# Research Methodologies (quali quantitative methods with lab)

## Prof. Emanuela Furfaro; Prof. Antonia Ventura Kleissl

***COURSE AIMS AND INTENDED LEARNING OUTCOMES***

This course will provide students with the fundamentals of sociological empirical research and the statistical foundations for studying phenomena in a social, political and economic settings.

The qualitative and quantitative paradigms will be introduced and compared in the light of the epistemology and methodology they are built upon. The research process is presented in its main phases, from research questions to data collection and analysis, as to show how research can be designed by benefitting of various methods.

The course will tackle the main techniques of qualitative social research, presenting various specific studies and exercises in the field, and of quantitative social research, including survey methodologies and the development of questionnaires for data collection.

With regard to the fundamentals of statistics, the course will tackle descriptive uni-variate and bi-variate statistics, focusing on the meaning and interpretation of statistical indices, as well as on their correct communication through graphical representations. Students will learn some theoretical statistics coupled with the use of Python, a modern programming language which is particularly useful for the social sciences as it allows to easily analyze and visualize data, to scrape the web and perform textual analysis.

*Intended learning outcomes*

1) *Knowledge and understanding*

Students will master the specific terminology of social research. They will also be able to recognise qualitative and quantitative social research tecniques and understand when to use ones or the others (the ethnographic approach, individual and group interviews), based on knowledge of their underlying paradigms.

Students will be able to interpret, communicate and critically comment on descriptive analyses of statistical data. They will also be able to calculate the main sdescriptive statistics through the use of a programming language, Python. Students will learn how to turn numbers into useful information to generate business insights, and how to effectively and rigorously communicate the information contained in their data.

To apply the theory, students will be assisted in a laboratory where they will apply all the techniques and theories explained during lessons. Students will learn how to commission a research, they will obtain the necessary expertise to be part of a working team to support corporate strategies, communication plan and marketing solutions.

2) *Ability to apply knowledge and understanding*

Students will understand how to approach the study of a social phenomenon using qualitative and quantitative methods. By the end of the course, students will be able to plan a social research project based on questionnaires, and conduct all steps as far as collecting data in the field.

Moreover, starting from a set of data, students will be able to independtely analyse descriptive statistics and to synthesize social phenomea through the calculation of adequate quantities, with the aid of IT tools. Students will be able to use the results of these analyses to answer research questions.

During the laboratory students will learn how to analyze specific case studies. They will both work as a team and individually. The aim is to provide them with analytical tools to develop a concrete research question. The laboratory will go through an analysis path that will make students experiment with different methodologies.

3) *Learning skills*

Students will be able to use the knowledge and skills acquired in the course in any application that includes a phase of empirical research and data analysis.

***COURSE CONTENT***

1. *Introduction to Qualitative and Quantitative research methodologies*

*-* Paradigms of social research: epistemology and methodology

- Research design: quantitative and qualitative methods, differences and usage;

- Characteristics of qualitative methods in research;

- Semi-structured interviews, non-directive interviews (life stories and life histories);

- Focus groups;

- Constructing the questionnaire;

*-* Sampling and detection.

2. *Elements of Statistics with exercises in Python*

*-* From measuring phenomena to building statistical variables;

- Data structure (units and variables);

- Frequency distribution and cumulative frequency distributions;

- Measures of position: mode, quantiles, mean;

- Measures of variability and heterogeneity;

- Exercise sessions: Introduction to Python;

- Exercise sessions: Python for uni-variate statistics and graphical representations;

- Bi-variate statistics: joint distributions, conditional distributions, stochastic independence, conditional means, correlations, simple linear regression;

- Exercise sessions: Python for bi-variate statistics and bi-variate graphical representations.

*3. Laboratory – case studies*

* Description of the client or the object of the research
* Analysis of research question
* Analysis of data sources
* Selection of Reaserch design
* Data Collection:
	+ Desk research (quantitive and qualitative)
	+ Quantitative research instrument (primary and secondary data)
	+ Qualitative techniques (ethnography, focus groups, participant observation, …)
* Coding and data analysis (excel)
* Data interpretation
* Summary and conclusion
* Format of the research report

***READING LIST[[1]](#footnote-1)***

P. Corbetta, *Social research: Theory, methods and techniques.* Sage, London, 2003.

A. Agresti, B. Finlay, *Statistical Methods for the Social Scientists.* Fourth Edition, Pearson, ISBN 13: 978-1-292-02166-9

P.D. Brooker. P*rogramming with Python for Social Scitntists,* SAGE Publications Ltd; 1 edition (24 Dec. 2019). ISBN-10: 1526431718.

L. Tagliaferri, *How to code in Python 3 ,* Online Book. Digital Ocean, New York City, New York, USA.

During the first lesson the lecturers will explain how to use the recommended texts. However, please note that these textbooks are further readings in addition to the materials that the inctructors will provide. Through the Blackboard platform, the course instructors will provide most of the materials, including slides and specific book chapters.

***TEACHING METHOD***

Part 1 and part 2 will be taught completely online. Teaching hours will also include supervised practical exercises using *Blackboard* platform. Office hours will be held on Blackboard once a week.

 The Laboratory will be taught in presence but if necessary it will be completely online or blended.

Office hours will be held on Blackboard once a week.

***ASSESSMENT METHOD AND CRITERIA***

The assessment of Part 1 and Part 2 will be carried out through weekly online tests, consisting of theoretical and practical questions, and exercises. These assignments will account for 40% of the final vote, while the remaining 60% of the evaluation will be carried out through a final assessment. The overall evaluation (40+60%) will be expressed out of 30; marks with honours will be given to those who reach 31 or 32 points.

 The assessment of the Laboratory will be a group presentation (4-5 people per group) about a specific case study. Students will be evaluated on the basis of their ability to set up research, and their analysis and communication skills. The evaluation will be expressed out of 30 and marks with honours will be given to those who reach 31 or 32 points.

 The final vote will be a weighted average between the mark for Part 1 and 2 (which will account for 2/3 of the final vote) and the mark of the Laboratory (which will account for 1/3).

***NOTES AND PREREQUISITES***

In case the current Covid-19 health emergency does not allow frontal teaching, remote teaching and exams will be carried out following procedures that will be promptly notified to students.

For any requests of clarifications, it is possible to write to the following e-mail address: *emanuela.furfaro@unicatt.it**;* *antoniaventurakleissl@gmail.com*

1. I testi indicati nella bibliografia sono acquistabili presso le librerie di Ateneo; è possibile acquistarli anche presso altri rivenditori. [↑](#footnote-ref-1)