

31215 - Data Analysis II

Syllabus Information

Academic Year: 2021/22

Subject: 31215 - Data Analysis II

Faculty / School: 301 - Facultad de Ciencias Sociales y Humanas

Degree: 613 - Degree in Psychology

ECTS: 6.0

Year: 2

Semester: Second semester

Subject Type: Basic Education

Module:

1. General information

1.1. Aims of the course

The main objective of this subject is to introduce the student to the fundamentals of inferential statistics and train them in the performance of statistical analyses with the computer.

1.2. Context and importance of this course in the degree

The subject "Data Analysis II" is one of the four subjects linked to the area of "Methodology of human behavior research" of the curriculum of the Degree in Psychology. This subject is compulsory and consists of 6 credits. It is taught in the second semester of the second year. While the subject "Data Analysis I" focuses on descriptive statistics, the subject "Data Analysis II" focuses on inferential statistics.

1.3. Recommendations to take this course

To follow this subject without problem, it is necessary to have properly assimilated the subjects "Research methods" and "Data analysis I". In this subject we will work with various mathematical equations. However, the aim of this subject is not to memorize these equations, but to understand them. Therefore, the greatest effort required by this subject is not that of memorization, but that of understanding mathematical concepts.

2. Learning goals

2.1. Competences

General competences

CG05 - Demonstrate critical ability to make relevant decisions.

CB1 - That students have demonstrated knowledge in an area of study that starts from the basis of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that involve knowledge from the forefront of their field of study.

CB3 - That students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include reflection on relevant social, scientific or ethical issues.

CB4 - That students can transmit information, ideas, problems and solutions to both a specialized and non-specialized audience.

CB5 - That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy.

Specific competences

CE03 - Apply information collection techniques, obtain relevant data for the evaluation of programs and/or psychological interventions.

CE09 - Manage, analyze and interpret data in the frameworks of disciplinary knowledge typical of the different fields of psychology.

CE10 - Make decisions in a critical way on the choice, application and interpretation of the results derived from the different methods of psychological research.

CE11 - Disseminate the knowledge derived from theoretical reviews and the results of psychological research.

Transversal competences

CT04 - Acquire essential notions of scientific thought.

2.2. Learning goals

The student, to overcome this subject, must demonstrate the following results:

1. Know the two existing procedures by which statistical inferences can be made: the estimation of parameters and the contrast of hypotheses.
2. Given a specific research problem, identify the most appropriate type of statistical analysis to solve it and carry out the statistical analysis with statistical software (SPSS or another).
3. Correctly interpret the statistical results obtained with statistical software (SPSS or another).

2.3. Importance of learning goals

Statistics is a mathematical discipline used in psychology as well as in other social sciences. Thanks to it, psychology is a discipline with a scientific character. Although a psychologist may have no intention of engaging in research, the way psychologists transmit new advances is through statistical language. Therefore, it is necessary for every psychologist to master statistical terminology and know how to proceed with statistics. In addition, a good training in statistics allows the psychologist to critically evaluate the quality of scientific work. At the end of the course, the student will be able to apply different statistical analyses, which will be very useful for the research that he or she will carry out later in his/her final degree work.

3. Assessment (1st and 2nd call)

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

The overall score of the subject will be obtained from two evaluations. One evaluation will be obtained based on the evaluation of the works and deliveries made during the course and the other based on the final test. The overall score will be obtained by means of the weighted average of both evaluations, in which the weighting of the evaluation of the works and deliveries, as well as that of the evaluation of the final test, will be between 40% and 60%.

For more information consult the Norms Regulation of Learning Evaluation of the University of Zaragoza:

https://zagan.unizar.es/record/30538/files/norma_estudiantesEvaluacionAprendizaje_2010_original.pdf

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The main methodology that will be used to teach the theoretical part of the subject will be the master class, in which the fundamentals of inferential statistics and different statistical analyses will be explained. As for the main methodology that will be used in the practical part, it will be through the resolution of problems with computer. Another methodology that will be used will be tutoring, as a means to solve doubts about the contents of the subject that are developed in class.

4.2. Learning tasks

The activities will consist mainly of the performance of statistical analyses with a statistical software (SPSS or other).

4.3. Syllabus

- SECTION 1. Introduction to inferential statistics
- SECTION 2. Hypothesis contrast and parameter estimation
- SECTION 3. Comparison of two means
- SECTION 4. Analysis of uni- and multifactorial variance
- SECTION 5. Multiple linear regression

4.4. Course planning and calendar

Course planning will be provided to students in advance through Moodle.

The timetable and key dates of the subject can be consulted on the website of the Faculty of Social and Human Sciences (<http://fcs.h.unizar.es/>).

4.5. Bibliography and recommended resources

To consult the bibliography of the subject, search for the subject in the library of the University of Zaragoza on the following

website:

<http://psfunizar10.unizar.es/br13/eBuscar.php?tipo=a>