Universitat Autònoma de Barcelona

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Advanced Methodology in Social Research

Code: 44038
ECTS Credits: 6

Degree	Type	Year	Semester
4313228 Social Policy, Employment and Welfare	OT	0	2

Contact

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Use of Languages

Principal working language: spanish (spa)

Teachers

Francesc Josep Miguel Quesada

Joan Miquel Verd Pericàs

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Prerequisites

Basic knowledge and skills are needed in relation to the methodology of the social sciences, the design of social research and the methods and techniques of production and analysis of qualitative and quantitative data.

Objectives and Contextualisation

The objective of the Advanced Social Research Methodology module [MARS] is the theoretical and applied knowledge of the methodology and the diversity of advanced methods and techniques in the analysis of data for social research, addressing various methodological perspectives, both quantitative and qualitative

This general objective is complemented by three specific ones:

1. Orient the process of conducting a research work establishing the criteria and the necessary tasks of its methodological design and the relevant application of research methods and techniques in order to adapt them to theoretical models and achieve the rigor of scientific research.
2. Acquire the skills of using the software corresponding to the data analysis techniques used.
3. Provide information and learning of research methods and techniques with applied character, with special reference to the research lines of the module's professors and the Department's research teams.

Competences

- Continue the learning process, to a large extent autonomously
- Design and conduct research projects on work, gender and social policy, using advanced qualitative and quantitative research techniques.
- Put forward innovative proposals for the relevant field of study.
- Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.

- Use and manage bibliography and IT resources in the field of study.

Learning Outcomes

1. Continue the learning process, to a large extent autonomously.
2. Critically examine a research project from a methodological perspective, identifying the different designs, methods and techniques, and their advantages and disadvantages.
3. Put forward innovative proposals for the relevant field of study.
4. Use acquired knowledge as a basis for originality in the application of ideas, often in a research context.
5. Use and manage bibliography and IT resources in the field of study.
6. Use computer programs at an advanced level to analyze the results of the implementation of the methods and techniques learned during the master.

Content

The contents of the module are structured around 4 thematic blocks:

Multivariate Analysis of Statistical Data [AMDE]
Advanced Qualitative Analysis [ACA]
Social Network Analysis [ARS]
Computational Social Simulation [SSC]

1. Multivariate Analysis of Statistical Data [AMDE]. 10 hours
Prof. Pedro López-Roldán

The main objective is to offer an applied panoramic of different techniques of statistical data analysis of multivariable type. Given the variety and extension of existing statistical procedures for the treatment of sociological information, it is decided to consider some more fundamental analysis techniques that facilitate laying the conceptual foundations and subsequently allow to deepen knowledge of them and other analysis procedures . The subject will give the fundamentals of the selection of techniques treated, with a very applied orientation and with the objective that the students acquire the sufficient elements so that they can use the knowledge of these techniques in their research. Both interdependence analysis techniques will be presented (on the one hand, contingency tables and log-linear analysis, on the other, factor analysis and classification analysis in order to develop a methodology for the construction of typologies), as well as dependence (logistic regression analysis) to formalize explanatory models.

The training includes two elements that are necessary for its monitoring and for its use. The first is the knowledge and use of the essential mathematical and statistical tools for analysis; the corresponding information will be given in a basic and balanced way for the formalization of these procedures, but where the main objective is the understanding and interpretation of the information they generate for the realization of an applied study. The second is the use of statistical software that will illustrate andapply the knowledge related to the different analysis procedures.

2. Advanced Qualitative Analysis [ACA]. 10 hours

Prof. Joan Miquel Verd and Oriol Barranco

In this block, it is intended, in the first place, to offer an overview of the diversity of qualitative data analysis techniques, with special emphasis on those that analyze textual data. The objective is that the students can recognize and reflect critically on the theoretical and epistemological foundations of these techniques and, in addition, acquire the necessary technical instruments to carry out a systematic, transparent and rigorous analysis. It will also be an objective of the course that the students will be able to associate the techniques treated with the different theoretical and epistemological orientations existing in the social sciences.

