VNIVERSITAT Ï DE VALÈNCIA

COURSE DATA

Data Subject	
Code	36112
Name	Econometrics II
Cycle	Grade
ECTS Credits	6.0
Academic year	2022 - 2023

Study (s)			
Degree	**Center**	**Acad. year**	**Period**
1316 - Degree in Economics	Faculty of Economics	3	Second term

Subject-matter		
Degree	**Subject-matter**	**Character**
1316 - Degree in Economics	8 - Econometrics	Obligatory

Coordination	
Name	**Department**
SERRANO DOMINGO, GUADALUPE	10 - Economic Analysis

SUMMARY

Econometrics II introduces students to different regression models and methods for analyzing data in economics and related disciplines. The objective of the course is for the student to learn how to conduct – and how to critique – empirical studies in economics and related fields. Accordingly, the emphasis of the course is on acquiring an intuitive understanding of the principles of econometric analysis and applying them to actual data. Some of the issues arising from the failure of the basic assumptions in the linear regression model comprise the main topics to be discussed. The mathematics of econometrics will be introduced only as needed and will not be a central focus.

Aside from model specification and data problems, the use of additional methods such as instrumental variables, probit/logit models, and basic time series methods are addressed in the course.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

There are not enrollment restrictions with other courses in the grade.

It is assumed that students have a basic working knowledge of linear algebra (e.g. matrix algebra, linear systems of equations), multivariate calculus (e.g. partial derivatives), elementary probability theory (e.g. joint distributions, conditional expectations, variances and correlations), and statistical inference (e.g. unbiasedness, confidence intervals)

COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

1316 - Degree in Economics

- Be able to collect and analyse information.
- Have decision-making skills and be able to apply knowledge to practice.
- Be able to learn autonomously.
- Be able to use ICTs.
- Apply the principles of economic analysis (rational decision) to the diagnosis and resolution of problems.
- Understand and apply the scientific method, which involves formulating hypotheses, deducing verifiable results and contrasting them with empirical and experimental evidence.
- Be able to prepare and defend an economic report.
- Know and understand the basic quantitative tools for economic analysis, diagnosis and prospection, such as mathematics, statistics and econometrics.

LEARNING OUTCOMES (RD 1393/2007) // NO CONTENT (RD 822/2021)

The student will acquire the knowledge that will permit him/her the development of the following activities related with the research and the economic analysis:

Search of information and statistical sources. Statistical data handling for his posterior use at computer packages.

Selection of a theoretical framework for the development of the analysis.

Specification the econometric model, identification the econometric problems in that model and the use of appropriate econometric techniques and tools for their correct treatment.

Extraction of useful information and iinterpretation or results from the quantitative analysis.

Synthesis and drawing of conclusions or economic implications from the econometric analysis conducted.
Structuring and conducting an applied work of research on an economic problem and writing the corresponding report

DESCRIPTION OF CONTENTS

1. Autocorrelation

1. Causes and consequences of the autocorrelation pronblem.
2. How to detect this problem (Hypothesis testing).
3. How to solve the problem.

2. Dynamic models

1. Stochastic regressors and econometric models.
2. Dynamic models specification (the multiplier effect).
3. Dynamic models estimation: the Instrumental Variables (IV) estimator.

3. Simultaneous equations models (SEM)

1. Simultaneous equations model description.
2. The identification problem.
3. 2SLS and IV estimators.

4. Qualitative dependent variables

1. Binary choice models.
2. Linear probability models.
3. Logit and Probit models.

5. Time series models (ARIMA moels)

1. Non-observable components of time series.
2. The analysis of the trend: ARMA and ARIMA models.
3. Seasonality: the SARSMA and SARISMA models.
4. Modelling the regular and seasonal components: ARIMA and SARISMA models.
5. Identification, estimation, validation and forecasting.

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	30,00	100
Classroom practices	30,00	100
Development of group work	5,00	0
Development of individual work	5,00	0
Study and independent work	50,00	0
Preparing lectures	15,00	0
Preparation of practical classes and problem	15,00	0
TOTAL	**150,00**	

TEACHING METHODOLOGY

- Classes will consist of lectures and practical classes. On the course "aula virtual" webpage you will have slides for all lectures, and additional learning material for both theoretical and practical classes such as statistical information, exercises or readings.

- At the practical classes students will work in groups solving exercises on the computer and on the blackboard. Each gruop must answer and hand in three assignments that will be asked thorough the course.

The practical classes are aimed at the elaboration of a report explaining the steps fulfilled when analyzing an economic problem: motivation of the analysis, specification of the economic and the econometric models that relate the key variables in the problem, search of statistical information on these variables, model estimation and interpretation of estimation results. Some economic databases both national and international will be introduced (available electronic databases at the website of the Library of Social Ciences:http://biblioteca.uv.es/valenciano/recursos_electronicos/bases_dades/acces.php; OECD statistical compendium or statistical information databases such as the National Statistics Institute of Spain
 (www.ine.es) Eurostat (http://ec.europa.eu/eurostat) or United
Nations (http://unstats.un.org/unsd/default.htm))

EVALUATION

Final Grades: the final grade will be the weighted sum of a final exam (70%) and the continuos assesment (30%). This continuous assessment can not be retaken.

The final exam is based on theoretical and practical questions about the contents of the course. The exam's grade will add the 70% of the final grade.

The continuous assessment is based on solving three assignments that include questions, exercises or short reports based on the contents of the course. These assignments will be solved throughout the course and will have to be submitted by the due date previously established. This continuous assessment, that will not be retaken, will add the remaining 30% of the student's final grade.

Any attempt otherwise for cheating or plagiarism is the exam or in the assignments will automatically result in a student receiving 0 as his/her final grade.

REFERENCES

Basic

-   Wooldridge, J (2016). Introducción a la econometría, 5ª Edición. Cengage Learning

-   Wooldridge, J (2020). Introductory Econometrics A Modern Approach. 7th Edition. Cengage Learning

-   Cabrer B., Sancho a. y Serrano G. (2001): Microeconometría y decisión. Pirámide.

Additional

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    - Stock J.H. y Watson M.M. (2019) Introduction to Econometrics, 4th Edition. Pearson.
    - Stock J.H. y Watson M.M. (2012) Introducción a la Econometría, 3ª Edición. Pearson.
    - Matilla M., Pérez P. y Sanz B. (2017) Econometría y Predicción, 2ª Edición. Mc Graw Hill.
    - Gujarati, D. y Porter D.C. (2010) Econometría, 5ª Edición. McGraw-Hill.
    - Greene, W. (2018). Econometric analysis, 8th Editon. Pearson.
    - Greene, W. (1999). Análisis Econométrico, 3ª Edición. Prentice-Hall.