UNIVERSIDAD DE CASTILLA - LA MANCHA

GUÍA DOCENTE

1. General information

Course:	ECONOMETRIC METHODS AND MODELLING	**Code:**	54323
Type:	CORE COURSE	**ECTS credits:**	6
Degree:	320 - UNDERGRADUATE DEGREE IN BUSINESS MANAGEMENT AND ADMINISTRATION (CR)	**Academic year:**	2022-23
Center:	403 - FACULTY OF LAW AND SOCIAL SCIENCES OF C. REAL	**Group(s):**	20 21 29
Year:	3	**Duration:**	C2
Main language:	Spanish	**Second language:**	
Use of additional languages:		**English Friendly:**	Y
Web site:		**Bilingual:**	N

Lecturer: **FERNANDO EVARISTO CALLEJAS ALBIÑANA** - Group(s): **21 29**

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Lecturer: **ISABEL MARTINEZ RODRIGUEZ** - Group(s): **20**

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2. Pre-Requisites

Necessary requirements:

1.- Matrix algebra

2.- Statistical inference

3.- Introduction to econometrics: Basic model of simple linear regression.

4.- Economic theory.

5.- Economic structure and national accounting

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

- Introduce the student in the theoretical basic knowledge of the Econometric Methods.

- Management of basic techniques and tools for the quantification of relationships between relevant variables in the business world.

- Ability to recognize a problem, analyze it and solve it using the scientific method of modeling.

- Management of data and external and internal indicators of the company relevant for decision making.

- Apply the acquired theoretical knowledge to the realization of a paper in which the student will be able to elaborate an econometric model under the direct supervision of the professor and with the support of the computer equipment.

- Acquire the capacity for debate and informed discussion about the issues and problems that affect the business decision-making process from a quantitative perspective.

- Train the business economist to deal with situations of prediction and simulation of company policies and as a basis for making decisions.

- Design and construction of prediction models in the short-term and medium-term, of the strategic variables of the company: sales, costs, human resources, prices, business investments, etc.

- Quantify the effects of business policy changes on business results (eg: impact of advertising campaigns, changes in the product, in the organization, etc.) and measure the effectiveness of the implemented policies.

- Implement the relations and relevant variables of strategic planning in mathematical-econometric models that allow establishing alternative scenarios for the time horizon and evaluate the different policies.

4. Degree competences achieved in this course

Course competences

Code	Description
E05	Develop the ability to analyze any information on the situation and possible development of a company and transform it into a business opportunity. Understand the economic environment as a result and application of theoretical or formal representations on how the economy works.

E07	To do so, it will be necessary to be able to understand and use common handbooks, as well as articles and, in general, leading edge bibliography in the core subjects of the curriculum.
E13	Ability to make logical representative models of the business reality
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.
G04	Ability to use and develop information and communication technologies and to apply them to the corresponding business department by using specific programmes for these business areas.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

Work out problems in creative and innovative ways.

Know the tools and methods for the quantitative analysis of the company and its environment, including models for business decision making as well as economic forecast models.

Additional outcomes

6. Units / Contents

Unit 1: Expand of the basic regression model
Unit 2: Structural change
Unit 3: Collinearity
Unit 4: Models with autocorrelation
Unit 5: Heteroscedasticity models
Unit 6: Dynamic models (I): Distribution of delays
Unit 7: Dynamic models (II): Time series models
Unit 8: Multiple-equation models: specification
Unit 9: Multiple-equation models: estimating
Unit 10: Use of multiple-equation models: prediction and simulation
Unit 11: Business models and strategic planning
Unit 12: Prediction, simulation and strategic information systems

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	E05 E07	1.2	30	N	-	
Computer room practice [ON-SITE]	Projects based learning	E13 G04	0.8	20	N	-	
Writing of reports or projects [OFF-SITE]	Cooperative / Collaborative Learning	E05 E07 G04	0.4	10	Y	Y	
In-class Debates and forums [ON-SITE]	Group Work	E05 E07	0.32	8	Y	N	
Study and Exam Preparation [OFF-SITE]	Self-study	G01	3.2	80	N	-	
Final test [ON-SITE]		E05 E07 E13 G01 G04	0.08	2	Y	Y	
Total:			**6**	**150**			
Total credits of in-class work: 2.4							**Total class time hours: 60**
Total credits of out of class work: 3.6							**Total hours of out of class work: 90**

