Quantitative Social Research Methods

Code: 101146
ECTS Credits: 6

Degree	Type	Year	Semester
2500262 Sociology	OB	2	1

Contact

Name: Francesc Josep Miguel Quesada

Email: miguel.quesada@uab.cat

Teaching groups languages

You can check it through this link. To consult the language you will need to enter the CODE of the subject. Please note that this information is provisional until 30 November 2023.

Teachers

Anna Tarres Vallespi

Prerequisites

It is recommended to have successfully completed the subject "Methodology and Design of Social Research" corresponding to the first course of the degree.

Objectives and Contextualisation

The subject is an introductory course for production techniques (collection) and basic analysis of data, focused on a quantitative perspective. The main objective is to offer the students the information and the capacity to apply the main methods and techniques of production and analysis of quantitative data used in the field of Quantitaive Sociology.

Specifically, the subject aims to build a learning process based on:

- The knowledge and understanding of the concepts associated with the research process in social sciences from a distributive or quantitative perspective, from the construction of study object, the collection-production of the data and the statistical analysis.
- Start acquiring the ability to conceive and plan a complete research process, in particular, what is derived from a survey research.
- The ability to apply the technical instruments aimed at the measurement of sociological concepts, the construction of a survey questionnaire, the construction of a statistically significative sample, the development of the field work of a survey, the preparation and the basic analysis of the statistical data obtained, all of them through a real exercise of empirical work in-the-field.

- Knowing how to use statistical software instruments and basic tools for the registering and identification of survey data, their transformation and for performing some univariate statistical analysis (JAMOVI, R, PSPP).
- Knowing how to make sense of the statistical results of data analysis, from a technical and substantive point of view in accordance with the theoretical and methodologically builded model.
- The basic ability to evaluate the validity and reliability of the results of a survey study, and to critically argue its limitations and its ability to check theoretical hypotheses.

This subject gives continuity to the itinerary of methods and techniques. On one hand, it is a continuation of Methodology and Design previous course, in which the methodology and the logic the scientific research process in social sciences its presented. On the other hand, it is a course that is taught in parallel to the subject of qualitative methodology, and both are the prelude to the subject about "Analysis Methods" in the second semester.

Competences

- Applying the main quantitative and qualitative methods and techniques of social research to a specific topic.
- Describing social phenomena in a theoretically relevant way, bearing in mind the complexity of the involved factors, its causes and its effects.
- Designing a social research project by defining a comprehensive theoretical framework with clearly defined concepts, formulating consistent and significant hypothesis, choosing suitable investigation techniques for the adopted concepts, and analysing the empirical results obtained with those techniques.
- Developing critical thinking and reasoning and communicating them effectively both in your own and other languages.
- Developing self-learning strategies.
- Enumerating the methodology and investigation techniques that support the main hypothesis about social relationships, the positions and practices of individuals in a social structure and the social changes.
- Searching for documentary sources starting from concepts.
- Students must be capable of assessing the quality of their own work.
- Students must be capable of managing their own time, planning their own study, managing the relationship with their tutor or adviser, as well as setting and meeting deadlines for a work project.
- Working in teams and networking in different situations.

Learning Outcomes

1. Defining concepts of analysis.
2. Developing critical thinking and reasoning and communicating them effectively both in your own and other languages.
3. Developing self-learning strategies.
4. Explaining the methodological basis of these quantitative and qualitative methods and techniques.
5. Formulating a hypothesis with these concepts.
6. Identifying the main quantitative and qualitative methods and techniques.
7. Indicating their dimensions, their possible quantitative indicators and the significant qualitative evidence in order to empirically observe them.
8. Measuring a social phenomenon with these instruments on the basis of a theoretical framework of analysis.
9. Mentioning the main concepts of sociology.
10. Obtaining conclusions from the information obtained with this tool.
11. Preparing an analytical tool that is significant to this hypothesis.
12. Relating them with the different approaches of sociology.
13. Searching for documentary sources starting from concepts.

