

**TEACHING GUIDE**  
**SUPERIOR ECONOMETRICS**

**GRADO EN ECONOMÍA (INGLÉS)**

**ACADEMIC YEAR 2023-24**

Date: 11-07-2023

<b>I.-Subject Identification</b>	
<b>Type</b>	OPTATIVA
<b>Teaching period</b>	4 course, 1Q semester
<b>Nº of credits</b>	6
<b>Language in wich the subject is taught</b>	English

<b>II.-Presentation</b>
<p>Goals:</p> <p>This subject is a natural continuation of the subjects Econometrics I and II of the third year and is intended for students to master fundamental econometric tools for the applied analysis of economic phenomena. The objective is to study from both theoretical and applied perspectives, the econometric models and techniques necessary to be able to perform rigorous applied economic analysis. The student will be able to perform empirical analysis using econometric programs, mainly Gretl, and others.</p> <p>Recommendations:</p> <p>It is convenient to have completed and passed successfully the exams of the courses of Econometrics I and II and to master the basic concepts acquired in those subjects, since Advanced Econometrics is the natural extension of third-year Econometrics. The Virtual Campus will be used as a teacher-student communication tool, therefore students are advised to acquire the required skills and check it regularly.</p>

<b>III.-Competences</b>
<b>Generic competences</b>
<p>CT01. Ability to analyse and synthesise</p> <p>CT05. Knowledge of information systems relating to the field of study</p> <p>CT06. Ability to analyse and search for information from different sources</p> <p>CT07. Ability to solve problems</p> <p>CT08. Ability to make decisions</p> <p>CT09. Ability to work in a team</p> <p>CT15. Ability to learn independently</p> <p>CB02 . That students are able to apply their knowledge to their work or vocation in a professional manner and have the skills that are typically demonstrated through the preparation and defense of arguments and problem solving within their field of study.</p> <p>CB03 . That students have the ability to gather and interpret relevant data (usually within their field of study) to express judgments that include a reflection on relevant topics related to social, scientific or ethical areas.</p> <p>CB04 . That students are able to transmit information, ideas, problems and solutions to both specialized and non-specialized audience.</p> <p>CB05 . That students have developed the learning skills needed to undertake further studies with a considerable degree of autonomy.</p>
<b>Specific competences</b>
<p>CE01. Ability to put knowledge of economics into practice</p> <p>CE02. Information search and research skills</p> <p>CE06. Ability to learn and apply the different qualitative techniques used in economics</p> <p>CE07. Understanding and appraisal of economic contingencies</p> <p>CE14. Ability to convert an empirical problem into an area of research and reach conclusions</p> <p>CE19. Forecasting with different economic variables</p>



**IV.-Contents**

**IV.A.-Syllabus**

**Topic 1. Review of the Linear Regression Model.**

Hypothesis. OLS estimator and properties. Dummy variables.

**Topic 2. Extensions of the Basic Regression Model.**

Heteroscedasticity, serial autocorrelation, dynamics (error correction mechanism), and others (nonnormality, outliers, stability, instrumental variables, etc.).

**Topic 3. Time series.**

Properties of economic series. Autoregressive and moving averages models. Unit roots. Applicability in economics.

**Topic 4. Multiequational models.**

Seemingly unrelated equations. Simultaneity and instrumental variables. Simultaneous equations models.

**Topic 5. Panel and discrete choice models.**

Models with panel data. Binary choice models: Probit and Logit.

**IV.B.-Training activities**

Type	Title
Practical / resolution of exercises	Theoretical and applied exercises related to the main syllabus
Reading	adequate material will be provided in the 'Aula Virtual' assigned to this course
Others	video visualisation; appropriate web addresses will be provided

<b>V.-Student workload</b>		
Lecture classes		30
Practical classes/resolution of exercises, case studies, etc.		4
Practical sessions in technological laboratories, hospitals, etc.		20
Tests		6
Academic tutorials		18
Related activities: conferences, seminars, etc.		0
Preparation of lecture classes		70
Preparation of practices, exercises, cases studies work		20
Test preparation		12
Total student workload		180
<b>VI.-Methodology and academic programme</b>		
Type	Period	Content
Master classes	Week 3 to Week 9	Topic 2: standard class-room lectures
Tests	Week 14 to Week 14	Topic 3: evaluation activities
Tests	Week 9 to Week 9	Topics 1 and 2: evaluation activities
Work placements	Week 8 to Week 10	Topic 2: applied exercises with the econometric software
Work placements	Week 12 to Week 14	Topic 3: applied exercises with the econometric software
Master classes	Week 10 to Week 14	Topic 3: standard class-room lectures
Work placements	Week 2 to Week 2	Topic 1: applied exercises with the econometric software
Master classes	Week 1 to Week 2	Topic 1: standard class-room lectures

