



Teaching Guide				
Identifying Data				2019/20
Subject (*)	Advanced Econometrics	Code	611532027	
Study programme	Máster Universitario en Economía			
Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	2nd four-month period	First	Optional	3
Language	Spanish			
Teaching method	Face-to-face			
Prerequisites				
Department	Economía Economía Aplicada 2			
Coordinador	Iglesias Vazquez, Emma Maria	E-mail	emma.iglesias@udc.es	
Lecturers	Iglesias Vazquez, Emma Maria	E-mail	emma.iglesias@udc.es	
Web				
General description	<p>The objective of this course is twofold. On the one hand, it is about students knowing the statistical and econometric techniques and procedures that are especially suitable for solving real problems that arise in the field of economics. Secondly, that they understand the statistical properties of these techniques and procedures to know when and how they can apply them.</p>			

Study programme competences / results	
Code	Study programme competences / results
A1	CE1 - Conocimiento de las herramientas matemáticas, estadísticas y econométricas necesarias para manejar con rigor los modelos económicos
A8	CE8 - Analizar y proponer cambios en el diseño de las organizaciones y de los sistemas de incentivos que mejoren el funcionamiento de los mismos en tener de su eficiencia.
A10	CE10 - Participar en grupos de trabajo interdisciplinarios ligados al estudio de las tendencias socio- económicas de largo plazo.
A12	CE12 - Analizar las ventajas y los inconvenientes de la regulación y de las políticas económicas y proponer alternativas.
B6	CG1 - Aplicar los conocimientos de economía a la identificación, previsión y solución de los problemas económicos en general, y en particular los relativos al nivel de especialización, en entornos nuevos o poco conocidos.
B13	CG8 - Capacidad para entender y explicar datos económicos y para trabajar con ellos mediante las técnicas más actuales.
C1	CT1 - Capacidad para comprender el significado y aplicación de la perspectiva de género en los distintos ámbitos de conocimiento y en la práctica profesional con el objetivo de alcanzar una sociedad más justa e igualitaria.
C2	CT2 - Capacidad para comunicarse por oral e por escrito en lengua gallega.
C3	CT3 - Sostenibilidad y compromiso ambiental. Uso equitativo, responsable y eficiente de los recursos.
C4	CT4 - Capacidad para interaccionar y defender con rigor, claridad y precisión ante otros especialistas trabajos, propuestas, nuevas ideas etc.
C7	CT7 - Capacidad para comunicarse por oral y por escrito en lengua inglesa.

Learning outcomes			
Learning outcomes		Study programme competences / results	
Understanding the basic mathematical tools necessary for the formalization of economic behavior.	AC1		CC1
	AC8		CC3
	AC10		CC4
	AC12		CC7
Acquiring skills in the search, identification and interpretation of relevant economic information sources and their content.	AC1		CC1
	AC8		CC3
	AC10		CC4
	AC12		CC7



Being able to formulate simple models of relation of the economic variables, based on the use of technical instruments.	AC1 AC8 AC10 AC12	BC6 BC13	CC1 CC3 CC4 CC7
Evaluating, using empirical techniques, the consequences of different action alternatives and select the most suitable ones.	AC1 AC8 AC10 AC12	BC6	CC1 CC3 CC4 CC7
Encouraging a critical and self-critical attitude. Be able to generate their own reflections on problems of an economic nature and their social and ethical effects.	AC8 AC10 AC12	BC6 BC13	CC1 CC4 CC7
Self-control in the work system, with respect to time and planning.	AC10	BC6	CC1 CC3 CC4 CC7
Encouraging the research spirit, developing the ability to analyze new problems with the instruments acquired.	AC1 AC8 AC10 AC12	BC6 BC13	CC1 CC4 CC7
Acquiring competences related to the search of documentation organization and to the presentation of the work in a suitable way to the audience.	AC1 AC8 AC10 AC12	BC6 BC13	CC1 CC3 CC4 CC7
Reading and communicating in English in the professional field. Ability to prepare economic advisory reports.			CC7
Respect for ethical and civic values. Ethical commitment to work. Capacity for teamwork.	AC10		CC4
Responsibility and ability to assume commitments. Skills to argue coherently and intelligibly, both orally and in writing.	AC10		CC2 CC4 CC7

