

Academic Year: ( 2023 / 2024 )

Review date: 12-04-2023

Department assigned to the subject: Statistics Department

Coordinating teacher: NOGALES MARTIN, FRANCISCO JAVIER

Type: Electives ECTS Credits : 3.0

Year : 4 Semester : 1

**REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)**

Linear algebra  
Probability and Data Analysis  
Introduction to Statistical Modeling

**OBJECTIVES**

Become familiar with different analytical tools, based on data, to make business decisions

Capacity to develop skills to analyze and find relationships between many variables/features

Know how to evaluate supervised-learning models

Develop skills to classify observations based on probabilistic learning and machine learning tools

Handle the R language for statistical-learning tools

**DESCRIPTION OF CONTENTS: PROGRAMME**

1. Introduction to the statistical learning
2. Evaluation of learning methods
3. Unsupervised learning
  - 3a. Clustering
  - 3b. Dimension reduction
4. Probabilistic learning
  - 4a. Statistical classification
  - 4b. Regression and prediction
5. Case studies

**LEARNING ACTIVITIES AND METHODOLOGY**

Theory (3 ECTS), Practice (3 ECTS).  
50% lectures with teaching materials available on the Web. The other 50% practical sessions (computer labs).

**ASSESSMENT SYSTEM**

The assessment will be made by weighting the continuous evaluation (50%) and the final exam (50%), with a minimum grade of 5 points over 10 in each assessment activity (both the continuous evaluation and the final exam).

<b>% end-of-term-examination:</b>	50
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	50