## VII.-Assessment methods

### VII.A.-Assessment weighting

#### Continuous ordinary assessment:

The distribution and characteristics of the assessment tests are those described below. Only in exceptional case and for special reasons may the teacher add changes to the Guide. These changes will require the prior consultation with the Subject Head and the prior and explicit authorisation of the Degree Programme Coordinator, who will notify the Vice-Rector's office in charge of Academic Affairs of the modifications made. In any case, the changes proposed must take into account the stipulations of the verified report. In order for these changes to take effect, they must be duly communicated at the start of the course to the students using Aula Virtual.

The combination of activities that are not re-assessable cannot exceed 50% of the subject grade and, in general, cannot have a minimum grade (except for the case of laboratory or clinical work placements, where duly justified), and tests which exceed 60% of the subject weighting cannot be added.

**Extraordinary assessment:** Students who do not manage to pass the ordinary assessment, or who did not attend, will be subject to completion of an extraordinary assessment to verify their acquisition of the skills established in the guide, only for activities that are re-assessable.

#### Description of the tests for assessment and their weights.

The course evaluation will be made up of two categories:

1-. Practical exercises to be completed individually along the course (50% of the final marks). There is no minimum mark required to enter the final examination. They can be re-evaluated in the extraordinary examination, should that be necessary.

2- Final examination. It may be a written exam or else a practical exercise to be solved with computers in the classroom - not on-line - and involving the application of the econometric software taught in the course - mainly gretl. (50% of the final marks). There is no minimum mark required to enter the final examination. It can be re-evaluated in the extraordinary examination, should that be necessary. The exam will take place on the official date set and published by the university to that effect.

There is no minimum mark required to pass the final global assessment - i.e., both the exercises and the final exam weight equally 50% and there is no minimum mark required for any of the two. The extraordinary examination will follow the same guidelines.

### VII.B. Assessment of students with an academic exemption

Student who wish to opt for this assessment will have to get an academic exemption for the subject, which they will have to request from the Dean or Director of the Centre which teaches their course. An academic exemption may be granted where the subjects own characteristics allow for it.

Subject with the possibility of an exemption: No

### VII.C. Review of assessment tests

In accordance with the exam appeal regulations of the Universidad Rey Juan Carlos.

### VII.D.-Students with a disability or special educational needs

Curricular adaptations for students with a disability or special educational needs will be determined by the Disabled Students Support Department, in accordance with the regulations governing the Disabled Students Support service, approved by the Universidad Rey Juan Carlos Council, in order to guarantee equal opportunities, inclusive treatment, universal accessibility and a greater guarantee of academic success.

For this purpose, this Department will have to issue a curricular adaptation report, therefore students with disabilities or special educational needs must contact the Department to analyse the different alternatives together.

### **VII.E.-Academic behaviour, academic integrity and honesty**

The Universidad Rey Juan Carlos is completely committed to the highest standards of academic integrity and honesty. Therefore, studying at the URJC means you accept and agree to the academic integrity and honesty values described in the University's Code of Ethics. In order to monitor this procedure, the University has Regulations on academic behaviour at the Universidad Rey Juan Carlos and uses different tools (anti-plagiarism, supervision?) which provides a collective assurance that these essential values are completely developed

<b>VII.-Bibliography</b>
<b>Referecense Generic</b>
Econometrics, (2010) Authors: Gujarati, D. y Porter, D. Editorial: Mc Graw-Hill
Introductory Econometrics. A modern approach (2 <sup>a</sup> edition), (2006) Author: Wooldridge, J.M. I: Thomson-Learning
<b>Reference literature</b>
Any econometrics text that the student is familiar with.

<b>IX.-Lecturers/Teachers/Professors</b>	
<b>Lecturer/teacher/professor´s name</b>	OURANIA DIMAKOU
<b>E-mail address</b>	ourania.dimakou@urjc.es
<b>Department/field</b>	Economía de la Empresa (ADO), Economía Aplicada II y Fundamentos Análisis Económico
<b>Category</b>	Profesor/a Ayudante Doctor/a
<b>Academic qualifications</b>	Doctor
<b>Subject Coordinator</b>	No
<b>Academic tutorial timetable</b>	Para consultar las tutorias póngase en contacto con el/la profesor/-a a través de correo electrónico
<b>Nº of Quinquenios</b>	2
<b>Nº of Sexenio</b>	0
<b>Nº period for technology transfer</b>	0
<b>Stretch Docentia</b>	1