UNIVERSIDAD DE CASTILLA - LA MANCHA

GUÍA DOCENTE

1. General information

Course:	SECURITY AND RISKS IN INFORMATION SYSTEMS	**Code:**	42403
Type:	ELECTIVE	**ECTS credits:**	6
Degree:	405 - DEGREE IN COMPUTER SCIENCE ENGINEERING (TA)	**Academic year:**	2023-24
Center:	15 - FACULTY OF SOCIAL SCIENCES AND INFORMATION TECHNOLOGIES	**Group(s):**	60
Year:	3	**Duration:**	C2
Main language:	Spanish	**Second language:**	
Use of additional languages:		**English Friendly:**	Y
Web site:		**Bilingual:**	N

Lecturer: **FÉLIX ALBERTOS MARCO** - Group(s): **60**

Building/Office	Department	Phone number	Email	Office hours
2.18	TECNOLOGÍAS Y SISTEMAS DE INFORMACIÓN		Felix.Albertos@uclm.es	

2. Pre-Requisites

This is an optional subject of mention of the Module of Specific Technology of Information Systems. It is advisable to have taken the Basic Training module and the module Common to the Computer Science Branch (Modules I and II). It is recommended, therefore, to have a clear understanding of the basic concepts of interconnection and configuration of network devices, as well as an adequate level of performance in programming, operating systems and information systems.

3. Justification in the curriculum, relation to other subjects and to the profession

This course is part of the Specific Technology of Information Systems module. It is a necessary subject to obtain the mention corresponding to the mentioned intensification.

The course helps to achieve one of the skills that graduates in Computer Engineering at the UCLM must have: "Ability to design, develop, evaluate and ensure the accessibility, ergonomics, usability and security of computer systems, services and applications, as well as the information they manage".

The contents of this subject are related to those of other subjects taught in this curriculum: Information Systems, Operating Systems I, Computer Networks I and II, Professional Aspects of Computer Science, Development and Management of Information Systems.

4. Degree competences achieved in this course

Course competences

Code	Description
CB02	Apply their knowledge to their job or vocation in a professional manner and show that they have the competences to construct and justify arguments and solve problems within their subject area.
CB03	Be able to gather and process relevant information (usually within their subject area) to give opinions, including reflections on relevant social, scientific or ethical issues.
INS02	Organising and planning skills.
INS03	Ability to manage information and data.
INS04	Problem solving skills by the application of engineering techniques.
PER01	Team work abilities.
SI01	Ability to integrate information and communiction technology solutions and entrepeneurial process so as to fulfil the needs for information in organisation, allowing them to meet their goals in an effective and efficient manner, providing them with competitive benefits.
SI02	Ability to determine the needs of information and communication systems in an organisation, following security aspects and complying with current laws and regulations.
SI05	Ability to understand and apply principles for the assessment of risks, and correctly apply them in the elaboration and execution of acting plans.
SI06	Ability to understand and apply principles and management techniques for quality and technological innovation in organisations.
SIS01	Critical thinking.
SIS03	Autonomous learning.
SIS05	Creativity.
SIS08	Initiative and entrepreneurial abilities.
UCLM03	Accurate speaking and writing skills.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

Knowledge and application of the main mechanisms for securing company's IT and how to audit it.

Ability to know how to define an information systems strategy and to know how to make a system plan that is aligned with this strategy.

Ability to apply current regulations and legislation during the development, management and acquisition of information systems.

Ability to use them to identify, prevent and resolve the most common and critical security threats.
Knowledge of key information security concepts.
Knowledge and application of the main risk management methods.

6. Units / Contents

Unit 1: Introduction
Unit 2: Information Security
Unit 3: Security in today's information systems
Unit 4: Risk management in information systems
Unit 5: Risk mitigation
Unit 6: Risk mitigation plans

