

Academic Year: ( 2023 / 2024 )

Review date: 30-06-2021

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: PASTRANA PORTILLO, SERGIO

Type: Electives ECTS Credits : 6.0

Year : 1 Semester : 1

**DESCRIPTION OF CONTENTS: PROGRAMME**

1.- Introduction to Cybersecurity

1.1.- Basic concepts

2.- Analysis of systems and networks

2.1.- Introduction to cyberthreats

2.2.- Exploitation vectors

2.3.- Cyberattack techniques

2.4.- Authentication and identification

2.- Cyberdefense in networks

2.1.- Introduction to cyberdefense systems

2.2.- Event monitoring

2.3.- Firewall and network segmentation

2.4.- Intrusion Detection Systems (IDS)

2.5.- Security Information and Event Management (SIEM)

**LEARNING ACTIVITIES AND METHODOLOGY****ACTIVITIES**

AF1 - Theoretical class. - [30 hours with 100% attendance, 1 ECTS]

AF2 - Practical classes - [3.33 hours with 100% attendance, 0.11 ECTS]

AF3 - Theoretical practical classes - [6 hours with 100% attendance, 0.20 ECTS]

AF4 - Laboratory practices - [9 hours with 100% face-to-face, 0.30 ECTS]

AF5 - Tutorials - [3 hours with 25% attendance, 0.10 ECTS]

AF6 - Group work - [40 hours with 0% attendance, 1.33 ECTS]

AF7 - Individual student work - [84.66 hours with 0% face-to-face, 2.82 ECTS]

AF8 - Midterm and final exams - [4 hours with 100% attendance, 0.13 ECTS]

**TEACHING METHODOLOGY**

MD1 - Lectures in the teacher's class with computer media support and audiovisual, in which the main concepts of the subject and the bibliography is provided to complement the student learning.

MD2 - Critical reading of texts recommended by the teacher of the subject: Press articles, reports, manuals and / or academic articles, either for further discussion in class, or to expand and consolidate knowledge of the subject.

MD3 - Resolution of practical cases, problems, etc ... raised by the teacher individually or in a group

MD4 - Presentation and discussion in class, under the moderation of the topics related to the content of the subject, as well as cases practical

MD5 - Preparation of works and reports individually or in groups

**ASSESSMENT SYSTEM**

Continuous assessment:

SE2 [60%] Individual assignments and exams carried out during the course related to the theoretical and laboratory contents

SE3 [40%] Final exam

To pass the course it will be necessary to obtain at least 40% of its weight in the final exam and that the sum between the practical part and the final exam must exceed 50% of the total weight.

Non-continuous evaluation:

The final exam will contain at least 50% of contents related to the laboratory practices

For the extraordinary evaluation, the process will be the same as described above.

<b>% end-of-term-examination:</b>	40
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	60

#### BASIC BIBLIOGRAPHY

- David Miller Security information and event management (SIEM), McGraw-Hill, 2011

#### BASIC ELECTRONIC RESOURCES

- Ross Anderson . Security Engineering: <https://www.cl.cam.ac.uk/~rja14/book.html>