

## Statistical Reasoning

Academic Year: ( 2023 / 2024 )

Review date: 04-05-2023

Department assigned to the subject: Statistics Department

Coordinating teacher: JIMENEZ RECAREDO, RAUL JOSE

Type: Additional training ECTS Credits : 2.0

Year : 0 Semester : 1

## OBJECTIVES

Review of main topics in mathematical statistics to address stochastic modeling and data analysis

## DESCRIPTION OF CONTENTS: PROGRAMME

Probability spaces.  
Independence and conditional probability.  
Bayes' rule.  
Random variables. Distribution, mass and probability density functions.  
Discrete and continuous parametric models.  
Multivariate regression.

## LEARNING ACTIVITIES AND METHODOLOGY

Teaching presentations accompanied by electronic material, such as digital presentations  
e-learning activities  
Theoretical-practical lessons, synchronous teaching tutorials  
Team work  
Individual student work  
Home works and

## ASSESSMENT SYSTEM

Team home work (30%), individual student home work (30%) and midterms (40%).

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

## BASIC BIBLIOGRAPHY

- Jason Brownlee Probability for Machine Learning, Machine Learning Mastery, 2020
- Kevin Patrick Murphy Machine Learning: A Probabilistic Perspective , MIT Press, 2012