On the other hand, these contents will concentrate on two types of analysis procedures that have certain points in common, but also important differences: the Content Analysis and the Constant Comparative Method (Grounded Theory). The necessary guidelines will be given so that these analytical orientations can be applied

through the qualitative analysis program ATLAS.ti.As a result of the course, students should have the necessary technical knowledge to be able to develop an analysis of textual data (but also visual or sound) with the help of specific software and, in addition, situate methodologically and epistemologically their approach.

3. Analysis of Social Networks [ARS]. 8 hours

Prof. Joan Miquel Verd

The analysis of social networks is an interdisciplinary approach and a privileged starting point to renew our vision of social reality. In this thematic block the theoretical and methodological bases of the analysis of social networks, the procedures to collect, analyze and interpret matrices of reticular data with specialized software and different current applications of social network analysis will be presented. With this content it is expected that students can identify the conditions in which the introduction of social network analysis is feasible and appropriate in the design of an investigation and, in addition, they can collect, analyze and combine this data with other types of information. to formulate and / or contrast hypotheses of interest.

4. Computational Social Simulation [SSC]. 4 hours

Prof. F. J. Miguel Quesada

Computer simulation is a very useful tool for research in the field of social sciences, especially if it allows real people to interact with a virtual environment to study their reactions. With this content, the most significant features of the study of social phenomena by means of computers and the computer models of social simulation ("virtual societies") will be presented in a session.

Content of the program

BLOCK 1. Multivariate analysis of statistical data [AMDE]

1. Introduction to multivariable analysis
1.1. Presentation of the block: contents, dynamics and evaluation
1.2. Analysis techniques in analysis models and designs
1.3. General concepts and classification of multivariable analysis techniques
2. Multivariate analysis of contingency tables
2.1. Presentation and nomenclature of the analysis of contingency tables (ATC)
2.2. Analysis of the relationship between variables: independence, association and control
2.3. The log-linear analysis (ALL)
3. Typological construction methodology
3.1. The factorial analysis
3.1.1. The principal components factor analysis (ACP)
3.1.2. The factorial analysis of correspondences (ACO)
3.2. The classification analysis (ACL)
4. Logistic regression analysis (ARLog)
4.1. General characteristics and analysis process
4.2. The binary logistic regression analysis

BLOCK 2. Advanced Qualitative Analysis [ACA]

1. Textual materials for analysis
1.1. Types and characteristics of materials and data
1.2. The production of the data and its quality, validity and reliability
2. Current approaches in textual qualitative analysis
2.1. Types of analysis
2.2. The interpretation of the data
2.3. Validity and rigor in the qualitative analysis
3. The generalization and theorization in the qualitative -textual- analysis
3.1. Types and strategies of qualitative generalization
3.2. Theorization based on qualitative studies
4. Content analysis

4.1. Introduction. Content analysis and lexicometric analysis in social research
4.2. Characteristics and procedures of qualitative content analysis
5. The constant comparative method
5.1. The grounded theory and the constant comparative method
5.2. Characteristics and procedures of the constant comparative method
6. The use of CAQDAS in the analysis of qualitative data
6.1. The use of computer tools in the analysis of qualitative data. The CAQDAS in context
6.2. The qualitative content analysis conducted with Atlas.ti
6.3. The constant comparative method made with Atlas.ti

BLOCK 3. Social Network Analysis [ARS]

1. Introduction.
1.1. Concepts, origins and applications of social network analysis.
1.2. Basic principles of social network analysis.
1.3. Basic definitions.
2. Obtaining the information. Samples and data.
2.1. Sociocentric networks.
2.2. Personal networks
3. Measures
3.1. Of centrality.
3.2. Cohesion
3.3. Of position and structure.
4. Analysis of textual networks

BLOCK 4. Computational Social Simulation [SSC]

1. The modeling in the CC.SS .: Definition, Types and Use.
2. Social Computational Models based on Agents (ABM)
2.1. Social simulation methods
2.2. Social systems: Micro-Macro model and (inter) action with emerging effects
2.3. Artificial Intelligence and ABM Modeling Tools
3. Netlogo v5
3.1. Installation and first steps. Examples
3.2. Self-learning resources
4. Design of virtual societies with Netlogo
4.1. Structure and User Interface (GUI)
4.2. Basic elements: agents, attributes, procedures
4.3. Basic orders: ASK
4.4. Groups of agents: Agentsets vs. Breeds
4.5. Command blocks: Conditional and loops
4.6. Results: Plots, Output, Files.
4.7. Advanced elements: links between agents (links) and mental representations (list / vectors / arrays)
4.8. Design of virtual experiments: Behavior Analyzer.
4.9. Design of experiments with human agents: Participation within virtual societies