Contents	
Topic	Sub-topic
Lecture 1.- Models of limited dependent variables and corrections in the sample selection	1.1. Logit and probit models for binary response 1.2. The tobit model for corner solutions 1.3. The Poisson regression model 1.4. Censored and truncated regression models 1.5. Corrections of the sample selection
Lecture 2.- Panel data models	2.1. Combination of cross sections in time: simple methods for panel data 2.1.1. Independent combination of cross sections over time 2.1.2. Analysis of panel data for a period of two years 2.1.3. Differentiation with more than two periods 2.2. Advanced methods for panel data 2.2.1. Estimation of fixed effects 2.2.2. Random effects models 2.2.3. Application of panel data methods to other data structures
Lecture 3.- Quantile regression and other econometric techniques. Spatial econometric models.	3.1. Quantile regression 3.2. Bootstrap 3.3. Nonparametric regression 3.4. Spatial econometric models

Planning



Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student's personal work hours	Total hours
Objective test	A1 A8 A12 B6 C1 C2 C4 C7	1	0	1
Guest lecture / keynote speech	A1 A8 A12 B6 B13 C1 C3 C4 C7	10	19	29
Supervised projects	A1 A8 A10 A12 B6 B13 C1 C3 C4 C7	0	19	19
ICT practicals	A1 A8 A10 A12 B6 B13 C1 C3 C4 C7	5	20	25
Personalized attention		1	0	1

(*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies	
Methodologies	Description
Objective test	Test to evaluate the ability that the student has to assimilate the concepts and interrelate them.
Guest lecture / keynote speech	Oral presentation, supported by audiovisual media, which includes theoretical concepts and practical examples.
Supervised projects	Each student must perform, under supervision, a work with real data applying the techniques that have been taught in the course.
ICT practicals	Students must carry out, with the support and direction of the professors, the empirical applications that are proposed to them.

Personalized attention	
Methodologies	Description
ICT practicals	Practices through ICT, master session and supervised works. To carry out these activities, students need advice and, where appropriate, the supervision of teachers.
Guest lecture / keynote speech	Each student must perform, under supervision, a course work with real data applying the techniques that have been taught in the course.
Supervised projects	the course.

Assessment			
Methodologies	Competencies / Results	Description	Qualification
Objective test	A1 A8 A12 B6 C1 C2 C4 C7	Written exam	25
Supervised projects	A1 A8 A10 A12 B6 B13 C1 C3 C4 C7	Individual work of up to 1000 words	75

Assessment comments
Se requieren conocimientos de inglés, especialmente en la comprensión lectora, ya que una parte del material que se facilitará al alumno está en esta lengua.

Sources of information



Basic	<p>? Cameron, A.C. & Trivedi, P. (2005). Microeconometrics: Methods and Applications, Cambridge University Press. Capítulos 4.6, 9, 11, 14, 16, 17, 20, 21, 22, 23, 24 y 25. http://cameron.econ.ucdavis.edu/mmabook/mma.html</p> <p>? Wooldridge, J. M., Introductory Econometrics: A Modern Approach, 4ta Edición, Cenage, Capítulos 13, 14, 17.</p> <p>? Koenker, Roger, and Kevin F. Hallock (2001), Quantile Regression, Journal of Economic Perspectives 15 (4), 143-156. www.econ.uiuc.edu/~roger/research/rq/QRJEP.pdf</p> <p>? Hansen, B. (2018), Econometrics, Chapters 13, 17. https://www.ssc.wisc.edu/~bhansen/econometrics/</p> <p>? Software básico: Gretl. http://gretl.sourceforge.net/ y R: www.r-project.org. RStudio (Versión Desktop- Open Source Edition): www.rstudio.com, https://cran.r-project.org/web/packages/wooldridge/index.html</p>
Complementary	<p>? Hansen, B. (2018), Econometrics, Chapters 16, 21. https://www.ssc.wisc.edu/~bhansen/econometrics/</p> <p>? Wooldridge, J. M. (2002), Econometric Analysis of Cross Section and Panel Data, The MIT Press, Cambridge, Massachusetts London, England.</p> <p>? Hansen, B. (2018), Econometrics, Chapters 16, 21. https://www.ssc.wisc.edu/~bhansen/econometrics/</p> <p>? Wooldridge, J. M. (2002), Econometric Analysis of Cross Section and Panel Data, The MIT Press, Cambridge, Massachusetts London, England.</p>

Recommendations

Subjects that it is recommended to have taken before

Quantitative Methods/611532004

Research Techniques/611532006

Econometric Techniques/611532003

Aggregate Economic Analysis and Growth/611532002

Economic Thought and Institutions/611532005

Economic Decisions and Market Analysis/611532001

Subjects that are recommended to be taken simultaneously

Subjects that continue the syllabus

Other comments

(*The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.