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	INS03 SIS01	0.6	15	N	-	
Individual tutoring sessions [ON-SITE]		SIS01 SIS03 SIS05	0.18	4.5	N	-	
Study and Exam Preparation [OFF-SITE]	Self-study	INS02 INS03 SIS01 SIS03 SIS08	1.8	45	N	-	
Other off-site activity [OFF-SITE]	Practical or hands-on activities	INS02 INS03 INS04 PER01 SIS01 SIS03 SIS05	0.9	22.5	N	-	
Problem solving and/or case studies [ON-SITE]	Problem solving and exercises	CB02 CB03 INS02 INS04 PER01 SIS01 SIS03 SIS05 UCLM03	0.6	15	Y	N	
Writing of reports or projects [OFF-SITE]	Self-study	INS02 INS04 PER01 SIS01 SIS03 SIS05 UCLM03	0.9	22.5	Y	N	
Laboratory practice or sessions [ON-SITE]	Practical or hands-on activities	INS04 PER01 SI01 SI02 SI05 SI06 SIS01 SIS03 SIS05	0.72	18	Y	Y	
Other on-site activities [ON-SITE]	Assessment tests	INS02 INS04 SI01 SI02 SI05 SI06 SIS01 SIS03 SIS05 UCLM03	0.15	3.75	Y	Y	
Other on-site activities [ON-SITE]	Assessment tests	INS02 INS04 SI01 SI02 SI05 SI06 SIS01 SIS03 SIS05 UCLM03	0.15	3.75	Y	Y	
		Total:	**6**	**150**			
Total credits of in-class work: 2.4			**Total class time hours: 60**				
Total credits of out of class work: 3.6			**Total hours of out of class work: 90**				

As: Assessable training activity
Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Test	25.00%	0.00%	
Theoretical papers assessment	15.00%	15.00%	
Laboratory sessions	25.00%	25.00%	
Assessment of active participation	10.00%	10.00%	
Final test	0.00%	50.00%	
Test	25.00%	0.00%	
Total:	**100.00%**	**100.00%**	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject , an ordinary and an extraordinary one (evaluating 100% of the competences).

9. Assignments, course calendar and important dates

Not related to the syllabus/contents

Hours	**hours**

Unit 1 (de 6): Introduction

Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	3
Individual tutoring sessions [PRESENCIAL][]	1.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	9
Other off-site activity [AUTÓNOMA][Practical or hands-on activities]	1.5
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	3

Writing of reports or projects [AUTÓNOMA][Self-study]	1.5
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	3
Other on-site activities [PRESENCIAL][Assessment tests]	.75
Other on-site activities [PRESENCIAL][Assessment tests]	.75

Unit 2 (de 6): Information Security	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Individual tutoring sessions [PRESENCIAL][]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	12
Other off-site activity [AUTÓNOMA][Practical or hands-on activities]	7
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	4
Writing of reports or projects [AUTÓNOMA][Self-study]	7
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	5
Other on-site activities [PRESENCIAL][Assessment tests]	1
Other on-site activities [PRESENCIAL][Assessment tests]	1

Unit 3 (de 6): Security in today's information systems	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Individual tutoring sessions [PRESENCIAL][]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	12
Other off-site activity [AUTÓNOMA][Practical or hands-on activities]	7
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	4
Writing of reports or projects [AUTÓNOMA][Self-study]	7
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	5
Other on-site activities [PRESENCIAL][Assessment tests]	1
Other on-site activities [PRESENCIAL][Assessment tests]	1

Unit 4 (de 6): Risk management in information systems	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Individual tutoring sessions [PRESENCIAL][]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	12
Other off-site activity [AUTÓNOMA][Practical or hands-on activities]	7
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	4
Writing of reports or projects [AUTÓNOMA][Self-study]	7
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	5
Other on-site activities [PRESENCIAL][Assessment tests]	1
Other on-site activities [PRESENCIAL][Assessment tests]	1

Global activity	
Activities	**hours**
Study and Exam Preparation [AUTÓNOMA][Self-study]	45
Individual tutoring sessions [PRESENCIAL][]	4.5
Other off-site activity [AUTÓNOMA][Practical or hands-on activities]	22.5
Problem solving and/or case studies [PRESENCIAL][Problem solving and exercises]	15
Writing of reports or projects [AUTÓNOMA][Self-study]	22.5
Laboratory practice or sessions [PRESENCIAL][Practical or hands-on activities]	18
Other on-site activities [PRESENCIAL][Assessment tests]	3.75
Other on-site activities [PRESENCIAL][Assessment tests]	3.75
Class Attendance (theory) [PRESENCIAL][Lectures]	15
Total horas:	150

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Nipun Jaswal	Mastering Metasploit, 3/E https://learning.oreilly.com/library/view/mastering-metasploit-/9781788990615/cover.xhtml	Packt Publishing		978-1-78899-061-5	2018	
Darril Gibson, Andy Igonor	Managing Risk in Information Systems (Information Systems Security & Assurance), Third Edition	Jones and Bartlett Publishers, Inc		978-1284183719	2020	
David Kim, Michael G. Solomon	Fundamentals of Information Systems Security. Thrid Edition	Jones and Bartlett Publishers, Inc		978-1284116458	2016	
William Stalling and Lawrie Brown	Computer Security. Principles and Practice, 3/E	Pearson		1-292-06617-2	2015	