14. Students must be capable of assessing the quality of their own work.
15. Students must be capable of managing their own time, planning their own study, managing the relationship with their tutor or adviser, as well as setting and meeting deadlines for a work project.
16. Using the appropriate software to the basic multivariate statistical tools.
17. Using the appropriate software to the univariate statistical tools.
18. Using the basic multivariate statistical tools.
19. Using the univariate statistical tools.
20. Working in teams and networking in different situations.

Content

PART I. THE DATA PRODUCTION
Topic 1. Introduction to the quantitative methodological perspective
1.1. Objectives of the subject, content program, course dynamics and evaluation
1.2. Introduction to the distributive or quantitative methodological perspective (experiments and surveys)

Topic 2. The survey
2.1. From the analysis model to the operativization of the concepts
2.1.1. Analysis model and analysis design
2.1.2. Research process and stages of the survey method
2.1.3. Operatization of concepts
2.1.4. The measure Concept and type of measure. Validity and reliability
2.2. General characteristics of the investigation by survey
2.2.1. Definition and characteristic characteristics of the survey
2.2.2. Types of surveys
2.2.3. The design of the sample
2.3. The construction of the questionnaire: the context of the statement
2.3.1. Types of questions
2.3.1. The formulation of the questions
2.3.3. Construction of stairs
2.3.4. Organization of the questionnaire: questions and discourse
2.4. Application of the questionnaire
2.4.1. Context of the statement: social situation and communication contract
2.4.2. Field work: organization and planning
2.5. Register of information
2.5.1. The data and the data matrix. Units and variables
2.5.2. The coding and recording of data
2.5.3 Identification of data in computer support

PART II. DATA ANALYSIS
Topic 3. Descriptive statistics in one variable
3.1. Analysis of statistical data
3.1.1. Statistics on Social Sciences: descriptive and inferential statistics.
3.1.2. Graphic representation: reference systems in the plane, linear functions-equation of a straight line, other functions
3.2. Descriptive statistics in one variable
3.2.1. Frequency distributions

3.2.2. Graphic representations of qualitative and quantitative variables
3.2.3. The central and non-central position characteristics
3.2.4. The dispersion characteristics
3.2.5. Shape features
3.2.6. Exploratory data analysis

Topic 4. Preparation of the data for the analysis
4.1. Control and verification of data
4.2. Transformation of variables
4.2.1. Recoding variables
4,2,2. Transformations of variables: position and dispersion. Standardized scores
4.2.3. Generation of variables: typologies, indexes, taxes

Topic 5. Inferential statistics
5.1. Sample and population. Random sampling
5.2. Elemental theory of probability
5.3. Statistical distributions: the Normal distribution, Student's T, khi-squared of Pearson and F of Fisher-Snedecor
5.4. Parameters and statistics: point and interval estimates
5.5. Confidence interval for the average and for the population ratio
5.6. Introduction to Statistical hypothesis testing.

The information in the Catalan version of the Teaching Guide prevails over any other version.

Methodology

The teaching and assessment methodology proposed in the guide may undergo some modification depending on the restrictions on attendance imposed by the health authorities.

