



## 1. General information

Course: ECONOMETRIC METHODS AND MODELLING  
Type: CORE COURSE  
Degree: 316 - UNDERGRADUATE DEGREE IN ECONOMICS  
Center: 5 - FACULTY OF ECONOMICS AND BUSINESS  
Year: 3  
Main language: Spanish  
Use of additional languages:  
Web site:

Code: 53322  
ECTS credits: 6  
Academic year: 2022-23  
Group(s): 10 17  
Duration: C2  
Second language: English  
English Friendly: Y  
Bilingual: N

Lecturer: <b>NURIA HUETE ALCOCER</b> - Group(s): <b>10 17</b>				
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## 2. Pre-Requisites

It is recommended to have passed the disciplines of Statistics and Mathematics. Also have completed the previous subject of Introduction to Econometrics.

## 3. Justification in the curriculum, relation to other subjects and to the profession

The subject of Econometric Methods and Models falls under the third year of the Degree in Economics (fifth course of Double Degree in Economics-Law) and is taught in the second semester after having taken the subject of Introduction to Econometrics, in the first semester.

The main objective of the subject is to provide the fundamental tools for the professional construction of models taking into account the different specific approaches of econometrics in response to complex situations of reality: generalization for the randomization of economic data.

On the other hand, the student's ability will be considered both in the management of these instruments and the available data sources, and their ability to make economic reports in groups. Competencies and skills of the economist who must know their reality and economic theory.

In this way, not only a series of methods and models is disclosed, but also one must teach them to work with them in reality, for which they must be complemented with economic theory and with the necessary quantitative information, hence their relationship with the profession.

## 4. Degree competences achieved in this course

Course competences	
Code	Description
E03	Ability to find economic data and select relevant facts.
E05	Ability to contribute to the establishment of strategies which will allow for the efficient allocation of resources, the generation of wealth and a suitable distribution of income.
E06	Application of professional criteria to the analysis of problems, based on the use of technical tools.
E16	Identify relevant sources of financial information and its content, as well as the ability to derive the important information from the data, otherwise completely unknown to non-professionals.
G01	Possession of the skills needed for continuous, self-led, independent learning, which will allow students to develop the learning abilities needed to undertake further study with a high degree of independence.
G03	Develop oral and written communication skills in order to prepare reports, research projects and business projects and defend them before any commission or group of professionals (specialised or non-specialised) in more than one language, by collecting relevant evidence and interpreting it appropriately so as to reach conclusions.
G04	Ability for the use and development of information and communication technology in the development of professional activity.
G05	Capacity for teamwork, to lead, direct, plan and supervise multidisciplinary and multicultural teams in both national and international environments.

## 5. Objectives or Learning Outcomes

Course learning outcomes	
Description	
Train the student to work out problems in creative and innovative ways.	
Know the tools and methods for the quantitative analysis of the overall economy	
Enable student for autonomous work and learning, as well as for personal initiative	
Train the student to search for information in order to analyze it, interpret its meaning, synthesize it and communicate it to others.	
Additional outcomes	
Train the student to apply quantitative methods as support for decision making in the uncertain environment.	

## 6. Units / Contents

<b>Unit 1: GENERALIZED LINEAR MODEL</b>
Unit 1.1 EXTENSIONS OF THE LINEAR REGRESSION MODEL
Unit 1.2 STRUCTURAL CHANGE
Unit 1.3 AUTOCORRELATION
Unit 1.4 HETEROCEDASTICITY
<b>Unit 2: DYNAMIC MODELS</b>
Unit 2.1 DISTRIBUTED LAGS
Unit 2.2 TIME SERIES MODELS: ARIMA
<b>Unit 3: MULTI-EQUATION MODELS</b>
Unit 3.1 SPECIFICATION, IDENTIFICATION AND ESTIMATION
Unit 3.2 FORECAST AND SIMULATION
<b>Unit 4: SPECIFIC TOPICS</b>
Unit 4.1 MACRO-ECONOMETRICS
Unit 4.2 PANEL DATA MODELS
Unit 4.3 APPLIED MODELS IN MACROECONOMICS
Unit 4.4 MANAGEMENT INFORMATION SYSTEMS

