

[GBX201] FUNDAMENTALS OF COMPUTING SCIENCE

GENERAL INFORMATION

Studies	DEGREE IN BIOMEDICAL ENGINEERING	Subject	WORK PLACEMENT
Semester	1	Course	1
Character	BASIC TRAINING	Mention / Field of specialisation	
Plan	2022	Modality	Face-to-face
Credits	6	Language	EUSKARA
		Total hours	82 class hours + 68 non-class hours = 150 total hours

2030 AGENDA GOALS



PROFESSORS

CILLA UGARTE, RODRIGO

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
G-RA04 - To know the use and programming of computers, operating systems, databases and computer programs with applications in engineering		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

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
2 h.	1 h.	3 h.

EVALUATION SYSTEM

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

W

100%

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.

1RGB193 (1 sem)

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
2 h.	1 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

100%

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.

RGB107 [!] *Desarrolla y estructura programas para resolver problemas haciendo uso de estructuras de control de flujo, variables y operadores lógicos*

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.

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

10 h.

2 h.

12 h.

Carrying out exercises and solving problems individually and/or in teams

10 h.

10 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

Comments: The first learning result can be made-up by means of a retake exam, applying the 25%-75% rule.

CH - Class hours: 20 h.

NCH - Non-class hours: 16 h.

TH - Total hours: 36 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

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: 2 h.

NCH - Non-class hours: 1 h.

TH - Total hours: 3 h.

RGB108 [!] *Automatiza operaciones y organiza el código fuente en funciones para mejorar el proceso de desarrollo de programas y dar solución a problemas genéricos que se les plantea*

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	8 h.	2 h.	10 h.
Carrying out exercises and solving problems individually and/or in teams	15 h.	15 h.	30 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

Comments: As knowledge is taught in an incremental way during the subject, the retaking exam for the second learning result will be the third checkpoint (applying the 25-75% rule).

CH - Class hours: 23 h.

NCH - Non-class hours: 22 h.

TH - Total hours: 45 h.

RGB109 [!] *Diseña y hace uso de arrays de forma correcta para resolver problemas mediante programas*

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

6 h.

6 h.

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

14 h.

4 h.

18 h.

Carrying out exercises and solving problems individually and/or in teams

15 h.

15 h.

30 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

Comments: A retake exam will be held, applying the 25% - 75% rule.

CH - Class hours: 29 h.

NCH - Non-class hours: 25 h.

TH - Total hours: 54 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

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.

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 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.				

CONTENTS

Presentation of the subject
 Installation and configuration of the programming environment
 Introduction to programming
 Development of basic programs in the C language
 Algorithms, functions and code decomposition
 Use of arrays
 Characters and character strings (strings)
 Number systems (binary, octal and hexadecimal)
 POPBL

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
[!] <i>Apuntes de la asignatura</i>	Kernighan, Brian W., Ritchie, Dennis M. The C Programming Language. Englewood Cliffs, New Jersey: Prentice Hall, 1978. ISBN: 978-9688802052
[!] <i>Plataforma Moodle</i>	Goirizelaia Ordorika, I. Programazioaren Oinarriak. Bilbao: Euskal Herriko Unibertsitatea, 1999. ISBN 9788483731390
[!] <i>Transparencias de la asignatura</i>	Ceballos, Francisco J. C/C++. Curso de programación. RA-MA S.A. Editorial y Publicaciones. ISBN:978-8499648125
[!] <i>Realización de prácticas en ordenador</i>	
[!] <i>Presentaciones en clase</i>	