Teaching Guide				
Identifying Data				2021/22
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			
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	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.			
Contingency plan	1. Content changes There are no modifications. 2. Methodologies * Teaching methodologies that are maintained During semi-face-to-face (or non-face-to-face) period, part (or all) methodologies are carried out by means of telematic tools. * Teaching methodologies that are modified During a semi-presential (or non-face-to-face period), part (or all) methodologies are carried out through telematic tools. 3. Mechanisms for personalized attention to students Telematic tools. When students need it. 4. Modifications under evaluation In semi-presential (or non-face-to-face) periods, all evaluation is carried out through telematic tools. * Observations of assessment: 5. Modifications of the bibliography or webgraphy There are no modifications. Students have all the material in moodle and faitic.			

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 otro 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 AC8 AC10 AC12		CC1 CC3 CC4 CC7
Acquiring skills in the search, identification and interpretation of relevant economic information sources and their content.	AC1 AC8 AC10 AC12		CC1 CC3 CC4 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
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 C2 C3 C4 C7	1	19	20
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
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 Guest lecture / keynote speech Supervised projects	Practices through ICT, master session and supervised works. To carry out these activities, students need advice and, where appropriate, the supervision of teachers. Each student must perform, under supervision, a course work with real data applying the techniques that have been taught in the course.

Assessment			
Methodologies	Competencies / Results	Description	Qualification

Supervised projects	A1 A8 A10 A12 B6 B13 C1 C2 C3 C4 C7	Individual work of up to 1000 words	100

Assessment comments
Knowledge of English is required, especially in reading comprehension, since part of the material that will be provided to the student is in this language. In the second opportunity, 100% of the grade can be recovered through a supervised homework. Students who pass the course at the first opportunity, are not allowed to carry out the second opportunity. The evaluation conditions of the advanced opportunity will be specific to this opportunity, which will be evaluated through a single supervised homework, which will mean 100% of the final qualification. Students with part-time dedication or academic waiver of class attendance will be evaluated with the same criteria as full-time students. Qualification of not presented: Corresponds to the student, when he/she only participates in evaluation activities that have a weight of less than 20% on the final grade, regardless of the grade achieved. The student must prove her/his identity in accordance with current regulations. The tutorials and small group tutorials will always be done online. If there are circumstances that advise it of various kinds, the subject may be passed in semi-face mode even if there has not been a change in the general health situation. During a semi-presential (or non-presential) period, part (or all) of the methodologies will be carried out using telematic tools: Moodle, Teams and email.

Sources of information	
Basic	? 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 ? Wooldridge, J. M., Introductory Econometrics: A Modern Approach, 4ta Edición, Cenage, Capítulos 13, 14, 17. ? 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 ? Hansen, B. (2018), Econometrics, Chapters 13, 17. https://www.ssc.wisc.edu/~bhansen/econometrics/ ? 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
Complementary	? Hansen, B. (2018), Econometrics, Chapters 16, 21. https://www.ssc.wisc.edu/~bhansen/econometrics/ ? Wooldridge, J. M. (2002), Econometric Analysis of Cross Section and Panel Data, The MIT Press, Cambridge, Massachusetts London, England.? Hansen, B. (2018), Econometrics, Chapters 16, 21. https://www.ssc.wisc.edu/~bhansen/econometrics/ ? Wooldridge, J. M. (2002), Econometric Analysis of Cross Section and Panel Data, The MIT Press, Cambridge, Massachusetts London, England.

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.