Teaching guide

IDENTIFICATION DETAILS

Degree:	Biomedicine
Field of Knowledge:	Science
Faculty/School:	Experimental Science
Course:	ADVANCED BIOSTATISTICS AND DATA MANAGEMENT
Type:	Optional
ECTS credits:	3
Year:	4
Code:	2178
Teaching period:	Seventh semester
Area:	Statistics
Module:	Experimental Methodology in Biomedicine
Teaching type:	Classroom-based
Language:	Spanish
Total number of student study hours:	75

SUBJECT DESCRIPTION

En un estudio biomédico, además del planteamiento de las preguntas y del adecuado diseño para responderlas, es de vital importancia la correcta recogida y manipulación de los datos. Los errores cometidos en este proceso pueden tener consecuencias nefastas, pudiendo llegar a generar una falsa seguridad en conclusiones que, de hecho, son erróneas. Por eso la primera parte de esta asignatura se dedicará al diseño de bases de datos y al adecuado manejo de los mismos durante el proceso de análisis, así como al uso de la estadística descriptiva y las técnicas de visualización de datos para valorar la calidad de los mismos.
Una vez se dispone de una base de datos veraz y depurada es crucial elegir las técnicas estadísticas adecuadas para poder sacar conclusiones relevantes en la investigación. Las técnicas multivariables permitirán ir más allá de

lo visto en la asignatura de Bioestadística Básica, permitiéndonos construir modelos que nos permitan evaluar la relación entre dos o más variables a la hora de explicar una tercera, analizar cómo evoluciona un evento con el tiempo y de qué variables depende dicha evolución o tratar de buscar patrones entre los datos que nos permitan diferenciar grupos.

SKILLS

Basic Skills

Students must have demonstrated knowledge and understanding in an area of study that is founded on general secondary education. Moreover, the area of study is typically at a level that includes certain aspects implying knowledge at the forefront of its field of study, albeit supported by advanced textbooks

Students must be able to apply their knowledge to their work or vocation in a professional manner and possess skills that can typically be demonstrated by coming up with and sustaining arguments and solving problems within their field of study

Students must have the ability to gather and interpret relevant data (usually within their field of study) in order to make judgments that include reflections on pertinent social, scientific or ethical issues

Students must be able to convey information, ideas, problems and solutions to both an expert and non-expert audience

Students must have developed the learning skills needed to undertake further study with a high degree of independence

General Skills

Specific skills

Critically evaluate and use the sources of clinical and biomedical information in order to obtain, organise, interpret and communicate information from the various areas that constitute biomedicine.

Understand the design of experiments on the basis of statistical criteria and the various tools available for processing data in the area of life sciences and health.

DISTRIBUTION OF WORK TIME

CLASSROOM-BASED ACTIVITY	INDEPENDENT STUDY/OUT-OF-CLASSROOM ACTIVITY

30 hours	45 hours