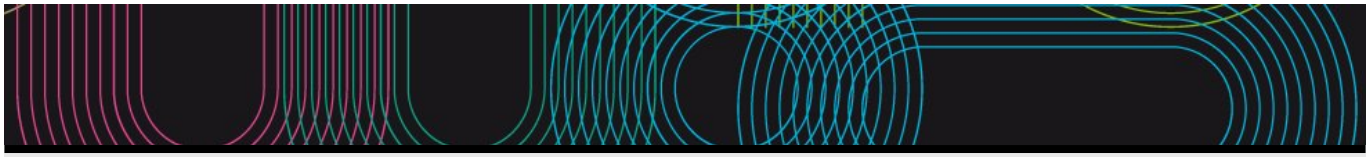

IDENTIFYING DATA				
(*)Seguridade en redes				
Subject	(*)Seguridade en redes			
Code	O06M132V03312			
Study programme	(*)Máster Universitario en Enxeñaría Informática			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Optional	2nd	1st
Teaching language	#EnglishFriendly Spanish Galician			
Department				
Coordinator	Diaz-Cacho Medina, Miguel Ramón			
Lecturers	Diaz-Cacho Medina, Miguel Ramón			
E-mail	mcacho@uvigo.es			
Web	http://moovi.uvigo.gal			
General description	Security in computer networks of computers is a field of the science and technology that covers from mathematical concepts to practical concepts of programming and systems. Its importance is crucial in the global operation of communications and the Internet. The matter will present the basic concepts and will orient them to an essentially practical component.			

Competencies	
Code	
A2	(CB7) That the students know how to apply the acquired knowledge and their problem-solving capacity in new or little-known environments within broader (or multidisciplinary) contexts related to their area of study
B1	Ability to project, calculate and design products, processes and installations in all areas of computer engineering.
B8	Ability to apply the acquired knowledge and solve problems in new or little-known environments within broader and multidisciplinary contexts, being able to integrate this knowledge
C4	Ability to model, design, define the architecture, implement, manage, operate, administer and maintain applications, networks, systems, services and computer content.
C9	
C19	(*)Capacidade para optimizar as políticas de seguridade da infraestrutura da rede dunha entidade
C20	(*)Capacidade para manexar correctamente sistemas operativos, redes e linguaxes de programación dende o punto de vista da seguridade informática e das comunicacións
C21	(*)Capacidade para deseñar, desenvolver e xestionar mecanismos de seguridade no tratamento e acceso á información nun sistema de procesamiento local ou distribuido
D2	Capacity for the dirección of teams and organizations
D3	Capacity of leadership
D6	Skills of relations interpersonales
D7	Capacity of reasoning crítico and creativity
D8	Responsibility and commitment ético in the desempeñor of the professional activity
D9	Respect and promoción of the human rights, the principles democráticos, the principles of equality between men and women, of solidarity, of universal accessibility and diseñor for all
D10	Orientation to quality and continuous improvement
D11	Capacity of learning autónomo
D13	Capacity to integrate knowledges and enfrentarse to the complexity to formulate trials from an información incomplete

Learning outcomes	
Expected results from this subject	Training and Learning Results

New	A2 B8 C4 C19 D2 D3 D6 D10 D11
New	B1 C4 C9 C21 D10 D11 D13
New	B1 B8 C4 C9 C19 C20 D7 D8 D9 D10
New	B1 C4 C21 D7 D8 D9 D10 D11

Contents	
Topic	
Vulnerabilities and attacks in computer networks.	Listening Scanning Active Technics Poissoning. WPA brute forze Others
Security protocols	IP Networks Security in IP Networks
Mechanisms of defence in networks	Preventive measures Corrective measures
Security technics and tools	State of the art

Planning			
	Class hours	Hours outside the classroom	Total hours
Lecturing	10	20	30
Laboratory practical	30	54	84
Introductory activities	4	16	20
Objective questions exam	2	14	16
*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.			

