

Academic Year: (2022 / 2023)

Review date: 16-05-2022

Department assigned to the subject: Statistics Department

Coordinating teacher: KAISER REMIRO, REGINA

Type: Electives ECTS Credits : 6.0

Year : Semester :

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Estadística para las Ciencias Sociales I: Introducción a la Estadística

Estadística para las Ciencias Sociales II: Técnicas multivariantes

OBJECTIVES**LEARNING RESULTS**

- Applied knowledge to construct models which analyze the causal relations between variables.
- Applied knowledge to construct models which contrast hypothesis and predict.
- Applied knowledge to evaluate and criticize different approaches to analyzing a research problem.
- Applied knowledge to reply quantitatively, using empirical research, to questions about how independent variables influence levels and variations of dependent variables.
- Knowledge to reproduce and critically evaluate existing empirical studies in the context of Social Sciences.

DESCRIPTION OF CONTENTS: PROGRAMME

1. Introduction
2. Survey sampling
 - 2.1. Survey techniques
 - 2.2. Estimation of socio-economic indicators based on survey data
3. Panel data analysis: models with fixed effects
 - 3.1. Model fitting and prediction
 - 3.2. Analysis of socio-economic indicators based on panel data
4. Panel data analysis: models with random effects
 - 4.1. Model fitting and prediction
 - 4.2. Estimation of socio-economic indicators based on panel data
5. Heterocedasticity and serial correlation in panel data.
 - 5.1. Models with heteroscedasticity
 - 5.2. Models with serial correlation
6. Evaluation of the effects of public interventions
 - 6.1. Modeling the effects of public interventions
 - 6.2. Causality

LEARNING ACTIVITIES AND METHODOLOGY

Competences will be acquired by students through theoretical lectures, realization of a project, laboratories and resolution of problems.

ASSESSMENT SYSTEM

Continuous evaluation and/or final exam. Theory. Handouts, class work, tests and/or final exam 60% of final grades.
Project in small groups 40% of final grades.

% end-of-term-examination:	60
% of continuous assessment (assignments, laboratory, practicals...):	40

BASIC BIBLIOGRAPHY

- Arellano, M. Panel Data Econometrics, OUP Oxford, 2003
- Baltagi, B.H. Econometric Analysis of Panel Data, John Wiley & Sons Inc, 2013
- Biorn, E. Econometrics of Panel Data: Methods and Applications, OUP Oxford, 2016
- Cochran, W. Sampling Techniques, 3rd Edition, John Wiley., 1977
- Lohr, S. Sampling: Design and Analysis, Duxbury, 1999
- Scheaffer, R.L., Mendenhall, W., Ott, L. and Gerow, K.G. Elementary Survey Sampling, Cengage Learning, Inc, 2010
- Tillé, Y. Sampling Algorithms, Springer, 2002
- Wooldridge, J.M Econometric Analysis of Cross Section and Panel Data, The MIT Press, 2010