The course is presented with a dynamic teaching and continuous learning, which implies tracking the rhythms of the course and the various contents that have been designed in accordance with the different scheduled activities.
The contents of the subject have a driver's thread linked to the research process and, therefore, the continuity of learning is justified by the progressive incorporation of concepts and instruments, as well as the resolution of problems and questions, and the assimilation and practice of each topic of the subject.
The training program main goal is to offer students the tools to learn how-to develop sociological research from a quantitative perspective, so the teaching methodology and the training activities of the subject result from the combination of lecture sessions with problems solving exercises and classroom practices that allow to apply the acquired concepts as well as tutorials of follow-up and autonomous work.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Master class	38	1.52	1, 11, 9, 4, 5, 6, 7, 8, 10, 12, 17, 19
Practices in the classroom	15	0.6	1, 3, 11, 9, 4, 5, 6, 7, 8, 10, 12, 17, 19
Type: Supervised			
Programmed tutorials programmed	3	0.12	14, 13, 1, 3, 11, 9, 4, 5, 15, 6, 7, 8, 10, 12, 20, 17, 19
Type: Autonomous			
Individual preparation of written tests	30	1.2	9, 4, 6, 7, 12, 17, 19
Reading of texts	30	1.2	3, 11, 9, 4, 6, 7, 8, 10, 17, 19
Teamwork	30	1.2	14, 13, 1, 3, 11, 9, 5, 15, 7, 8, 10, 12, 20, 17, 19

Assessment

Single assessment system is not provided for this subject.

The subject will be assessed in two different parts, corresponding to Parts I and II of the syllabus.
- To pass the subject a minimum score of 5 out of 10 from each part is required.
- To pass each of the parts, the minimum required score is 4 of each of the 3 part's activities -written tests, written exercises outside the classroom, and the reports on the research project-.

The evaluation activities of each part are the following:
Assessment activities Part I (50%)
10% INDIVIDUAL: Exercises and practices carried out and delivered in class throughout the semester.
50% INDIVIDUAL: Practical test of general evaluation of the first part of the subject on the main notions and statistical software.
40% GROUP: Research work on a survey in relation to a research project.
Assessment activities Part II (50%)
10% INDIVIDUAL: Exercises and practices realized and delivered in the class.
50% INDIVIDUAL: Written test that will evaluate the acquisition of basic notions and basic instruments transmitted to the subject.
40% GROUP: Analysis (univariate), descriptive, exploratory and inferential, of the data of the survey in relation to a research project.

The test, the research project and the exercises will have a recovery option. The recovery will imply that each assessment activity is scored above a maximum of 8.

The evaluation report will have the "non-presented" rating those people who have not performed any activity of evaluation.

Building the working groups:
- Only working groups of 4 or 5 people will be accepted.
- Only working groups with people in the same "enrollment group" (matricula matí or tarda) are accepted. A change of enrollment group can be made, if A) is requested during the first 2 weeks of the course to theAcademic Management Service, B) it is approved, and C) it is comunicated to the teacher of the subject.

About plagiarismin academic work or written tests:
We kindly remind you that, at the time of signing up your enrollment, you committed yourself in the following

sense: "I DECLARE that the Autonomous University of Barcelona has informed me that (...) Plagiarism is the act of publicizing, publishing or reproducing a work or part of it in the name of an author other than the authentic one, which implies an appropriation of the ideas created by another person without explicit recognition of their origin. This appropriation involves an injury to the intellectual property right of this person that I am not authorized to do in any case whatsoever the circumstance: exams, work, practices ... Therefore, I COMMITTEE to respect the provisions related to rights of intellectual property in relation to the teaching and / or research activity carried out by the UAB in the studies I am studying."

- In the event that any kind of plagiarism will be detected, the evaluation ofthe test, exam, individual or group assignement will be 0.

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Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
PART I. Group research project	20 %	0	0	14, 13, 1, 3, 2, 11, 9, 4, 5, 15, 6, 7, 8, 10, 12, 20, 16, 17, 18, 19
PART I. Individual test	25 %	2	0.08	14, 13, 1, 3, 2, 11, 9, 4, 5, 15, 6, 7, 8, 10, 12, 20, 16, 17, 18, 19
PART I. Practice exercises	5 %	0	0	13, 1, 3, 9, 4, 5, 6, 7, 8, 12, 20, 17, 19
PART II. Group research project	20 %	0	0	14, 13, 1, 3, 2, 11, 9, 4, 5, 15, 6, 7, 8, 10, 12, 20, 16, 17, 18, 19
PART II. Individual test	25 %	2	0.08	14, 13, 1, 3, 2, 11, 9, 4, 5, 15, 6, 7, 8, 10, 12, 20, 16, 17, 18, 19
PART II. Practical exercices	5 %	0	0	13, 1, 3, 9, 4, 5, 6, 7, 8, 12, 20, 17, 19

