Objectives:

This course is a follow-up of the course Introduction to Econometrics. It is designed to provide students with advanced econometrics skills which are needed to complete quantitative research at the Degree level. It deals with the effects that the violation of some basic assumptions in the Classical Linear Regression Model has on the specification and estimation of the model: heteroskedasticity, autocorrelation, stochastic regressors and dynamic models. Different testing procedures are proposed to detect these problems and adequate estimation methods are derived for every situation, as an alternative to Ordinary Least Squares.

Specific competences:

1. Comprehend the meaning and relevance of the basic assumptions imposed in the specification of an econometric model in order to be able to propose and use more realistic assumptions.
2. Distinguish different and alternative estimation methods and evaluate their use according to the economic variables of interest in order to get reliable results.
3. Identify statistical data sources in order to be capable of searching and organizing the economic data that are relevant for the explanation of a particular economic phenomenon.
4. Be acquainted with the use of econometric analysis software to analyze relationships among economic variables.
5. Be capable of interpreting the results obtained with an econometric analysis in order to make coherent and meaningful informs on the behavior of economic data.

General Competences:

- Ability to search, analyse and synthesize the information extracted from different sources being capable of making self-criticism, self-learning and reasoned judgements on relevant economic, social or scientific issues. (G004 of the DEGREE).
- Write informs and transmit ideas on any economic issue, with clarity and coherence, to both specialized and unspecialized audience, (G006 of the DEGREE).
- Capability of being part of a multidisciplinary research group, developing the abilities required in every situation: work in group, leadership, initiative, creativity and decision making. (G005 of the DEGREE).

TEMARIO

Program

1. Generalization of the Classical Linear Regression Model
   - Review of basic statistical concepts and asymptotic theory. The regression model with non-spherical disturbances.

2. Heteroskedasticity.
   - Definition and causes. Structures of heteroskedasticity. Heteroskedasticity tests. GLS or WLS: Generalized or Weighted Least Squares. FGLS: Specification of a model for heteroskedasticity. OLS: Robust estimator of the variance and covariance matrix of the OLS estimator.

3. Autocorrelation.

   - Errors in variables and latent variables: Properties of the OLS estimator. Lagged endogenous variable: Properties of the

TIPOS DE DOCENCIA

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<th>M</th>
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<th>GA</th>
<th>GL</th>
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Leyenda:
M: Magístral
S: Seminario
GA: P. de Aula
GL: P. Laboratorio
GCL: P. Clínicas
GO: P. Ordenador
TA: Taller
TI: Taller Ind.
GCA: P. de Campo

Aclaraciones:
Teaching will be based on three different types of sessions: formal lectures where the different topics of the course will be developed, applied coursework lectures, which concentrate on exercises and practices, and seminars.

Teaching Web platform: Moodle. The student will find there different material used along the course.

Teaching materials: Slides, lectures notes and documents available for the student in the web page of the course.

Written essays: The exercises will be discussed in the classroom. Students may be required to hand in written responses to specific problems either via Moodle or directly to the teacher. On the other hand, the participation in a joint work made in group may be evaluated.

EVALUACION

- Examen escrito a desarrollar
- Realización de prácticas (ejercicios, casos o problemas)
- Trabajos individuales
- Trabajos en grupo

Aclaraciones:
The degree of achievement of the competences will be evaluated in a continuous process and the final mark will be calculated according to the following proportions:

- Written exam: 60%;
- Solutions and presentation of problems (individually and/or in group: 40%.

The score in the written exam must be larger than 4 out of 10 to be considered in the continuous evaluation.

Those students that are not continuously evaluated will be graded according to a final proof of the degree of achievement of the competences of the course.

In the second round of exams, 100% of the mark will be determined based on a final written exam.

MATERIALES DE USO OBLIGATORIO

- Notes of the course
- Software: GRETL
http://gretl.sourceforge.net/

BIBLIOGRAFIA

Bibliografía básica

Basic Readings:

Exercises:

• Recommended Problem Set. Disponible Available in Moodle.

Bibliografía de profundización


Revistas

• Computational Economics
• Econometrica
• Econometric Reviews
• Econometric Theory
• Empirical Economics Journal
• International Journal of Forecasting
• Journal of Applied Econometrics
• Journal of Business and Economic Statistics
• Journal of Econometrics
• Journal of Economic Dynamics and Control
• Journal of Forecasting
• Oxford Bulletin of Economics and Statistics
• Review of Economics and Statistics
• Review of Economic Studies
• Studies in Nonlinear Dynamics and Econometrics

Direcciones de internet de interés

Course page:

Software:

Institutions:
- http://www.eustat.es. EUSTAT
- http://www.ine.es. INE
- http://www.bde.es. Banco de España
- http://ec.europa.eu/eurostat. EUROSTAT
- http://www.oecd.org OCDE
- http://www.bolsamadrid.es Madrid Stock Market

Data:
- http://www.nber.org/data_index.html
- http://www.estadif.minhac.es/
- http://fisher.osu.edu/fin/osudown.htm
- http://econ.queensu.ca/jae/
- http://www.psidonline.isr.umich.edu/data/
- http://www.census.gov/