COURSE GUIDE (∞)

ECONOMETRICS

Academic year 2020-2021

(Last update: 17/07/2020)

(Approved by the master's programme academic committee on: 17/07/2020)

* Please ensure that you use the official UGR nomenclature and terminology (ES-EN) available in UGRTerm for the names of programmes, courses, faculties/schools, departments, competences/skills, teaching methodology, etc.

SEMESTER	CREDITS (ECTS)	TYPE	MODE OF DELIVERY	LANGUAGE(S) OF INSTRUCTION
1st	4	Elective	Face-to-face	English
MODULE		Economics		
SUBJECT		Econometrics		
CENTRE / FACULTY / SCHOOL RESPONSIBLE FOR THE PROGRAMME		International School for Postgraduate Studies (EIP)		
MASTER'S DEGREE		Economics		
FACULTY / SCHOOL		Faculty of Economics and Business		
TEACHING STAFF[1]				
Carlos Sánchez González				
CONTACT DETAILS		Dpto. Métodos Cuantitativos para la Economía y la Empresa C216 Facultad de Ciencias Económicas y Empresariales Email address: csanchez@ugr.es		
OFFICE HOURS		http://metodoscuantitativos.ugr.es/pages/docencia		
Rosa María García Fernádez				
CONTACT DETAILS		Dpto. Métodos Cuantiativos para la Economía y la Empresa C112 Facultad de Ciencias Económicas y Empresariales Email address: rosamgf@ugr.es		
OFFICE HOURS		http://metodoscuantitativos.ugr.es/pages/docencia		
GENERAL AND SPECIFIC COMPETENCES				
BASIC AND GENERAL COMPETENCES				

[1] Consulte posible actualización en Acceso Identificado > Aplicaciones > Ordenación Docente

(∞) Esta guía docente debe ser cumplimentada siguiendo la "Normativa de Evaluación y de Calificación de los estudiantes de la Universidad de Granada" (http://secretariageneral.ugr.es/pages/normativa/fichasugr/ncg7121/!)

BASIC COMPETENCES
CB6 – To encourage that students possess and understand knowledge that give them a basis and an opportunity to be original in the development and/or application of ideas in a research context.
CB7 – To ensure students know how to apply the knowledge acquired and their ability to solve problems in new or little-known situations within broader (or multidisciplinary) contexts related to their area of study.
CB8 – To challenge the students are able to integrate knowledge and handle the complexity of formulating judgements from information that, being incomplete or limited, includes reflections on the social and ethical responsibilities linked to the application of their knowledge and judgements.
CB9 – That the students know how to communicate their conclusions and the knowledge and the underlying reasons that sustain them to specialist and non-specialist audiences in a clear and unambiguous way.
CB10 – That the students possess the learning skills to enable them to continue studying in a way that will necessarily be largely self-managed and autonomous.

GENERAL COMPETENCES
CG1 – That the student attain the ability for analysis and synthesis, which includes being capable of defining, distinguishing and relating both the basic concepts and the premises upon which the exposition of any argument is built, as well as stating and basing its content in a concise and critical way, in the context – scientific, political, economic, organizational or whatever the type may be – in which it is presented.

SPECIFIC COMPETENCES
CE5 – Apply advanced techniques to real problems
CE6 – Formulate and answer questions in a way applicable to business strategies
CE7 – Formulate and answer questions in a way applicable to economic policy
CE8 – Formulate and contrast hypotheses related to theoretical assumptions and predictions
CE9 – Plan and organize empirical studies
CE14 – Programme in specific software for data analysis
CE16 – Solve technical and practical problems related to the design of empirical studies
CE17 – Solve technical and practical problems related to the organization, presentation and analysis of the data obtained from a study
CE18 – Assist as support staff in research projects
CE19 – Assist as support staff in consulting projects
CE20 – Draw up scientific articles
CE21 – Draw up consulting reports adapted to their possible users
CE22 – Public presentation and defence of own work

CROSS-CURRICULAR COMPETENCES
CT1: The students should be able to assimilate the current bibliography and to critically interpret its methods and results
CT3: Analyze problems and extract the most relevant and possible solutions.
CT6: The students would be adquiring the ability to handle different computer tools to solve problems and report main results.

