



COURSE DATA

DATA SUBJECT

Code: 36721
Name: Quantitative Research Techniques
Cycle: Undergraduate Studies
ECTS Credits: 6
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
1335 - Degree in Political and Public Administration Sciences	Facultat de Dret	2	First quarter
1930 - Double Degree Programme in Law and Political and Public Admin. Sciences	Facultat de Dret	2	First quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1335 - Degree in Political and Public Administration Sciences	Técnicas de investigación cuantitativas	COMPULSORY
1930 - Double Degree Programme in Law and Political and Public Admin. Sciences	Asignaturas obligatorias de segundo curso	COMPULSORY

COORDINATION

PIZZI - ALEJANDRO DANIEL

SUMMARY

The objective of this course is to introduce students to the basic techniques of univariate and bivariate statistical analysis. In addition, an introduction to multivariate analysis is proposed. It is assumed that students already know the basic procedures of quantitative research design (definition of a research problem, quantitative objectives, characteristics of probability sampling, characteristics of a survey and structure of questionnaires). These previous contents are updated in this course and, subsequently, special emphasis is given to quantitative analysis techniques. In this way, students learn to carry out univariate analysis, and to calculate measures of central tendency (mean, standard deviation, median, mode), ranges and estimate population parameters (confidence intervals). Likewise, bivariate analysis techniques are explained through comparison of means (T-test, ANOVA), chi-square cross-tabulations, correlation and simple regression. Finally, an introduction to multivariate analysis is presented. In this way, students will be able to establish statistical regularities in the populations under study. These regularities are the basis of quantitative sociopolitical analysis. The conceptual contents of this course provide the basic knowledge to carry out empirical research works related to political science, as well as it lays one of the foundations to prepare, in the future, end-of-degree works.



PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

OTHER REQUIREMENTS

The course "University, Research and Politics" (36708) is the background course required to take "Quantitative Research Techniques".

There are no specific requirements for this course. However, it is recommended to have a comprehensive reading ability and a correct oral and written expression in Spanish and Valencian.

COMPETENCES / LEARNING OUTCOMES

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Análisis de información para evaluar problemas políticos o de gestión pública y elaborar propuestas de mejora

Pensamiento crítico.

Saber elaborar informes, dictámenes y trabajos de investigación política.

Saber utilizar los métodos y técnicas de análisis cuantitativos y cualitativos, así como el método comparativo.

Students must be able to apply their knowledge to their work or vocation in a professional manner and have acquired the competences required for the preparation and defence of arguments and for problem solving in their field of study.

Students must be able to communicate information, ideas, problems and solutions to both expert and lay audiences.

Students must have acquired knowledge and understanding in a specific field of study, on the basis of general secondary education and at a level that includes mainly knowledge drawn from advanced textbooks, but also some cutting-edge knowledge in their field of study.

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

Students must have the ability to gather and interpret relevant data (usually in their field of study) to make judgements that take relevant social, scientific or ethical issues into consideration.

Trabajo en equipo.

DESCRIPTION OF CONTENTS



1. CONTENTS

1. The survey. Structure and types of surveys.
 2. Searching and downloading statistical databases (microdata).
 3. Statistical data analysis:
 - 3.1. Descriptive statistics: measures of central tendency, standard deviation and ranges. Normal curve and standardized values.
 - 3.2. Inferential statistics. Univariate analysis: standard error and calculation of confidence intervals.
 - 3.3. Inferential statistics. Bivariate analysis: comparison of means through Student's t-test. Cross-table analysis using the Chi-Square coefficient and other association coefficients. Analysis of Variance (ANOVA). Interpretation of correlation and simple regression techniques.
 - 3.4. Introduction to inferential statistics. Multivariate analysis: introduction to multiple regression.
- By learning these techniques, students will be able to carry out statistical analysis of different topics applied to the field of political science.
- Students will become familiar with the use of some statistical programs commonly used in social and political sciences (SPSS / PSCP / R / etc.). Therefore, the subject is taught in computer classrooms. At the same time, students are also required to use their personal computers to carry out different types of practical exercises.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theoretical and practical classes	60,00
Total hours	60,00

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	5,00
Individual or group project	40,00
Independent study and work	35,00
Preparation of lessons	10,00
Preparation for assessment activities	0,00
Resolution of case studies	0,00
Total hours	90,00

TEACHING METHODOLOGY

The course is based on the use of computer programs to carry out quantitative analysis. Therefore, classes will be held in computer classrooms. Students are also required to use their own personal computer, outside class hours, to carry out the various practical tasks included in the course. The teaching methodology includes the following activities: lectures, case studies, solving exercises and problems, autonomous and cooperative learning. Attendance to tutorials. Presentation by the teaching staff and student participation based on the issues raised; practical classes and presentation of individual and group work. The teaching staff will explain the different topics and points that make up the program. Lectures will



be continuously interspersed with practical activities and the active participation of students in class. Each topic will be supported by basic bibliography and statistical databases that will be subject to quantitative analysis. In addition, a complementary bibliography will be provided, including texts that address the topics under study in greater depth or focus on specific aspects. In this way, the aim is to reinforce the knowledge acquired in class and to provide a guide for the expansion of the topics that are of interest to the students. Besides the course schedule, students will be required to attend and participate in complementary activities, conferences, etc., organized throughout the course.

EVALUATION

The evaluation of the course consists of two parts: First, the evaluation of the students' continuous work through a set of practical assignments (individual or group) carried out throughout the course. The practical work must be submitted in due time and form. It is not accepted the delivery of practical activities out of the deadline foreseen by the teacher. Practical activities represent 40% of the final grade. Secondly, students will take an individual final exam. This exam consists of a series of exercises on the topics covered in the course. The exam grade represents 60% of the final evaluation. Passing the exam is mandatory to pass the course.

REFERENCES

- Ritchey, Ferris (2008). Estadística para las ciencias sociales. Madrid, McGraw Hill. García Ferrando, Manuel; Alviar, Francisco; Alonso, Luis E.; Escobar, Modesto (comps.) (cuarta edición 2015). El análisis de la realidad social. Madrid, Alianza Editorial. López-Roldán, Pedro i Fachelli, Sandra (2015). Metodología de la Investigación Social Cuantitativa. Bellaterra: Universitat Autònoma de Barcelona.
- Díaz de Rada, V. (2009), Análisis de datos de encuesta. Desarrollo de una investigación completa utilizando SPSS, Madrid: Editorial UOC. Visauta Vinacua, B. (2007): Análisis estadístico con SPSS 14. Estadística básica, Madrid: McGraw-Hill.