

## SUBJECT TEACHING GUIDE

### 878 - Statistical Techniques for Social Sciences

#### Master's Degree in Economics: Instruments of Economic Analysis

Academic year 2023-2024

1. IDENTIFYING DATA					
Degree	Master's Degree in Economics: Instruments of Economic Analysis			Type and Year	Optional. Year 1
Faculty	Faculty of Economics and Business Studies				
Discipline	Optional Subjects Module				
Course unit title and code	878 - Statistical Techniques for Social Sciences				
Number of ECTS credits allocated	3	Term	Semester based (1)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. ECONOMIA
Name of lecturer	VANESA JORDA GIL
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Other lecturers	FAUSTINO PRIETO MENDOZA

### 3.1 LEARNING OUTCOMES

- To use tools for analyzing economic inequality
- To use probabilistic distributions to solve economic problems
- To be able to estimate parameters and hypothesis testing in economic problems from different fields
- To be able to identify situations where power-law models can be used and applied properly

#### 4. OBJECTIVES

To know probabilistic models for economic problems
To know the tools to estimate parameters and hypothesis testing in economic problems
Applications of the power-law models in Economics
To learn quantitative tools for analyzing economic inequality

#### 6. COURSE ORGANIZATION

CONTENTS	
1	Probabilistic tools and statistical inference.
1.1	Review of the main concepts of probability. Probabilistic distributions.
1.2	Review of the main concepts of statistical inference.
1.3	Power-law models in social sciences. Specification, estimation and validation.
2	Statistical methods.
2.1	Basic tools for analyzing economic inequality, with unidimensional and multidimensional models.
2.2	Estimation of income distributions with grouped data.
2.3	Parametric modelling of the income distribution with complete and limited information

#### 7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Final assignment	Work	No	Yes	50,00
Exam	Written exam	No	Yes	50,00
TOTAL				100,00
Observations				
Regular students, who fail the course on the ordinary examination will go through an extraordinary call, for the 100% grade, including all course contents. In both calls (ordinary and extraordinary), the score obtained by the student will be the weighted average of the grades obtained in a written exam (50%) and an individual work (50%),				
Observations for part-time students				
The evaluation method for part-time students will consist of a written exam (50%) and an individual work (50%), in both calls (ordinary and extraordinary).				

#### 8. BIBLIOGRAPHY AND TEACHING MATERIALS

##### BASIC

Cowell F.A. (2009). Measuring Inequality. Measuring Inequality. <a href="http://darp.lse.ac.uk/MI3">http://darp.lse.ac.uk/MI3</a>
Greene, W.H. (2003). Análisis econométrico. Prentice Hall, Madrid.
Peña,D. (2001). Fundamentos de estadística. Alianza Editorial, Madrid.
Sarabia, J.M., Gómez, E., Vázquez, E. (2006). Estadística Actuarial: Teoría y Aplicaciones. Pearson, Madrid.

