



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 | | | |
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| 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 desempeño 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 diseño 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 Poisoning. WPA brute force 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 Network 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 *continua. *Eventualmente Will be able to use on-line proofs using Remote Campus and *FAITIC.