Methodology

The module will combine master teaching, in which the theoretical contents and examples of each module content will be presented and in which a dynamic that facilitates active and participatory learning will be fostered, with various training activities for teaching and learning the subject:

1. Seminars of analysis of readings and study of cases with their presentation and debate.
2. Individual and group follow-up tutorials.
3. Realization of exercises in the classroom and practices in the computer room to know, apply and interpret the information of each analysis technique and the procedure for obtaining it with the corresponding software.

In the Virtual Campus of the module, in a Moodle environment, all the information, materials and activities of the module are available.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Classroom practices	13	0.52	2, 3, 1, 4, 5, 6
Master classes	19	0.76	2, 3, 1, 4, 5, 6
Type: Supervised			
Group and individual tutorials on the basis of social research and monitoring and correction of the exercises and works of the module	15	0.6	2, 3, 1, 4, 5, 6
Type: Autonomous			
Individual preparation of the activities in the classroom and the work of evaluation	66	2.64	2, 3, 1, 4, 5, 6
Readings	37	1.48	2, 3, 1, 4, 5, 6

Assessment

The final grade of the module will be the result of the weighted average of each of the four blocks. The first 3 blocks will be weighted with 30% and the last with 10%. In particular, the evaluation of each block will be the following:

BLOCK 1. Multivariate Analysis of Statistical Data [AMDE]

The evaluation of the block will require the practical work of data analysis. From considering the relationships between, at least, three variables must be analyzed through one of the three procedures discussed in the course: analysis of contingency and log-linear tables, factor analysis and classification analysis, and logistic regression analysis. The work will be presented with the format of a research article where the formulation of a sociological model will be reported with the corresponding statement of the hypotheses of relationship between the variables, the presentation of the analysis design used and the subsequent comparison of that model with the analysis and interpretation of the data. The work will have a maximum length of 8 pages (about 3000 words) of writing, including graphs and tables prepared, in addition to the bibliography and the annex.

BLOCK 2. Advanced Qualitative Analysis [ACA]

Students can choose between different forms of evaluation. On the one hand, active participation and the critical capacity demonstrated in the discussions of the compulsory readings made in class are essential. From this participation will be extracted a first element of assessment of the work of the students. On the other hand, this note can be complemented by a practical work in which the student will have to apply the ATLAS.ti computer program or perform a test consisting of a methodological reflection on any of the issues dealt with in the block. This work will have a maximum length of 8 pages (about 3000 words) of writing.

BLOCK 3. Social Network Analysis [ARS]

The evaluation will be carried out in the first place from the elaboration of a research work (the work will have a maximum length of 8 pages, about 3000 words, of writing). Secondly, the presence in the classes and the participation in the sessions will also be valued. Students will be stimulated so that the research work is carried out interactively and in working groups, with a maximum of 3 students, to favor learning, the comparison of case studies. On the other hand, it will be ensured that the subject chosen for this work has to do totally or partially with the research of the final thesis. Likewise, session 4 will be reserved for a moment to prepare the research work.

BLOCK 4. Computational Social Simulation [SSC]

The evaluation of the block will involve the attendance and follow-up of the sessions in the classroom, as well as the delivery of a conceptual model that formalizes some aspect of the phenomenon studied in the research of the Master's Thesis. This report will be individual, of about 1,000 words, and will follow the format of the ODD + D social phenomena modeling protocol.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Practical exercice of Computacional Social Simulation	10%	0	0	2, 3, 1, 4, 5, 6
Practical work of qualitative data analysis	30%	0	0	2, 3, 1, 4, 5, 6
Practical work of quantitative data analysis	30%	0	0	2, 3, 1, 4, 5, 6
Practical work of social network analysis	30%	0	0	2, 3, 1, 4, 5, 6

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Further reading

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