Bibliography

Compulsory readings:

López-Roldán, P.; Fachelli, S. (2015). *Metodología de la investigación social cuantitativa*. Bellaterra (Barcelona): Dipòsit Digital de Documents, Universitat Autònoma de Barcelona. 1a. edición.
http://ddd.uab.cat/record/129382

Miguel, F.J.; Ajenjo, M.,; Griera, O. (2021). MUJADES: Manual d'us de jamovi per anàlisi de dades en estudis socials. Dipòsit Digital de Documents. Bellaterra (Barcelona): Universitat Autònoma de Barcelona. https://ddd.uab.cat/record/238222

+ Recursos digitals (dossiers de pràctiques, documents, enllaços,...), programació i la resta d'informació de l'assignatura al *Campus Virtual.*

Alternative readings:

Azofra, M. J. (1999) *Cuestionarios.* Madrid: CIS. Cuadernos metodológicos, 26. [Descarga gratuita en la web del CIS]

Bardina, X.; Farré, M.; López-Roldán, P. (2005). *Estadística: un curs introductori per a estudiants de ciències socials i humanes. Volum 2: Descriptiva i exploratòria bivariant.* Bellaterra (Barcelona): Universitat Autònoma de Barcelona. Col·lecció Materials, 166.

Cea D'ancona, M. A. (1998) *Metodología cuantitativa. Estrategias y técnicas de investigación social*. Madrid: Síntesis.

Cea D'ancona, M. A. (2004). *Métodos de encuesta. Teoría y pràctica, errores y mejora*. Madrid: Síntesis.

Domínguez, M.; Simó, M. (2003). *Tècniques d'Investigació Social Quantitatives*. Edicions de la Universitat de Barcelona. Col·lecció Metodologia, 13.

Farré, M. (2005). *Estadística: un curs introductori per a estudiants de ciències socials i humanes. Volum 1: Descriptiva i exploratòria univariant.* Bellaterra (Barcelona): Universitat Autònoma de Barcelona. Col·lecció Materials, 162.

García Ferrando, M. (1994) *Socioestadística. Introducción a la estadística en sociología*. 2a edició rev. i amp. Madrid: Alianza. Alianza Universidad Textos, 96.

López-Roldán, P. (2015). *Recursos per a la investigació social*. Dipòsit Digital de Documents. Bellaterra (Barcelona): Universitat Autònoma de Barcelona. http://ddd.uab.cat/record/89349 | http://pagines.uab.cat/plopez

Quivy, R.; Campenhoudt, L. Van (1997) *Manual de Recerca en Ciències Socials.* Barcelona: Herder.

Rial, A.; Varela, J.; Rojas, A. J. (2001). *Depuración y análisis preliminares de datos en SPSS. Sistemas informatizados para la investigación del comportamiento.* Madrid: RA-MA.

Rojas, A. J.; Fernández, S.; Pérez, C. (1998). *Investigar mediante encuestas. Fundamentos teóricos y aspectos prácticos.* Madrid: Síntesis.

Sánchez Carrión, J. J. (1999). *Manual de análisis estadístico de los datos.* Madrid: Alianza. Manuales 055.

Software

Document processor: LibreOffice Writer, or MicroSoft-WORD

Visual support for presenting: LibreOffice Impress, or MicroSoft-POWERPOINT

Spreadsheet: LibreOffice Calc, or MicroSoft-EXCEL

Quantitative data management and analysis: jamovi

[get the open and free *software at <https://www.libreoffice.org/download/download/> and <https://www.jamovi.org/download.html>]*