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
Final test	70.00%	100.00%	The preparation of the work is mandatory, whether in face-to-face or not, so the final test, for all, will be 70%. It is necessary to obtain a 4 in the exam to be able to pass the subject
Oral presentations assessment	10.00%	0.00%	.
Other methods of assessment	20.00%	0.00%	.
Total:	**100.00%**	**100.00%**	

According to art. 6 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. 13.2) to be globally graded, in 2 annual calls per subject , an ordinary and an extraordinary one (evaluating 100% of the competences).

9. Assignments, course calendar and important dates

Not related to the syllabus/contents

Hours	hours
In-class Debates and forums [PRESENCIAL][Group Work]	8
Final test [PRESENCIAL][]	2

Unit 1 (de 12): Expand of the basic regression model	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	3
Computer room practice [PRESENCIAL][Projects based learning]	1
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	4
Unit 2 (de 12): Structural change	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	3
Computer room practice [PRESENCIAL][Projects based learning]	1
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	6
Unit 3 (de 12): Collinearity	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	2
Computer room practice [PRESENCIAL][Projects based learning]	1
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	5
Unit 4 (de 12): Models with autocorrelation	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	2
Computer room practice [PRESENCIAL][Projects based learning]	1
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	6
Unit 5 (de 12): Heteroscedasticity models	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	2
Computer room practice [PRESENCIAL][Projects based learning]	2
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	5
Unit 6 (de 12): Dynamic models (I): Distribution of delays	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	2
Computer room practice [PRESENCIAL][Projects based learning]	2
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	5
Unit 7 (de 12): Dynamic models (II): Time series models	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	2
Computer room practice [PRESENCIAL][Projects based learning]	2
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	8
Unit 8 (de 12): Multiple-equation models: specification	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Computer room practice [PRESENCIAL][Projects based learning]	2
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	10
Unit 9 (de 12): Multiple-equation models: estimating	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	4
Computer room practice [PRESENCIAL][Projects based learning]	2
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	8
Unit 10 (de 12): Use of multiple-equation models: prediction and simulation	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	2
Computer room practice [PRESENCIAL][Projects based learning]	2
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	8
Unit 11 (de 12): Business models and strategic planning	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	2
Computer room practice [PRESENCIAL][Projects based learning]	2
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	1
Study and Exam Preparation [AUTÓNOMA][Self-study]	10
Unit 12 (de 12): Prediction, simulation and strategic information systems	
Activities	**Hours**
Class Attendance (theory) [PRESENCIAL][Lectures]	2
Computer room practice [PRESENCIAL][Projects based learning]	2

Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	.5
Study and Exam Preparation [AUTÓNOMA][Self-study]	5

Global activity

Activities	**hours**
In-class Debates and forums [PRESENCIAL][Group Work]	8
Class Attendance (theory) [PRESENCIAL][Lectures]	30
Computer room practice [PRESENCIAL][Projects based learning]	20
Writing of reports or projects [AUTÓNOMA][Cooperative / Collaborative Learning]	10
Study and Exam Preparation [AUTÓNOMA][Self-study]	80
Final test [PRESENCIAL][]	2
Total horas:	150

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Callejas Albiñana, F.E.	Diapositivas y presentaciones Archivos Moodle		Ciudad Real		2014	Documentación a disposición de los estudiantes en Moodle
Greene, Willian H (1951)	Análisis econométrico	Prentice Hall	Madrid	84-8322-007-5	1999	
Intriligator, Michael D.	Modelos econométricos, técnicas y aplicaciones	Fondo de Cultura Económica		968-16-3140-4	1990	
Gujarati, Damodar N.	Econometría	McGraw-Hill	Mexico	970-10-3971-8	2003	
Wooldridge, Jeffrey M.	Introducción a la econometría: un enfoque moderno	Thomson		84-9732-268-1	2006	
Pulido SanRomán, A. y PérezGarcía, J.	Modelos econométricos	Piramide	Madrid	84-368-1534-3	2001	