

Academic Year: ( 2022 / 2023 )

Review date: 19-05-2022

Department assigned to the subject: Signal and Communications Theory Department

Coordinating teacher: MARTÍNEZ OLMOS, PABLO

Type: Electives ECTS Credits : 6.0

Year : 4 Semester :

**DESCRIPTION OF CONTENTS: PROGRAMME**

This course aims to provide an overview of the application of machine learning techniques in different problems in healthcare.

1. Introduction to Machine Learning in Healthcare.
2. Smart Electronic Health Records.
3. Disease Identification and Diagnosis.
4. Personalized Medicine
5. Behavioral Characterization and Modification.
5. Drug Discovery.
6. Epidemic Outbreak Prediction.

**LEARNING ACTIVITIES AND METHODOLOGY**

AF1: THEORETICAL-PRACTICAL CLASSES. In them the knowledge that students must acquire will be presented. They will receive the class notes and will have basic reference texts to facilitate the follow-up of the classes and the development of the subsequent work. Exercises, practical problems will be solved by the student and workshops and an evaluation test will be carried out to acquire the necessary skills.

AF2: Updated to allegation

AF3: STUDENT INDIVIDUAL OR GROUP WORK.

AF8: WORKSHOPS AND LABORATORIES.

AF9: FINAL EXAM. In which the knowledge, skills and abilities acquired throughout the course will be assessed globally.

MD1: THEORY CLASS. Lectures in class by the teacher with the support of computer and audiovisual media, in which the main concepts of the subject are developed and materials and bibliography are provided to complement the students' learning.

MD2: PRACTICES. Resolution of practical cases, problems, etc. raised by the teacher individually or in a group.

MD3: TUTORING. Individualized assistance (individual tutorials) or in groups (collective tutorials) to students by the teacher.

MD6: LABORATORY PRACTICES. Applied / experimental teaching to workshops and laboratories under the supervision of a tutor.

**ASSESSMENT SYSTEM**

The Continuous Assessment is 100% of the student's grade and will consist of the following elements:

- \* 3 Laboratory tests (30%): resolution of exercises similar to those proposed in the course notebooks using python.
- \* Written test (30%): it will include the theory and practice contents of the subject
- \* Final project (40%)

In the ordinary assessment, students who do not pass the subject will be able to take a final exam consisting of a written test and another in the laboratory. In this way they will be able to recover the corresponding elements of the continuous evaluation.

For the extraordinary call, students will be able to take a final exam for a value of 6 points (written test + laboratory) and, additionally, they will be offered a new final project for a value of 4 points.

<b>% end-of-term-examination:</b>	0
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	100