

**COURSE DATA****Data Subject**

Code	34415
Name	Quantitative techniques for social research
Cycle	Grade
ECTS Credits	9.0
Academic year	2020 - 2021

Study (s)

Degree	Center	Acad. year	Period
1310 - Degree in Sociology	Faculty of Social Sciences	2	Annual
1924 - D.D. in Political and Public Admin. Sciences-Sociology	Faculty of Law	2	Annual
1925 - D.D. in Sociology-Political and Public Admin. Sciences	Faculty of Social Sciences	2	Annual

Subject-matter

Degree	Subject-matter	Character
1310 - Degree in Sociology	8 - Research techniques in social sciences	Obligatory
1924 - D.D. in Political and Public Admin. Sciences-Sociology	2 - Year 2 compulsory subjects	Obligatory
1925 - D.D. in Sociology-Political and Public Admin. Sciences	2 - Year 2 compulsory subjects	Obligatory

Coordination

Name	Department
CARDENAS HERRERA, JULIAN ANDRES	330 - Sociology and Social Anthropology

SUMMARY

The subject is part of the degree in Sociology and it is included in the module Methods and Techniques in Social Research. It is worth 9 ECTS credits and it takes place in the second academic year of the degree. It is compulsory and its workload is of approximately 225 hours.



The quantitative techniques of social Research are closely linked to most of the subjects included in the module mentioned above and especially with *IT Applied to Social Research* and *Social Statistics*.

IT Applied to Social Research is a complementary subject since it provides the basis for the later and simultaneous use of IT applications used for social Research, essentially quantitative but also of support for quantitative analysis.

Social Statistics is the basis for *Quantitative Techniques in Social Research*.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

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

Other requirements

Relationship with other subjects of the same degree.

No enrolment restrictions have been specified.

Other types of prerequisites.

Completion of Social Statistics advisable.

OUTCOMES

1310 - Degree in Sociology

- 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 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 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.
- Students must be able to communicate information, ideas, problems and solutions to both expert and lay audiences.
- Students must have developed the learning skills needed to undertake further study with a high degree of autonomy.
- Propose, design and develop a sociological research project.
- Write reports and diagnoses on social problems.



- Design and implement plans and programmes aimed at addressing social problems and evaluating their results.
- Work in a team with a multidisciplinary perspective.
- Apply the principles of the professional code of ethics of sociology and develop a commitment to social problems.
- Respect and promote the principles of fundamental rights, gender equality, equal opportunities and non-discrimination, democratic values and sustainability.
- Manage documentary sources and statistics referring to social reality.
- Learn independently and develop initiative in the field of sociology.
- Analyse empirical data on social structure, change and problems.
- Describe and explain social inequalities based on social theories and indicators and detect emerging processes.
- Apply the quantitative and qualitative techniques of sociological data collection.
- Know and apply statistical techniques for the analysis of social reality.
- Know and use secondary data sources useful for sociology.
- Relate and integrate information on social phenomena from primary and/or secondary sources.
- Use software and computer applications useful for sociology.
- Know the tools needed to create, implement and evaluate public policy programmes and social intervention projects.
- Identify and measure social vulnerability factors.

LEARNING OUTCOMES

- Know, understand and apply the methods and procedures that require the phases to be followed by a quantitative research.
- Know, understand and apply the techniques of common research: survey, experiment and work with secondary sources.
- Build related to empirical work needed to finally conform a data matrix variables.
- Apply and interpret socioestadísticas basic techniques and procedures of analysis from the data matrix.
- Link on analysis techniques and social theory as inseparable and indispensable part in social analysis.

DESCRIPTION OF CONTENTS



1. - Know the basic elements of Descriptive Statistics applied to Sociology.

