHEMATICS I

GENERAL INFORMATION

Studies	DEGREE IN BIOMEDICAL ENGINEERING	**Subject**	MATHEMATICS
Semester	1	**Course** 1	**Mention / Field of specialisation**
Character	BASIC TRAINING		
Plan	2022	**Modality** Face-to-face	**Language** EUSKARA
Credits	6	**Hours/week** 5.5	**Total hours** 99 class hours + 51 non-class hours = **150 total hours**

2030 AGENDA GOALS

PROFESSORS

URIEN CRESPO, MIREN JOSUNE

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

SECONDARY LEARNING RESULTS

1RGB190 (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
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	100%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
		Observation (technical capacity, attitude and participation)

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

RGB102 [!] *Utiliza el cálculo integral para resolver problemas físicos y geométricos*

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	8 h.	5 h.	13 h.

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Learning Activities	CH	NCH	TH
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2,5 h.		2,5 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	2,5 h.		2,5 h.
Computer simulation exercises, individually and/or in teams	4 h.	2 h.	6 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	15 h.		15 h.
Carrying out exercises and solving problems individually and/or in teams	4 h.	11 h.	15 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%	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	80%	

CH - Class hours: 36 h.
NCH - Non-class hours: 18 h.
TH - Total hours: 54 h.

1RGB193 (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
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	100%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
		Observation (technical capacity, attitude and participation)

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

RGB101 [!] *Utiliza el cálculo diferencial para resolver los problemas de optimización, de cálculo aproximado y la expansión de los errores*

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	11 h.	7 h.	18 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2,5 h.		2,5 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	2,5 h.		2,5 h.
Computer simulation exercises, individually and/or in teams	5 h.	2 h.	7 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	25 h.		25 h.
Carrying out exercises and solving problems individually and/or in teams	7 h.	19 h.	26 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Reports on the completion of exercises, case studies,	10%	Individual written and/or oral tests or individual

computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	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 — 80%	

CH - Class hours: 53 h.
NCH - Non-class hours: 28 h.
TH - Total hours: 81 h.

1RGB192 (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	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.

1RGB191 (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
Self-assessment	25%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
Co-assessment	25%	Observation (technical capacity, attitude and participation)
Observation (technical capacity, attitude and participation)	50%	

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

1RGB194 (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
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory	100%	Observation (technical capacity, attitude and participation)

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exercises, term projects, challenges and problems

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

CONTENTS

1. Previous concepts and complex numbers2. Limits and continuity of real variable functions3. Derivation of real variable functions and applications.4. Integration of real variable functions and applications

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
[!] *Apuntes de la asignatura*	Salas Hille. Calculus Volumen I. 4. edición. Editorial Reverté. 2002. ISBN: 978-84-291-5156-2
[!] *Plataforma Moodle*	
[!] *Presentaciones en clase*	Rogawski, J. Cálculo Una Variable. Segunda edición. Editorial Reverté. 2016. ISBN: 978-84-291-5194-7
[!] *Transparencias de la asignatura*	