

[GIE305] SECURITY

GENERAL INFORMATION

Studies	DEGREE IN COMPUTER ENGINEERING		Subject	?
Semester	2	Course	3	Mention / Field of specialisation
Character	COMPULSORY		Language	CASTELLANO/EUSKARA
Plan	2022	Modality	Face-to-face	Total hours
Credits	6	Hours/week	5.39	97 class hours + 53 non-class hours = 150 total hours

PROFESSORS

ITURBE URRETXA, MIKEL

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GIR306 - To determine the requirements of the information and communication systems of an organization and prepare the technical specifications for the computer facilities that comprise it, taking into account security aspects and compliance with current regulations and legislation		x		5,08
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		0,44
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		0,48

Total: 6

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

SECONDARY LEARNING RESULTS

RGI390 [!] *Definir y gestionar los objetivos y la planificación de un proyecto que permita adquirir y/o reforzar los conocimientos de tecnologías específicas de su especialidad,- que en ocasiones llegan a la vanguardia del conocimiento- y definir una estrategia*

LEARNING ACTIVITIES

Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams

CH	NCH	TH
3 h.	1 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	20%
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	50%
Prototype / Product	30%

MAKE-UP MECHANISMS

(No mechanisms)

Comments: Continuous assessment.

CH - Class hours: 3 h.

NCH - Non-class hours: 1 h.

TH - Total hours: 4 h.

RGI391 [!] *Coordinar el equipo de trabajo, estimulando la cohesión y buen clima para lograr la integración de todas las personas y su contribución para alcanzar un rendimiento apropiado, tanto a nivel individual como grupal, para el desarrollo del proyecto en*

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	3 h.	1 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	20%	(No 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	50%	
Prototype / Product	30%	

Comments: Continuous assessment.

CH - Class hours: 3 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 4 h.

RG1392 [!] *Identificar y argumentar de forma precisa los ODS en los que incide el proyecto realizado, aportando posibles acciones para la mejora*

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	20%	(No 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	50%	
Prototype / Product	30%	

Comments: Continuous assessment.

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

RG1393 [!] *Elabora la memoria del proyecto, aportando argumentos elaborados y haciendo un uso correcto, inclusivo y no discriminatorio del lenguaje*

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.	2 h.	6 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	20%	(No 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	50%	
Prototype / Product	30%	

Comments: Continuous assessment. It may be asked to redo the document.

CH - Class hours: 4 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 6 h.

RG1394 [!] *Realiza una presentación oral del proyecto, justificando las soluciones propuestas con argumentos elaborados y precisos, y haciendo un uso correcto, inclusivo y no discriminatorio del lenguaje*

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.	2 h.	6 h.

EVALUATION SYSTEM

	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	20%
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	50%
Prototype / Product	30%

MAKE-UP MECHANISMS

(No mechanisms)

Comments: Continuous assessment.

CH - Class hours: 4 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 6 h.

RG1311 [!] *Aplica y gestiona los conceptos básicos de seguridad de la información y las tecnologías relacionadas.*

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.	,68 h.	3,68 h.
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning	10 h.	5,6 h.	15,6 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2 h.		2 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	9 h.	5,72 h.	14,72 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	5 h.	3 h.	8 h.
Practical work in workshops and/or laboratories, individually and/or in teams	12 h.	8 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	6%
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	15%
Individual written and/or oral tests or individual coding/programming tests	70%
Prototype / Product	9%

MAKE-UP MECHANISMS

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

Comments: Students with less than 5 in the Control point must retake the exam. Control point value will be 25% and retake 75%. Project: There will not be any retake of the individual defense.

Comments: Minimum grade: 5 Project evaluation based on technical rubric

CH - Class hours: 41 h.

NCH - Non-class hours: 23 h.

TH - Total hours: 64 h.

RGI312 [!] *Supervisa, evalua e identifica mejoras en la seguridad de los activos de información de una organización.*

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.	,6 h.	3,6 h.
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning	9 h.	6 h.	15 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2 h.		2 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	9 h.	5,4 h.	14,4 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	5 h.	3 h.	8 h.
Practical work in workshops and/or laboratories, individually and/or in teams	12 h.	8 h.	20 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	6%	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	15%	Comments: Students with less than 5 in the Control point must retake the exam. Control point value will be 25% and retake 75%. Project: There will not be any retake of the individual defense.
Individual written and/or oral tests or individual coding/programming tests	70%	
Prototype / Product	9%	
Comments: Minimum grade: 5 Project evaluation based on technical rubric		

CH - Class hours: 40 h.

NCH - Non-class hours: 23 h.

TH - Total hours: 63 h.

CONTENTS

1. IT security fundamentals and technologies. 1.1 Introduction to computer security 1.2 Cryptographic tools 1.3 Authentication 1.4 Access Control 1.5 Intrusion types and Malware2. Computer security tools 2.1 Intrusion Detection 2.2 Firewalls3. Implementation of security in organisations 3.1 Software security 3.2 Security Audits 3.3 Physical Security 3.4 Security Management: Standards and legal aspects

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Subject notes
 Moodle Platform
 Specific Master Software
 Video projections

Bibliography

<https://labur.eus/biblio-GIE305>