[GBE201] BIOLOGY

GENERAL INFORMATION

Studies	DEGREE IN BIOMEDICAL ENGINEERING			**Subject**	HEALTH SCIENCES
Semester	2	**Course**	1	**Mention / Field of specialisation**	
Character	BASIC TRAINING				
Plan	2022	**Modality**	Face-to-face	**Language**	EUSKARA
Credits	6	**Hours/week**	5.42	**Total hours**	97.5 class hours + 52.5 non-class hours = **150 total hours**

2030 AGENDA GOALS

PROFESSORS

AGINAGALDE UNANUE, MAIALEN

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GBR101 - To apply the principles of Biology to problems in the field of Biomedical Engineering	x		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

2RGB190 **(2 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.

2RGB192 **(2 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.

RGB126 **[!]** ***Conocer los mecanismos de defensa inmunitaria y de rechazo***

LEARNING ACTIVITIES	CH	NCH	TH
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning		7 h.	7 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2 h.		2 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	7 h.		7 h.
Seminars, debates and/or workshops to deepen and/or share experiences.	2 h.		2 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: 11 h.
NCH - Non-class hours: 7 h.
TH - Total hours: 18 h.

RGB123 **[!]** ***Identificar los componentes químicos de los seres vivos y conocer el papel que desarrollan en las principales rutas metabólicas***

LEARNING ACTIVITIES	CH	NCH	TH
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning		12,5 h.	12,5 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2 h.		2 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	5 h.	3 h.	8 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: 25 h.
NCH - Non-class hours: 15,5 h.
TH - Total hours: 40,5 h.

2RGB193 **(2 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.

2RGB194 (2 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%	Observation (technical capacity, attitude and participation)

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

RGB124 [!] *Conocer la estructura y función de los orgánulos celulares, y diferenciar diferentes tipos de células*

LEARNING ACTIVITIES	CH	NCH	TH
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning		10 h.	10 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2 h.		2 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	19 h.		19 h.
Carrying out exercises and solving problems individually and/or in teams	6,5 h.	3 h.	9,5 h.
Practical work in workshops and/or laboratories, individually and/or in teams	1,5 h.	1,5 h.	3 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Individual written and/or oral tests or individual coding/programming tests	80%	Individual written and/or oral tests or individual coding/programming tests
Observation (technical capacity, attitude and participation)	20%	

CH - Class hours: 29 h.
NCH - Non-class hours: 14,5 h.
TH - Total hours: 43,5 h.

RGB125 [!] *Conocer las bases de la microbiologia*

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	10 h.	5,5 h.	15,5 h.

Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning		3 h.	3 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	1 h.		1 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	10,5 h.		10,5 h.
Carrying out exercises and solving problems individually and/or in teams	1 h.	2 h.	3 h.

EVALUATION SYSTEM	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	50%
Individual written and/or oral tests or individual coding/programming tests	50%

MAKE-UP MECHANISMS

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

CH - Class hours: 22,5 h.
NCH - Non-class hours: 10,5 h.
TH - Total hours: 33 h.

2RGB191 (2 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
Self-assessment	25%
Co-assessment	25%
Observation (technical capacity, attitude and participation)	50%

MAKE-UP MECHANISMS

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.

CONTENTS

1.- Organic Chemistry2.- Amino Acids3.- Proteins4.- Myoglobin and hemoglobin. Enzymes5.- Carbohydrates7.- DNA and RNA. Structure and function8.- Cellular structure. Plasma membrane9.- Cytoplasmic structures and organelles.10.- Nuclear membrane11.- Tissues12.- Microbiology13.- Bacterial growth and genetics14.- Viruses, viroids and prions. Generalities15.- Reproduction of viruses16.- Immune system17.- Adaptive immune response18.- Diseases and treatments of immunologic origin.

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

[!] *Charlas de ponentes externos*
[!] *Plataforma Moodle*
[!] *Presentaciones en clase*
[!] *Proyección de videos*
[!] *Realización de prácticas en laboratorio*
[!] *Transparencias de la asignatura*

Bibliography

"Histología básica". Leslie P.Gartner, James L.Hiatt. Elsevier Saunders 2011

"Atlas de histología descriptiva" Ross_Pawlina_Barnash. Editorial medica panamericana

"Lehninger Principios de bioquímica" David L. Nelson, Michael M. Cox. OMEGA Sexta edición

Alfonso Calvo. Biología celular Biomédica

Patton, Thibadeau. Anatomía y Fisiología

Willey, Sherwood, Woolverton. Microbiologia de Prescott, Harley y Klein (7.edizioa),