- Explore, describe and summarize the characteristics of the social circumstances dealt with.
- Know the basic elements of Inferential Statistics applied to Sociology.
- Infer the characteristics of social facts (both descriptive and inferential), interpret and relate them.
- Use statistics to obtain valid results, evaluate the procedures used and the results obtained.
- Apply the concepts learned to new situations.
- Analyze the information and be capable of describe it and forecast conclusions.
- Know the basic elements of Descriptive Statistics applied to Sociology.
- Explore, describe and summarize the characteristics of the social circumstances dealt with.
- Know the basic elements of Inferential Statistics applied to Sociology.
- Infer the characteristics of social facts (both descriptive and inferential), interpret and relate them.

Organization and design of quantitative Research

1.1 Quantitative empirical research.

Structured design of quantitative research.

Organization and stages of Research.

First steps of an Research project: planning and objectives.

1.2 From hypothesis to variables.

Theoretical framework: state-of-the-question and state-of-the-art.

Hypothesis as concept interconnections, deduced from Theory.

Transformation of concepts into variables, indicators and indexes.

2. Techniques of quantitative Research

2.1 Techniques of data production.

Secondary sources. Diversity of sources. Exploitation of databases.

Experiments. Experimentation in Social Sciences. Causality and experimental designs. Quasi-experiments.

Surveys. Basic sampling concepts.

Non-probabilistic surveys. snowball sampling, quotas and biased sampling.

Probabilistic surveys: simple, stratified and conglomerate sampling.

2.2 Sampling details.

The three central elements of a sampling survey: the questionnaire, the field of work and the simple design.

Design of the questionnaire. Administration of the questionnaire.

Field of work. Organization of data gathering.

Simple random sampling: sample mistakes, estimation and sample size. Mistakes and bias in surveys.

Stratified random sampling and conglomerate sampling.

2.3 Scales.

Construction of scales.

Reliability and validity.

Attitude measurement scales.



3. Data matrix.

3.1 Data matrix.

Data matrix to coordinate the units of analysis and variables.

Manipulations and recoding of and in the data matrix.

4. Data analysis

4.1 Unidimensional analysis.

Distribution of frequencies. Graphs.

- Categorical data (qualitative).

- Quantitative data.

Statistics for analysis: position and dispersion.

- Categorical data (qualitative).

- Quantitative data.

- The Lorenz Curve and the Gini Coefficient.

4.2 Bidimensional analysis.

Categorical data (qualitative):

- Contingency tables and graphical representations.

- Chi-squared distribution.

- Coefficient of association (measure of association intensity).

- Measuring the prediction error.

- Coefficient of concordance.

- Analysis of residues.

Quantitative data.

- Ordinal data: coefficient of association.

- Point cloud. Co-variation.

- Model of lineal regression. Coefficient of correlation. Coefficient of determination.

Co-variation and causality. The search for causes in Social Sciences.

4.3 Multivariable analysis.

Dependence and interdependence techniques.

Multivariate lineal model. Multivariate regression and correlation.

Analysis of variance as an extension of the contrast of average difference.

Other advanced techniques.

5. The report of Research

5.1 Writing a quantitative report of Research.

From the project to the final report.

Structuring the parts of the Research in a comprehensive design.

Final report and presentation of the essential elements of the Research.

**WORKLOAD**

ACTIVITY	Hours	% To be attended
Theoretical and practical classes	90,00	100
Attendance at events and external activities	5,00	0
Development of group work	30,00	0
Development of individual work	30,00	0
Study and independent work	30,00	0
Preparing lectures	20,00	0
Preparation of practical classes and problem	20,00	0
TOTAL	225,00	

TEACHING METHODOLOGY

1. The teacher will present the most relevant concepts of each unit and will hand out diagrams and ask questions for students to answer in class. Students must prepare the lessons by:

- Reading the materials specified by the teacher.
- Extracting the basic concepts.
- Elaborating files corresponding to each unit.

2. The practical activities will use participation to improve communication between the teacher and the students and among students, and encourage co-responsibility in the teaching-learning method.

Practical activities will be carried out both in group and individually in order to motivate research, analysis and assimilation processes and to encourage personal relationships and share problems and solutions.

Statistic programmes will be used throughout the course as an important part of the activities.