Methodologies	
	Description
Lecturing	They will make classes *expositivas for the development of the fundamental contents of the matter and, to achieve the active participation of the students, will carry #finish it individual activities or in group that allow to apply the exposed concepts and resolve problems.
Laboratory practical	They will make sessions of laboratory guided that they help to the student to achieve the aims proposed.

Introductory activities	They will present examples and cases of use of the contents of the matter to wake up the practical curiosity of the students.

Personalized assistance

Methodologies	Description
Laboratory practical	They will make sessions of laboratory guided that they help to the student to achieve the aims proposed.

Assessment

	Description	Qualification	Training and Learning Results			
Laboratory practical	Resolution of practices and realisation of reports with the results obtained. The results of the learning are: *RA1, *RA2, *RA3, *RA4	50	A2	B1 B8	C4 C9 C20	D2 D3 D6 D7 D8 D9 D10 D11 D13
Objective questions exam	It will make a proof of knowledges so much theoretical how practical purchased along the course. The results of the learning are: *RA1, *RA2, *RA3, *RA4	50	A2	B1 B8	C4 C9 C19 C21	D2 D3 D6 D7 D8 D9 D10 D11 D13

Other comments on the Evaluation

Sources of information

Basic Bibliography

William Stallings, **Cryptography and Networ k Security. Principles and Practices.**, ISBN13 9781292158587 ISBN 1292158581, Prentice Hall,

Gert Schauwers, **Network Security Fundamentals**, ISBN 1587051672, Cisco Press,

Complementary Bibliography

Recommendations

Contingency plan

Description

=== EXCEPTIONAL MEASURES SCHEDULED ===

STAGE 1: MIXED TEACHING

=== EXCEPTIONAL MEASURES SCHEDULED ===

STAGE 1: MIXED TEACHING

Because of the exceptional situation, in front of the impossibility to be able to give the teaching of an entirely face-to-face way, will use virtual means for the teaching of the no face-to-face classes.

For the no face-to-face part will use the proportionate means by the University, at present the "Remote Campus" and *FAITIC. Nevertheless it will be able to complement with other means.

STAGE 2: TEACHING NO FACE-TO-FACE

Because of the exceptional situation, in front of the impossibility to be able to give the teaching of a face-to-face way, will

use virtual means for the teaching of the classes.

They will use the proportionate means by the University, at present the "Remote Campus" and *FAITIC. Nevertheless it will be able to complement with other means.

=== ADAPTATION OF THE METHODOLOGIES ===

For the practices of laboratory, will substitute the practices that require of specific equipment by another mock or *virtualizado. *Eventualmente Will propose alternative practices that do not require of said equipment. These practical will be able to have an autonomous format in forecast of problems of conciliation and/or connectivity.

The sessions of *tutorización (attention to the students) will make by telematic means (Email, Forums of *FAITIC, Remote Campus), that will be able to complement between himself and with other tools. In some of them will use a modality of *concertación previous.

=== ADAPTATION OF THE EVALUATION ===

The evaluation will keep the same methodology, being the examination an on-line proof using Remote Campus and *FAITIC.
STAGE 2: TEACHING NO FACE-TO-FACE

Because of the exceptional situation, in front of the impossibility to be able to give the teaching of a face-to-face way, will use virtual means for the teaching of the classes.

They will use the proportionate means by the University, at present the "Remote Campus" and *FAITIC. Nevertheless it will be able to complement with other means.

=== ADAPTATION OF THE METHODOLOGIES ===

For the practices of laboratory, will substitute the practices that require of specific equipment by another mock or *virtualizado. *Eventualmente Will propose alternative practices that do not require of said equipment.

For the attention to the students (*tutorias) will use like tool Remote Campus, that will be able to complement with other tools.

=== ADAPTATION OF THE EVALUATION ===

The evaluation will make of form *contínua. *Eventualmente Will be able to use on-line proofs using Remote Campus and *FAITIC.