## 7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	E03 E05 E06 E16 G01 G04	1.2	30	Y	N	
Class Attendance (practical) [ON-SITE]	Cooperative / Collaborative Learning	E03 E06 E16 G01 G03 G04 G05	0.67	16.75	Y	N	
Class Attendance (theory) [ON-SITE]	Combination of methods	E03 E06 E16 G01 G04	0.13	3.25	Y	N	
Writing of reports or projects [OFF-SITE]	Group Work	E03 E05 E06 E16 G01 G03 G04 G05	1.2	30	Y	Y	
Writing of reports or projects [OFF-SITE]	Case Studies	E05 E06 G01 G03 G04	0.56	14	Y	N	
Project or Topic Presentations [ON-SITE]	Combination of methods	G03 G05	0.04	1	Y	N	
On-line Activities [OFF-SITE]	Self-study	G01 G03	0.24	6	Y	N	
On-line debates and forums [OFF-SITE]	Combination of methods	E06 G01 G03	0.24	6	Y	N	
Study and Exam Preparation [OFF-SITE]	Combination of methods	E05 E06 E16 G01 G04	1.6	40	Y	N	
Group tutoring sessions [ON-SITE]	Guided or supervised work	E05 G03 G05	0.04	1	N	-	
Final test [ON-SITE]	Assessment tests	E05 E06 E16 G01 G03	0.08	2	Y	Y	
Total:			6	150			
Total credits of in-class work: 2.16			Total class time hours: 54				
Total credits of out of class work: 3.84			Total hours of out of class work: 96				

As: Assessable training activity

Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

## 8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Theoretical papers assessment	20.00%	0.00%	Team work on dynamization and / or multi-equation model. Attention will be paid not only to the content, but to the correct use of scientific forms and oral presentation.
Assessment of problem solving and/or case studies	10.00%	0.00%	Individual work. Participation and positive result of the practical sessions, seminars, tutorials, ... It requires a minimum of participation (face-to-face and not face-to-face via the Moodle platform)
Progress Tests	10.00%	0.00%	A progress test similar to the final test will be made.
Final test	60.00%	100.00%	Final objective test divided into two blocks: theoretical and practical that must be overcome.
Total:	100.00%	100.00%	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject, an ordinary and an extraordinary one (evaluating 100% of the competences).

**Evaluation criteria for the final exam:**

**Continuous assessment:**

The evaluation is based on a continuous system in which the effort and progress of the student in the development of a series of competences is valued.

The progress tests will be made through questions and practical exercises that will be carried out at the mid-end of the semester.

Individual work through cases for delivery according to the established legal calendar. The participation and positive result of the practical sessions, seminars, tutorials will be valued.

Group work: in the evaluation of this work attention will be paid not only to the content, but to the correct use of scientific forms and oral presentation.

Final test, through the development of two blocks: theoretical questions and practical exercises that will be held on the day set for the final exam. To make the average, in the final exam it is necessary to obtain a minimum score of 4 points out of 10 in one of the parts and five in average.

**Non-continuous evaluation:**

Specific test for this case, of greater extension, evaluating all the competences and explicitly the one referred to the analysis of the economic reality with the application of econometric models whose weight in the test will be at least 20%

See section b of point 4.2. of the UCLM Student Regulations approved on May 23, 2022

**Specifications for the resit/retake exam:**

There is not

**Specifications for the second resit / retake exam:**

The evaluation will be carried out on a single written test, being necessary to pass the subject a minimum score of 5 out of 10.

