

29202 - Biostatistics

Syllabus Information

Academic Year: 2019/20

Subject: 29202 - Biostatistics

Faculty / School: 229 - Facultad de Ciencias de la Salud y del Deporte

Degree: 441 - Degree in Human Nutrition and Dietetics

ECTS: 6.0

Year: 1

Semester: First semester

Subject Type: Basic Education

Module: ---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as lectures, seminars, computer laboratory sessions, group work, tutorials and autonomous work and study.

4.2.Learning tasks

This 6 ECTS (150 hours) course is organized as follows:

- **Lectures** (1.44 ECTS). Students are expected to attend and participate actively in the class throughout the semester. Classroom materials will be available via Moodle academic platform <https://moodle2.unizar.es/add/>
- **Problem-solving sessions**
 - **Calculator-assisted problem sessions** (0.56 ECTS)
 - **Computer-assisted problem sessions** (0.40 ECTS)
- **Autonomous work and study** (3.40 ECTS)
- **Assessment tasks** (0.20 ECTS)
 - Group work
- **Tutorials**. In small groups, individually or by email.

4.3.Syllabus

This course will address the following topics:

Lectures/seminars contents

- Introduction to Biostatistics. Scientific method.
- Univariate descriptive biostatistics. Frequency distribution. Tables and graphs. Measures of central tendency, spread, shape and position.
- Bivariate descriptive biostatistics. Two-way tables. Correlation and Regression.
- Probability theory. Bayes Theorem. Random variable and Probability distribution models.
- Introduction to inferential statistics. Sampling. Estimation by confidence interval. Sample size.
- Inferential statistics: Introduction to hypothesis testing, error types, significance level, power of the test, p values. Paired and independent samples.
- Hypothesis testing based on means, variances or proportions: Student' T, Z and Snedecor's F tests
- Non-parametric methods: chi-square test for independence. Mann-Whitney U test for ranked values.

Computer lab sessions contents: Use SPSS/Epidat and/or Excel and/or Epidat (free software) to:

- Create a new database. Manage data and variables.
- Create univariate and bivariate frequency tables and graphs
- Perform correlation and regression techniques
- Perform two sample comparisons of means and create confidence intervals for the population mean differences
- Compare proportions among two independent populations

4.4.Course planning and calendar

Further information concerning the timetable, classroom, office hours, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the Faculty of Health and Sport Sciences website (<https://fccsyd.unizar.es/academico/horarios-y-CALENDARIOS>) and Moodle.

4.5.Bibliography and recommended resources

To check the recommended and complementary bibliography of this course, please visit the link following: <http://psfunizar7.unizar.es/br13/egAsignaturas.php?codigo=29202>