uc3m Universidad Carlos III de Madrid

Foundations of Statistics

Academic Year: (2019 / 2020) Review date: 30-05-2018

Department assigned to the subject:

Coordinating teacher: PENA IZQUIERDO, JORGE

Type: Compulsory ECTS Credits: 6.0

Year: 1 Semester: 2

OBJECTIVES

The main objective of the course is to provide students with a set of basic skills so they are able to understand and handle statistic data, create graphs and descriptive tables of the data, understand basic models of probability and apply statistical inference.

DESCRIPTION OF CONTENTS: PROGRAMME

- 1. Introduction: ¿What is statistics? Importance of statistics; Descriptive statistics; Inference; Variables; Percentiles; Distributions.
- 2. Graphical Analysis: Graphs for quantitative variables; Graphs for qualitative variables; Histograms.
- 3. Distributions: Central tendency, mean and median; Variability; Shape of the distributions.
- 4. Bivariate data: Introduction to bivariate data; Correlation.
- 5. Probability: Introduction to the concept of probability; Permutations and combinatory; Binomial distribution; Multinomial distribution.
- Normal distribution: Introduction and importance; Standard normal distribution; Inference.

BASIC BIBLIOGRAPHY

- Newbold, P Statistics for Business and Economics, Pearson.