3. Reading. The teacher will hand out articles and texts to read and carry out activities related to them. Texts will also be used to complete the information given by the teacher.

4. Tutorials. Apart from personal tutorials for doubts and questions, there will be periodical group tutorials in order to monitor the assignments.



5) Skills and Bibliographical Informational session, intermediate level, by the technical staff of the Library of Ciències Socials - Gregori Maïans.

EVALUATION

The final grade will be the result of the combination of the final exam plus the grade of the exercises and activities submitted throughout the course. A partial and a final exam will be used to evaluate the knowledge acquired.

The partial (midterm) exam will take place between the end of the first semester and the beginning of the second semester.

The final exam will take place at the end of the second semester.

The final exam will account for 50% of the final grade. Students must pass the partial exam and must obtain a minimum grade of 5 (over 10) in order to pass the course.

Practical activities (in group and individual) will account for 50% of the final grade. In assessing the practical activities will take into account the Informational Skills performed during the course.

Individual and group assignments, attendance and participation in class will be graded. In order to pass the subject, students must submit all of the practical activities. Late assignments will be subject to penalization.

Conditions for resits will be the same. Assignments do not need to be repeated if already submitted.

REFERENCES

Basic

- CORBETA, P. (2007): Metodología y técnicas de investigación social. Madrid, McGraw-Hill.
- DÍAZ DE RADA, V. (2009): Análisis de datos de encuesta. Desarrollo de una investigación completa utilizando SPSS. Barcelona, Editorial UOC.
- BABBIE, Earl (2000). Fundamentos de la investigación social. México, D.F. : Thompson. Temas de 1 a 10.

Additional



- GARCIA FERRANDO, Manuel; ALVIRA, Francisco; ALONSO, Luis E.; y ESCOBAR, Modesto; comps (2015). El análisis de la realidad social. Métodos y técnicas de investigación. Madrid: Alianza editorial. 4ª Edición. Apoyo y fundamento de metodología y técnicas de investigación social.
- CALLEJO, J. y VIEDMA A. (2006): Proyectos y Estrategias de Investigación Social: la perspectiva de intervención. Madrid, McGraw Hill.
- RITCHEY, Ferris J. (2008) Estadística para las ciencias sociales. México: McGraw-Hill . Apoyo y fundamentos de estadística.
- QUIVY, Raymond; y CAMPENHOUDT, Luc Van (2005). Manual de recerca en ciències socials. Barcelona: Herder. Temes de 1 a 5.

ADDENDUM COVID-19

This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council

1. CONTENTS

Contents of the original teaching guide will be maintained.

2. WORKLOAD AND TIME PLANNING OF TEACHING

The activities and volume of work of the original teaching guide will be maintained. The planning of sessions will be specified at the beginning of the semester.

3. TEACHING METHODOLOGY

The course will consist of face to face sessions, as well as practical activities and collective tutorials established in the original teaching guides. Individual tutorials will be preferably individuals.

Regarding affected or vulnerable students, methodology will be adapted to the following activities non face-to-face: individual works, individual projects or reports, study of specific bibliography and/or tutorials through videoconference.



If sanitary situation imposes on-line classes, all sessions will be substituted for: materials in virtual classroom, synchronous videoconferencing, registered presentations or other options established by the teaching team. Practical activities will guarantee the interaction with students by videoconference, forum or chat in virtual classroom. Teaching team will communicate these adaptations through virtual classroom.

4. EVALUATION

The criteria of the teaching guide will be maintained regarding the estimation of each type of activity.

For vulnerable or affected students, group activities qualification will be considered in individual activities.

In case that the sanitary situation impose that the final proof should be developed on-line, an evaluation by the following modality will be done: individual written exercise by questionnaire in a virtual classroom synchronous task; individual written proof asynchronous with questions of development in virtual classroom; addition of activities of continuous evaluation.

5. BIBLIOGRAPHY

The bibliography of the guide will be maintained. If the sanitary situation imposes shutdown of libraries, materials of support will be facilitated through virtual classroom.