Universidad Zaragoza

Academic Year/course: 2022/23

27443 - Applied Econometrics

Syllabus Information

Academic Year: 2022/23
Subject: 27443 - Applied Econometrics
Faculty / School: 109 - Facultad de Economía y Empresa
Degree: 417 - Degree in Economics
ECTS: 3.0
Year: 4
Semester: First semester
Subject Type: Optional
Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

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.

4.2. Learning tasks

The teaching of the Econometric Applications includes the following activities:

* Theoretical classes: To which it will be the 50% 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.

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

	Part I	**Part II**	**Total**
Theoretical classes	10	5	15
Computer practices	8	7	15
Tutorials and seminars	2’5	5	7’5
Total contact hours	20’5	17	37’5

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

	Part I	**Part II**	**Total**
Individual study	9	10	19
Practical work	9	9,5	18,5
Total hours not presenc.	18	19,5	37’5

The teaching methodology is planned for face-to-face classes. However, if necessary for health reasons, teaching could be delivered on line or in a blended way.

4.3. Syllabus

PART I. Common problems in econometric estimation. Models with binary dependent variable.

Goals: The objective of this part is to provide students with an overview of the most common problems that affect the deterministic and/or random part of econometric models, offering the possible solutions that can be adopted in each case. In addition, the models in which the dependent variable is discrete (binary) and the estimation of the Linear Probability, Probit and Logit models will be presented.

Econometric topics to be covered in the case studies:

? Estimation of models with problems in the random part, heteroskedasticity and autocorrelation. Case 1.1.

? Estimation of models with discrete dependent variable. Case 1.2.

? Estimation, validation and interpretation of results in all cases.

PART II. Econometric models with high frequency data.

Goals: In this part of the course, econometric models are developed for the analysis of high-frequency time series data, the ARCH models and their extensions.

Econometric topics to be covered in the case studies:

? Estimation of models with autoregressive conditional heteroskedasticity (ARCH). Case 2.1.

? Estimation, validation and interpretation of results in all cases.

4.4. Course planning and calendar

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, 15 will have a theoretical content, 15 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.

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