27443 - Applied Econometrics

Información del Plan Docente

Academic Year	2016/17
Academic center	109 - Facultad de Economía y Empresa
Degree	417 - Degree in Economics
ECTS	3.0
Course	4
Period	First semester
Subject Type	Optional
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

The teaching method will develop in the course of Econometric Applications for the Business involves the use of different techniques, according to the different objectives and competencies to be achieved.

The most important part of the course is the presentation and resolution by students of some practical cases related to the interests of the business world, both from the perspective of internal variables of the company, as well as issues related to its micro and macroeconomic environment. Each case will be briefly presented by the teacher and the student, single or in groups of two people, will have to resolve the issues arising in each year with the help of computer. The idea is that the resolution of the exercise is done during class time while the final drafting of the work done at home.

Approximately three cases, the student must submit a written report to the teacher for evaluation. In addition, all students must exhibit at a special session some of the cases that have been resolved and the teacher will previously directed.

Another part of the course is theoretical content, in which the teacher presents various topics of econometrics that should provide support for the case studies students will solve later. Some of the theoretical issues have already been completed in the courses of Econometrics I and Econometrics II and re-submit a summary to consolidate knowledge form, and there are other new issues, offered an eminently practical perspective, without forgetting a certain theoretical foundation for the student who wishes to deepen knowledge if desired. In this part, the teacher will present the issues with transparencies that focus the main ideas of each subject, focusing on the practical aspects that will facilitate students successfully resolve cases.

The teaching materials to be produced for the course includes, in addition to the literature where they are treated in depth all the issues, some documents with transparencies that represent a summary of the theoretical issues, and other documents with the statements of the cases They will have to solve. In addition, to facilitate the use of Gretl program, also a document with a summary of the basic operation of the program will be provided. All this information will be dumped on the resources of the subject in the "Anillo Digital Docente" (ADD) of the University of Zaragoza.

5.2.Learning activities

The teaching of the Econometric Applications includes the following activities:

* Theoretical classes: To which it will be up approximately 35% of the teaching load and used to present the fundamental concepts of the subject, properly structured in subjects. The teacher will summarize presentation of each topic, so that in a two-hour session can see the fundamental theoretical aspects and relevant issues facing the resolution of practical cases. It is strongly recommended class attendance, participation and demand of all extensions and clarifications deemed necessary by the student recommended. Teacher will provide students with sufficient advance schemes each of the topics.

* Practical lessons: This activity will take place in a computer room. The aim is that the student knows solve a series of case studies related to real situations of econometric problems that may have an interest in the business world. The teacher will present at the beginning of each class the corresponding case, giving the necessary guidelines for resolution on the computer. The student will have to load the data in the econometric program and resolve the issues raised. The teacher will guide the students in the process of developing each case, resolving doubts that arise them. After each block of cases, there will be a session in which the students will present public and briefly one case the teacher must indicated them advance.

* Tutorials: The teacher will schedule a calendar of tutoring, to be published in advance, aimed at the custom resolution of doubts and to provide more direct support to the student with problems related to this subject.

5.3.Program

PART I. The problems of the business.

Case studies:

Case 1.1. Estimating a production function Cobb-Douglas with the original data Cobb and Douglas.

27443 - Applied Econometrics

Case 1.2. Estimate of the impact of money on a Cobb-Douglas function.

Case 1.3. Estimation of a consumption function with cross-section data.

Case 1.4. Production costs in the electricity sector US.

Econometrics topics to be covered in the case studies:

- OLS estimation and economic interpretation of results.

- Individual contrast and joint hypothesis.

- Select nested models.

- Detection and treatment of problems in the error term.

- Dummy variables.

Theoretical contents to practical cases:

- Revision of the OLS estimation and error term problems.

- Problems specification and structural break.

PART II. The microeconomic business environment.

Case studies:

Case 2.1. Study of the relationship between wage growth and unemployment estimates of the Phillips curve with the original Phillips's data.

Case 2.2. Determinants of tourism income in Spain.

Case 2.3. Study of the influence of changes in the weather in electricity consumption in the US.

Case 2.4. Influence of smoking bans at work on smokers in the US.

Econometrics topics to be covered in the case studies:

- Estimation and economic interpretation of results.

- Estimation of functional forms.

- Contrast economic assumptions by using dummy variables.

- Estimation with binary dependent variable.

Theoretical contents to practical cases:

- Problems associated with the data. Multicollinearity and influential observations.

- Models with binary dependent variable.

PART III. The macroeconomic environment of the business.

Case studies:

Case 3.1. Univariate study and prediction of a time series.

Case 3.2. Study of long-term relationship between the interest rate and the inflation rate in the US.

Case 3.3. Study of the balance between real wages and productivity of the labor market in the US.

Econometrics topics to be covered in the case studies:

- Identification and estimation of ARIMA models.

- Identification of the order of integration of time series.

- Estimation of cointegration relations.

- Estimation of the short- and long-term. Error correction mechanism.

Theoretical contents to practical cases:

- Univariate time series models.

- Integration and cointegration.

5.4.Planning and scheduling

27443 - Applied Econometrics

The subject of Econometric Applications has assigned a teaching load of 75 hours (3 ECTS credits) structured in 37.5 contact hours and 37.5 hours no contact. With regard to the first, 12 will have a theoretical content, 18 correspond to the resolution of practical cases and the remaining 7'5 be tutoring. Unless extraordinary circumstances, we will try to observe the following distribution of times, both classroom activities and non-attendance.

Table 1. Distribution of contact hours Econometric Applications. Degree of Economics .

	Introduction	Part 1	Part 2	Part 3	Total
Theoretical classes	2	4	6	12	2
Computer practices	2	6	10	18	2
Tutorials and seminars	2'5	2'5	2'5	7'5	2'5
Total contact hours	6'5	12'5	18'5	37'5	6'5

Table 2. Distribution of non-presential hours Econometric Applications. Degree of Economics .

	Introduction	Part 1	Part 2	Part 3	Total
Individual study	2'5	5	8	15'5	2'5
Practical work	2	8	12	22	2
Total hours not	4'5	13	20	37'5	4'5

27443 - Applied Econometrics

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The sessions will be held according to the schedule published by the Centre for this degree.

5.5.Bibliography and recomended resources

Further reading:

ALEGRE, J.; ARCARONS, J.; BOLANCE, C. y DÍAZ, L .: *Ejercicios y Problemas de Econometría* . Editorial AC. Madrid, 1995.

ASTERIOU, D. y HALL, S. G.: *Applied Econometrics.* 2ª ed. Palgrave Macmillan, 2011.

MATILLA, M. ; PÉREZ, P. y B. SANZ: *Econometría y predicción* . McGaw-Hill, 2013.

MOLINAS, C. et al .: *MOISEES. Un modelo de investigación de la economía española* . Antoni Bosch ed. e IEF. Madrid, 1990.

RAMAJO, J.; M.A. MÁRQUEZ y L. NOGALES : *Econometría Aplicada: Técnicas y Modelos Básicos* . ICE(UEX)-UNIVERSITAS Editorial, 2002.