27429 - Econometrics III

Información del Plan Docente

Academic Year	2018/19
Subject	27429 - Econometrics III
Faculty / School	109 - Facultad de Economía y Empresa
Degree	417 - Degree in Economics
ECTS	6.0
Year	4
Semester	First semester
Subject Type	Compulsory
Module	---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The teaching method for the subject "Econometrics III" implies the use of different techniques aimed at the achievement of specific objectives.

The part of the subject that deals with more theoretical and methodological issues will be presented in lectures. In these sessions, the teacher will explain the main concepts of the econometric method, stressing economic interpretation and practical uses. To support knowledge in econometric method, we will introduce regular theoretical-practical sessions in which the students, supported by the teacher, will solve small problems or study cases with the purpose of illustrating the use of the instruments previously studied.

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To stress the practical dimension of the subject, students will work with different software packages which deal with the search and use of useful statistical information and its treatment for econometric purposes. This work will be regularly distributed throughout the course in sessions specifically aimed at the use of econometric software.

4.2.Learning tasks

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The syllabus of "Econometrics III" consists of the following activities:

Theoretical sessions: They make up, approximately, 50% of the teaching activities and they are aimed at presenting the main concepts of the subject, conveniently structured into units. The teacher will formally present the corresponding material, which students have to strengthen and extend using the recommended bibliography. We recommend students to attend lessons, participate, take notes about the teachers' explanations as well as asking about any doubts and further explanations they might need.

Theoretical-practical sessions: The teacher will provide students with a problem collection, as well as theoretical-practical questions related to the subject, well in advance. The main purpose of this material is for students to feel confidence with the use of all the instruments involved in the theoretical perspective of this course.

Practical sessions in the computer lab: This activity will be developed in the computer rooms that the Centre has reserved for the subject. The objective is twofold. On the one hand, we aim at getting students used to managing large amounts of quantitative information, which is a key aspect for their skills. On the other hand, it is important for students to gain confidence in the use of econometric software, at user level. In these sessions, practical cases will be solved by the teacher, who will guide the students' learning process.

Tutorial: The teacher will schedule a tutorial calendar which will be published well in advance, with the objective of solving individual doubts and offering a more direct support to students.

4.3.Syllabus

Part 1. Single-equation models with stationary or cross-section data

Unit 1. MLG estimation and validation
* Stages of econometric modeling
* MCO and MV estimation
* Restriction tests and MCR estimation
* Validation, prediction and model selection

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Unit 2. Problems in the deterministic part
* Testing for structural change
* Specification errors
* Problems with the sample information
* Stochastic regressors

Unit 3. Problems in the random part
* Estimation with non-scalar variance matrix (MCG)
* Estimating models with heteroscedasticity
* Estimation of models with autocorrelation

* Estimation of models with non-normal errors

Unit 4. Regression with non-stationary series
* Deterministic and stochastic tendencies. Integration order
* Determination of integration order: graphics and contrasts
* Spurious regressions
* Cointegration and models with error correction
* Engle-Granger method

Unit 5. Discrete dependent variable
* The Linear Probability Model
* Logit and Probit binary models
* Other models with discrete dependent variable

Part 2. Multi-equation models

Unit 6. Simultaneous equation models

* Types of multi-equation models
* Structural and reduced forms
* Identification, rank and order conditions
* MCI and MC2E estimation

Unit 7. VAR models
* Estimation of stationary VAR models
* Impulse-response functions
* Concept and tests for causality-exogeneity

4.4.Course planning and calendar

The subject of Econometrics III has assigned a total of 150 hours (6 credits ECTS), which are structured into 75 class hours and 75 non-class hours. With respect to the first, 30 will have a theoretical content, 30 will be devoted to practical lessons and the remaining 15 will be tutorials. The distribution of the lessons among the four units of the syllabus will depend on their complexity. In general terms, teachers will adopt the following schedule:

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Table 1. Hours in Econometrics III

	T1	T2	T3	T4	T5	T6	T7	**Total**
Theoretical sessions	4	4	4	6	4	4	4	**30**
Blackboard sessions	2	2	0	2	2	2	0	**10**
Computer lab sessions	2	4	4	4	2	2	2	**20**
Tutorials	2	2	2	3	2	2	2	**15**
Total sessions	**10**	**10**	**10**	**15**	**10**	**10**	**8**	**75**

Table 2. Distribution of independent learning in Econometrics III

	T1	T2	T3	T4	T5	T6	T7	**Total**

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Individual study	6	6	6	7	7	7	6	**45**
Individual practical work	4	4	5	5	4	4	4	**30**
Total hours	**10**	**12**	**11**	**12**	**11**	**11**	**10**	**75**

The sessions will be given following the calendar published by the centre for this degree.

4.5.Bibliography and recommended resources