9. Assignments, course calendar and important dates	
Not related to the syllabus/contents	
Hours	hours
Project or Topic Presentations [PRESENCIAL][Combination of methods]	1
On-line Activities [AUTÓNOMA][Self-study]	6
Group tutoring sessions [PRESENCIAL][Guided or supervised work]	1
Final test [PRESENCIAL][Assessment tests]	2
Unit 1 (de 4): GENERALIZED LINEAR MODEL	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	8
Class Attendance (practical) [PRESENCIAL][Cooperative / Collaborative Learning]	3.75
Class Attendance (theory) [PRESENCIAL][Combination of methods]	1.25
Writing of reports or projects [AUTÓNOMA][Group Work]	8
Writing of reports or projects [AUTÓNOMA][Case Studies]	3
On-line debates and forums [AUTÓNOMA][Combination of methods]	1
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	12
Group 10:	
Initial date: 30-01-2023	End date: 05-03-2023
Group 17:	
Initial date: 30-01-2023	End date: 05-03-2023
Unit 2 (de 4): DYNAMIC MODELS	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	9
Class Attendance (practical) [PRESENCIAL][Cooperative / Collaborative Learning]	6
Class Attendance (theory) [PRESENCIAL][Combination of methods]	1
Writing of reports or projects [AUTÓNOMA][Group Work]	12
Writing of reports or projects [AUTÓNOMA][Case Studies]	7
On-line debates and forums [AUTÓNOMA][Combination of methods]	2
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	14
Group 10:	
Initial date: 06-03-2023	End date: 09-04-2023
Group 17:	
Initial date: 06-03-2023	End date: 09-04-2023
Unit 3 (de 4): MULTI EQUATION MODELS	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	6
Class Attendance (practical) [PRESENCIAL][Cooperative / Collaborative Learning]	5
Class Attendance (theory) [PRESENCIAL][Combination of methods]	1
Writing of reports or projects [AUTÓNOMA][Group Work]	7
Writing of reports or projects [AUTÓNOMA][Case Studies]	4
On-line debates and forums [AUTÓNOMA][Combination of methods]	2
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	8
Group 10:	
Initial date: 10-04-2023	End date: 30-04-2023
Group 17:	
Initial date: 10-04-2023	End date: 30-04-2023
Unit 4 (de 4): SPECIFIC TOPICS	
Activities	Hours
Class Attendance (theory) [PRESENCIAL][Lectures]	7
Class Attendance (practical) [PRESENCIAL][Cooperative / Collaborative Learning]	2
Writing of reports or projects [AUTÓNOMA][Group Work]	3
On-line debates and forums [AUTÓNOMA][Combination of methods]	1
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	6
Group 10:	
Initial date: 01-05-2023	End date: 14-05-2023
Group 17:	
Initial date: 01-05-2023	End date: 14-05-2023
Global activity	
Activities	hours
Class Attendance (theory) [PRESENCIAL][Lectures]	30
Class Attendance (practical) [PRESENCIAL][Cooperative / Collaborative Learning]	16.75
Class Attendance (theory) [PRESENCIAL][Combination of methods]	3.25
Writing of reports or projects [AUTÓNOMA][Group Work]	30
Writing of reports or projects [AUTÓNOMA][Case Studies]	14
Project or Topic Presentations [PRESENCIAL][Combination of methods]	1
On-line Activities [AUTÓNOMA][Self-study]	6
On-line debates and forums [AUTÓNOMA][Combination of methods]	6
Study and Exam Preparation [AUTÓNOMA][Combination of methods]	40
Group tutoring sessions [PRESENCIAL][Guided or supervised work]	1
Final test [PRESENCIAL][Assessment tests]	2
Total horas: 150	

10. Bibliography and Sources						
Author(s)	Title/Link	Publishing house	City	ISBN	Year	Description
Calderón Milán, López Ruiz y Tarancón Morán	Prácticas de econometría	Popular Libros		84-931937-1-3	2001	
Baltagi, Badi H. (Badi Hani)	A Companion to econometric analysis of panel data	John Wiley & Sons		978-0-470-74403-1	2009	
Granger, Clive William John (1934-)	Essays in econometrics : collected papers of Clive W.J. Granger	Cambridge University Press		0-521-79697-0 (Pbk.	2001	
Greene, William H. (1951-)	Econometric analysis	Prentice Hall		978-0-13-513245-6	2008	
Gujarati, Damodar N.	Econometría	McGraw-Hill Interamericana		970-10-3971-8	2004	
Maddala, G. S.	Econometría	McGraw-Hill		9684516754	1988	
Pulido San Román, Antonio	Modelos econométricos	Pirámide		84-368-1534-3	2001	
Pérez López, César	Econometría avanzada : técnicas y herramientas	Pearson Educacion		978-84-8322-479-3	2008	