APPLIED STATISTICS
Degree in Occupational Therapy
Academic year 2022-23

Code: 804144
Module: 1
Subject Area: Statistics
Type of subject: Core
Department: Statistics and Operations Research
Credits: 6 ECTS
Year: First
Academic term: First semester

TEACHING STAFF

Coordinator: Molanes López, Elisa M.ª: emolanes@ucm.es
Other teachers:
From the Biostatistics Section

SHORT DESCRIPTOR

Basic concepts of Descriptive Statistics and Inferential Statistics applied to Health Sciences from a theoretical point of view and by means of the use of statistical software.

COMPETENCIES

Competences corresponding to the associated Module and Subject Area.

General Competences

CG.03. and 05.

Specific Competences

CE.M2.29. and M4.2.

OBJECTIVES

The student must be able to apply theoretical concepts of descriptive statistics and statistical inference to medical data using a statistical package.

SYLLABUS

1. Introduction. Scientific method and statistical method. Population and sample.

2. Descriptive statistics with one variable. Classification of variables. Tables and graphs. Measures of centralization and dispersion.

3. Descriptive statistics with two variables. Crosstabs. Graphics. Correlation and linear regression.

4. Concept of probability. Applications.

5. Usual random variables. Binomial and Normal.

6. Statistical inference: point estimate, confidence intervals and hypothesis tests.

EVALUATION

Evaluation consisting of:
- ✓ Partial exam
- ✓ Final exam

In the final exam, the student may be evaluated on the entire syllabus or only on the second part (topics 5 and 6) if he/she passes the partial exam. Each exam will include a part related to the computer practices carried out during the course in the Computer Room.

BIBLIOGRAPHY

- Dawson G.F. (2012). "Interpretación fácil de la Bioestadística. La conexión entre la evidencia y las decisiones médicas", Elsevier.
- Martín Andrés A. y Luna del Castillo J. de D. (2004). "Bioestadística para las Ciencias de la Salud", Norma-Capitel.
- Milton J.S. (2014). "Estadística para Biología y Ciencias de la Salud", McGraw-Hill.
- Prieto Valiente L. y Herranz Tejedor I. (2018), "Bioestadística sin dificultades matemáticas. En busca de tesoros escondidos. Análisis estadístico de datos en investigación médica y sociológica", Díaz de Santos.
- Quesada Paloma V., Isidoro Martín A. y López Martín L.A. (2005), "Curso y ejercicios de Estadística. Aplicación a las ciencias biológicas, médicas y sociales", Alhambra Longman.
- Woolson R. (1987), "Statistical methods for the analysis of biomedical data", John Wiley & Sons.