Advanced Research Methods I

Academic Year: (2023 / 2024)   **Review date: 28-03-2022**

Department assigned to the subject: Social Sciences Department

Coordinating teacher: DI LEO , RICCARDO

Type: Compulsory ECTS Credits : 6.0

Year : 2 Semester : 1

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Statistics I
Statistics II

OBJECTIVES

Basic competences:
1. Quantitative knowledge giving the opportunity of being original in the proposal and/or application of new studies in a research context.
2. Implementation of the techniques to solve problems in new or scarcely knwon enviroments in multidisciplinary contexts.
3. Ability to communicate to specialists and non-specialists, the conclusions using arguments about the instruments in which they are based.
4. Leaarning abilities to keep studying in an autonomous way.

Competencias Generales:
1. Evaluation and comparison of alternative contributions to the important debates of the Social Sciences from an empirical point of view.
2. Evaluation of the arguments in scietific publications, with special focus on the consistency between theory and empirical results.
3. Give scientific arguments with clarity and precision.
4. Use quantitative techniques in research projects.
5. Desing of reserch projects for testing general hypothesis of interest.

Competencias Específicas:
1. Searching, analysis and understanding of the empirical properties of data associated with social phenomena.
2. Mastery of quantitative instruments to implement them in research.

Skills:
1. Mastering of quantitative methods to carry out research in Sociology, Political Science and Economic History.
2. Ability to carry out causal analysis.
3. Mastering of empirical analysis of microdata: households, companies or individuals using models and procedures appropriate for cross-sectional and panel data.
4. Ability to replicate results from scientific papers and to explain the details of the replications.
5. Carrying out empirical studies using the procedures in a critical and creative way.

DESCRIPTION OF CONTENTS: PROGRAMME

1.   Introduction
1.1.   Econometrics and Micro-Econometrics
1.2.   Causality vs Correlation
1.3.   Structure of the Data
2.   A brief review of asymptotic theory
2.1.   Convergence in probability and convergence in distribution

LEARNING ACTIVITIES AND METHODOLOGY

The course is composed by theoretical lectures where both blackboard and audiovisual media is used to present some theoretical concepts. In addition, there will be practical problem sets and presentation of some papers to link theoretical findings and applications in some empirical studies.

Course software will be R (www.r-project.org)

ASSESSMENT SYSTEM

% end-of-term-examination:	0
% of continuous assessment (assigments, laboratory, practicals…):	100

(100%) Practices on data analysis. These can be individual or in groups (in the latter case the note will be referred to the group and will be shared among participants).

BASIC BIBLIOGRAPHY

- Angrist and Pischke Mostly Harmless Econometrics. An Empiricist's Companion, Princeton University Press, 2008

- Jeffrey M. Wooldridge Econometric Analysis of Cross Section and Panel Data, The MIT Press, 2010

- Morgan and Winship Counterfactuals and causal inference. Methods and Principles for Social Research, Cambridge University Press, 2007

ADDITIONAL BIBLIOGRAPHY

- Imbens y Rubin Causal Inference for Statistics, Social, and Biomedical Sciences, Cambridge University Press, 2015

BASIC ELECTRONIC RESOURCES

- Bas van der Klaauw, . From micro data to causality: Forty years of empirical labor economics:
http://www.sciencedirect.com/science/article/pii/S0927537114000827

- Richard Blundell and Monica Costa Dias . Alternative Approaches to Evaluation in Empirical Microeconomics: http://jhr.uwpress.org/content/44/3/565.short