OBJECTIVES OR LEARNING OUTCOMES (ACCORDING TO THE MASTER'S PROGRAMME VALIDATION REPORT)

Student will know/understand:

- The Multiple Linear Regressions
- Statistical Properties of Least Squares Estimators
- Inference and Prediction
- The Generalized Regression Model

- Introduction to Panel Data Models, Non Linear Regression and Non Linear Least Squares
- Maximum Likelihood Estimation
- Models for Discrete Choice

Student will be able to:

- Identify basic concepts of Econometrics and its most prominent economic applications.
- Analyze a strategic situation and obtain good predictions about economic relationships.
- Modelling any behavior as a formal model of Econometrics by using the concepts learnt during the course.
- Apply the most suitable methodology in Econometrics to each particular situation.
- Determine which variables to use in a particular scenario.

BRIEF DESCRIPTION OF THE COURSE CONTENT (ACCORDING TO THE MASTER'S PROGRAMME VALIDATION REPORT)

The Multiple Linear Regressions.
Model Statistical Properties of the Least Squares Estimator.
Inference and Prediction.
The Generalized Regression Model
Introduction to Panel Data Models.
Non Linear Regression and Non Linear Least Squares.
Maximum Likelihood Estimation.
Models for Discrete Choice

SYLLABUS

THEORY SYLLABUS:
Lesson 1: The Multiple Linear Regressions
Lesson 2: Model Statistical Properties of the Least Squares Estimator
Lesson 3: Inference and Prediction
Lesson 4: The Generalized Regression Model
Lesson 5: Introduction to Panel Data Models
Lesson 6: Non Linear Regression and Non Linear Least Squares
Lesson 7: Maximum Likelihood Estimation
Lesson 8: Models for Discrete Choice

PRACTICAL SYLLABUS
Practical cases using Stata

REQUIRED AND RECOMMENDED READING

REQUIRED READING:

- William Greene (2008): Econometric Analysis, Prentice Hall, Sixth edition.
- Christopher F. Baum (2006): An Introduction to Modern Econometrics using Stata, Stata Press.

RECOMMENDED READING:

- George G. Judge, William E. Griffiths, R. Carter Hill, Helmut Lütkepohl, Tsoung-Chao Lee (1985): The Theory and Practice of Econometrics, John Wiley
- Davidson R. and Mackinnon (2004): Econometric Theory and Methods. Oxford University Press
- Badi H. Baltagi (1999): Econometrics, Second edition, Springer-Verlag.Binmore, K. (2007). Game theory: a very short introduction. Oxford University Press.
- Wooldridge, J.M. (2013): Introductory Econometrics: a modern approach. 5a Edic. South-Western.
- Hamilton J.D. (1994): Time Series Analysis. Princeton University Press

- • Arellano M. (2003): Panel Data Econometric. Oxford University Press.

USEFUL LINKS (OPTIONAL)

http://www.oswego.edu/~kane/econometrics/
http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/
http://www.ine.es/
http://www.bde.es/webbde/es/

TEACHING METHODOLOGY

The teaching methodology is similar for each Lesson. First, we introduce a particular econometric method. Second, we apply this methodology to several practical cases using Stata. At the end of each part of the course each student will solve a problem set in Stata and will comment results in order to reinforce the knowledge acquired.
Class attending is computed as the percentage of the sessions the student assist (including seminars specific to this subject). Participation is measured by presentations of exercises and answers during the classes.

ASSESSMENT (EVALUATION INSTRUMENTS, EVALUATION CRITERIA, PERCENTAGE OF FINAL MARK, ETC)

ORDINARY ASSESSMENT SESSION
Article 17 of the UGR Assessment Policy and Regulations establishes that the ordinary assessment session (*convocatoria ordinaria*) will preferably be based on the continuous assessment of students, except for those who have been granted the right to a single final assessment (*evaluación única final*), which is an assessment method that only takes a final exam into account.

