Universitat Autònoma de Barcelona

2019/2020

Quantitative Social Research Methods

Code: 101146
ECTS Credits: 6

Degree	Type	Year	Semester
2500262 Sociology	OB	2	1

Contact

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Use of Languages

Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Prerequisites

It is recommended to have successfully completed the subject of Methodology and Design of the first year of the degree.

Objectives and Contextualisation

The subject is an introduction course to methods and production techniques (collection) and basic analysis of data, centered on a quantitative methodological 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 in the field of sociology.

Specifically, the subject aims to build a learning 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 the object of study, the collection-production of the data and the statistical analysis of the social sciences.
Begin to acquire the ability to conceive and plan a complete research process, in particular, what is derived from a survey investigation.
The ability to apply the technical instruments aimed at the measurement of sociological concepts, the construction of a questionnaire of survey, the construction of a statistical 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.
To know how to use statistical software instrumental and basic tools for the introduction and identification of survey data, their transformation and an univariate statistical analysis (R, PSPP, or SPSS).
To know how to interpret the statistical results of a data analysis from a technical and substantive point of view in accordance with the theoretical and methodological model built.
The basic ability to evaluate the validity and reliability of the results of a study by survey and critically argue its limitations and its ability to check theoretical hypotheses.

The subject givescontinuity to the itinerary of methods and techniques. On one hand, it is a continuation of Methodology and Design of first course, in which it presents the methodology and the logic the process of investigation in social sciences. On the one hand, is a course that is taught in parallel to the subject of qualitative methodology, and both are the prelude to the subject of Analysis Methods of 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

Topic 2. The survey
2.1. From the analysis model to the operativization of the concepts
2.2.1. Analysis model and analysis design
2.2.2. Research process and stages of the survey method
2.2.3. Operatization of concepts
2.2.4. The measure Concept and type of measure. Validity and reliability
2.2. General characteristics of the investigation by survey
2.1.1. Definition and characteristic characteristics of the survey
2.1.2. Types of surveys
2.1.3. 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. Statistical hypothesis testing.

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

Methodology

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.
Given that, the objective of the training is that students learn to investigate sociology from a quantitative perspective, 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.

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

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 activity: 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 (5 points)

INDIVIDUAL
Exercises and practices carried out and delivered in class throughout the semestre: 30%
Practical test of general evaluation of the first part of the subject on the main notions and statistical software: 30%

GROUP
Research work on a survey in relation to a research project: 40%

Assessment activities Part II (5 points)

INDIVIDUAL
Exercises and practices realized and delivered in the class: 15%
Written test that will evaluate the acquisition of basic notions and basic instruments transmitted to the subject: 50%

GROUP
Analysis (univariate), descriptive, exploratory and inferential, of the data of the survey in relation to a research project: 35%

The test, the research project and the exercises realized outside the classroom willhave a recovery option.

The recovery will imply that each assessment activity is scored above a maximum of 7.
The evaluation report will have the "non-presented" rating those people who have not performed any activity of evaluation.

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

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Analysis (univariate), descriptive, exploratory and inferential, of the data of the survey in relation to a research project (Part II)	35%	2	0.08	14, 13, 1, 3, 2, 11, 9, 4, 5, 15, 6, 7, 8, 10, 12, 20, 16, 17, 18, 19
Exercises and practices carried out and delivered in class throughout the semestre (Part I)	30%	2	0.08	14, 13, 1, 3, 2, 11, 9, 4, 5, 15, 6, 7, 8, 10, 12, 20, 16, 17, 18, 19
Exercises and practices realized and delivered in the class (Part II)	15%	0	0	14, 13, 1, 3, 2, 11, 9, 4, 5, 15, 6, 7, 8, 10, 12, 20, 16, 17, 18, 19
Practical test of general evaluation of the first part of the subject on the main notions and statistical software (Part I)	30%	0	0	14, 13, 1, 3, 2, 11, 9, 4, 5, 15, 6, 7, 8, 10, 12, 20, 16, 17, 18, 19

Research work on a survey in relation to a research project (Part I)	40%	0	0	13, 1, 3, 9, 4, 5, 6, 7, 8, 12, 20, 17, 19
Written test that will evaluate the acquisition of basic notions and basic instruments transmitted to the subject (Part II)	50%	0	0	13, 1, 3, 9, 4, 5, 6, 7, 8, 12, 20, 17, 19

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+ Digital resources (dossiers of practices, documents, links, ...), programming and the rest of the course information on the Virtual Campus.