Teaching Guide					
Identifying Data					2023/24
Subject (*)	Cybersecurity			Code	710G04032
Study programme	Grao en Xestión Dixital de Información e Documentación				
Descriptors					
Cycle	Period	Year		Type	Credits
Graduate	1st four-month period	Fourth		Optional	6
Language	SpanishGalician				
Teaching method	Face-to-face				
Prerequisites					
Department	Ciencias da Computación e Tecnoloxías da Información				
Coordinador			E-mail		
Lecturers	Puente Castro, Alejandro		E-mail	a.puentec@udc.es	
Web	www.udc.es				
General description					

Study programme competences / results	
Code	Study programme competences / results
A14	CE14 - Apply the legal and regulatory provisions and procedures related to the information and documentation activity in general and in the digital environment in particular
A19	CE19 - Determine and apply methods, measures and techniques designed to order, protect, preserve and restore data, information and documents of different nature
A22	CE22 - Acquire computational skills and management of new ICT
B7	CG2 - Capacity for reflection and critical reasoning
B9	CG4 - Capacity for analysis, diagnosis and decision making
B11	CG6 - Ability to understand the importance, value and function of the Digital Information and Documentation Management in the current ICT society
C2	CT2 - Use the basic tools of information and communication technologies (ICT) necessary for the exercise of their profession and for learning throughout their lives

Learning outcomes			
Learning outcomes	Study programme competences / results		
To know and know how to use the basic encryption algorithms	A19 A22	B7 B9 B11	C2
To know and know how to use the concepts of digital signature	A19 A22	B7 B9 B11	C2
To know the basics of network security	A19 A22	B7 B9 B11	C2
To know the different backup, data redundancy and synchronization policies to avoid data loss	A19 A22	B7 B9 B11	C2
To know the legislative environment in relation to the protection of personal data	A14 A19		

Contents

Topic	Sub-topic
00 Introduction	Introduction to security Basic security concepts and terms
01 Private key encryption	Basic Concepts Algorithms Advantages and disadvantages Tools
02 Public key encryption	Basic Concepts Algorithms Advantages and disadvantages Certification authorities Digital Signature Tools
03 Tools and applications	RAID Backup policies Data synchronization Firewalls
04 Legal aspects	Basic concepts Safety regulations

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
Supervised projects	A19 B7 B9 B11	5	50	55
Objective test	A14 A19 A22 B7 B9 B11	2	20	22
Guest lecture / keynote speech	A14 A22 B7	21	0	21
ICT practicals	A14 A19 A22 B7 B9 B11 C2	15	30	45
Personalized attention		7	0	7
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
Supervised projects	Realization, by the student individually or collectively, of projects in which the learning of each topic of the subject is put into practice. The teacher will supervise the evolution of the work.
Objective test	Realization of an individual writing test where there will be multiple-choice questions, open questions of development and/or short answer questions.
Guest lecture / keynote speech	Lectures will be given in which theoretical contents will be presented in combination with practical exercises. Most of the sessions will be taught in the traditional way (exposition of contents). The flipped classroom criterion will be valued for certain contents (subjects will be left for revision by the student and the classroom will be dedicated to the resolution of doubts or verification of the concepts acquired).
ICT practicals	Performance, by the student individually or collectively, of works that require the use of tools or programs in which to apply the concepts previously exposed.

Personalized attention	
Methodologies	Description
ICT practicals Supervised projects	Resolution of the doubts that arise in the realization of practices and or works. They will be solved preferably in the timetable assigned for the classes or in the established tutoring hours.

Assessment			
Methodologies	Competencies / Results	Description	Qualification
ICT practicals	A14 A19 A22 B7 B9 B11 C2	Performance of work with ICT tools in the field of security.	30
Supervised projects	A19 B7 B9 B11	Evaluation of the work proposed by the teacher, or by the student himself, throughout the course.	20
Objective test	A14 A19 A22 B7 B9 B11	Examination test: multiple-choice and/or short essay questions.	40
Guest lecture / keynote speech	A14 A22 B7	Attendance and active participation in the classroom lectures.	10

Assessment comments
In order to pass the subject, the student must obtain a minimum grade of 5 out of 10 in the result of combining the different evaluable items. In order to average the grades, the student must obtain a minimum grade of 3.5 out of 10 in the objective test. If this minimum grade is not obtained, the grade of the subject will be the one corresponding to the grade of the objective test. The ICT practices will be of obligatory delivery to be able to opt for a passing grade in the subject. Students with part-time enrollment and academic dispensation: Indicate to the professor the situation of this type of students. The delivery of the work/practices must be done on the dates established for all students. Second opportunity and advanced convocation: In the second opportunity the evaluation of the active participation in the Objective test will be maintained, not being able to return the obtain grade since it results from the continuous evaluation of the work during the subject. The student can retake the exam of the mixed test or deliver again the tutored work or practices through ICT, being the criteria to obtain the total grade those indicated at the beginning of this section. The student will be able to hand in the tutored work, whether or not he/she will hand it in beforehand, and the grade of the work handed in will replace the one he/she has previously obtained in this section. The student may take the parts of the objective test that he/she considers necessary to reach the minimum grade. The grade obtained will replace the previous one, but will be maintained for the parts of the exam not taken. Plagiarism: In any submission in which plagiarism is detected, the delivery will be valued with a zero. Plagiarism in the objective test will be sanctioned according to the current regulations of the university.

Sources of information	
Basic	Stallings, W. (1994). Fundamentos de seguridad en redes: aplicaciones y estándares. Pearson Educación. García Alcázar, Ana María (2020). Firma digital, certificado electrónico y factura electrónica. Ra-Ma Editorial.Intypedia :: Inicio - Criptored: http://www.criptored.upm.es/intypedia/index.php?lang=es
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Other comments

(*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.