With the purpose of assessing the acquisition of the contents and competencies to develop in the subject, the following assessment procedure will be used (continuous assessment being optional):
In the continuous assessment system, there will be diverse assessment tools, conducted mostly on an ongoing evaluation of the following aspects of the student's training (the weight of each item in the final assessment is shown in parentheses):

- Class attending and active participation (25%)
- Class attending is computed as the percentage of the sessions the student assist. Seminars' attending specific to this subject is compulsory (if applicable).
- In class exercise solving with Stata (35%)
- Final Exam (40%)

EXTRAORDINARY ASSESSMENT SESSION
Article 19 of the UGR Assessment Policy and Regulations establishes that students who have not passed a course in the ordinary assessment session (*convocatoria ordinaria*) will have access to an extraordinary assessment session (*convocatoria extraordinaria*). All students may take part in this extraordinary assessment session, regardless of whether or not they have followed continuous assessment activities. In this way, students who have not carried out continuous assessment activities will have the opportunity to obtain 100% of their mark by means of an exam and/or assignment.
Students who failed or do not realise the assessment of the first call (ongoing evaluation or single final assessment) may realise a special exam.
100% of the grade will correspond to that obtained in a final assessment of the following type:

- Theory Exam (50%)
- Practical Exam with Stata (50%)

DESCRIPTION OF THE EXAMS/TESTS THAT WILL FORM PART OF THE SINGLE FINAL ASSESSMENT "*EVALUACIÓN ÚNICA FINAL*" (AN ASSESSMENT METHOD THAT ONLY TAKES A FINAL EXAM INTO

ACCOUNT) AS ESTABLISHED IN THE UGR ASSESSMENT POLICY AND REGULATIONS)

Article 8 of the UGR Assessment Policy and Regulations establishes that students who are unable to follow continuous assessment methods due to justifiable reasons shall have recourse to a single final assessment (*evaluación única final*), which is an assessment method that only takes a final exam into account.

In order to opt for a single final assessment (*evaluación única final*), students must send a request, using the corresponding online procedure, to the coordinator of the master's programme, in the first two weeks of the course or in the two weeks following their enrolment (if the enrolment has taken place after the classes have already begun). The coordinator will communicate this information to the relevant teaching staff members, citing and verifying the reasons why the student is unable to follow the continuous assessment system.

In this case, the assessment will comprise:

- Theory Exam (50%)
- • Practical Exam with Stata (50%)

SCENARIO A (ON-CAMPUS AND REMOTE TEACHING AND LEARNING COMBINED)

TUTORIALS

TIMETABLE (According to Official Academic Organization Plan)	**TOOLS FOR TUTORIALS (Indicate which digital tools will be used for tutorials)**
http://metodoscuantitativos.ugr.es/pages/docencia	• Offices: C216; C112 • Emails: csanchez@ugr.es; rosamgf@ugr.es • PRADO Platform • Meet video call

MEASURES TAKEN TO ADAPT TEACHING METHODOLOGY

- Use of the UGR official platform (PRADO) for online teaching
- Teaching sessions by means of video call using Google Meet
- Upload to PRADO additional practical and theoretical materials

MEASURES TAKEN TO ADAPT ASSESSMENT (Instruments, criteria and percentage of final overall mark)

Ordinary assessment session

The assessment will be carried out face to face. If it is not possible it will be taken by Google Meet and PRADO platform.

Extraordinary assessment session

The assessment will be carried out face to face. If it is not possible it will be taken by Google Meet and PRADO platform.

Single final assessment

The assessment will be carried out face to face. If it is not possible it will be taken by Google Meet and PRADO platform.

SCENARIO B (ONCAMPUS ACTIVITY SUSPENDED)	
TIMETABLE (According to Official Academic Organization Plan)	**TOOLS FOR TUTORIALS (Indicate which digital tools will be used for tutorials)**
http://metodoscuantitativos.ugr.es/pages/docencia	• Emails: csanchez@ugr.es; rosamgf@ugr.es • PRADO Platform • Google Meet video call
MEASURES TAKEN TO ADAPT TEACHING METHODOLOGY	
• Use of the UGR official platform (PRADO) for online teaching • Teaching sessions by means of video call using Google Meet • Upload to PRADO additional practical and theoretical materials	
MEASURES TAKEN TO ADAPT ASSESSMENT (Instruments, criteria and percentage of final overall mark)	
Ordinary assessment session	
The assessment will be carried out by Google Meet and PRADO platform.	
Extraordinary assessment session	
The assessment will be carried out by Google Meet and PRADO platform.	
Single final assessment	
The assessment will be carried out by Google Meet and PRADO platform.	