

1. BASIC INFORMATION

Course	ECONOMETRICS: PLANNING AND DECISION MAKING
Degree program	GLOBAL
School	SCHOOL OF SOCIAL SCIENCES
Year	THIRD
ECTS	6 ECTS
Credit type	COMPULSORY
Language(s)	ENGLISH
Delivery mode	ON SITE
Semester	SIXTH SEMESTER
Academic year	2025-2026
Coordinating professor	JORGE MORA ROJO

2. PRESENTATION

The course provides students with the theoretical and practical foundations needed to apply statistical and econometric tools in business decision-making. It integrates concepts from quantitative analysis and builds on prior knowledge of Statistics, Microeconomics, and Strategic Management.

The main objective of the course is to equip students with the ability to model phenomena in both macro and microenvironments using data. Students will learn to evaluate the validity of proposed models and use this information to support planning and strategic decision-making in business contexts. The course primarily focuses on the multiple linear regression (MLR) model and its extensions, applied to real-world situations, with the assistance of specialized statistical software.

Additionally, the course emphasizes solving real problems and critically analyzing results. Students will develop skills in the rigorous interpretation of data and effective technical communication of findings, with a strong emphasis on data visualization.

3. COMPETENCIES AND LEARNING OUTCOMES

- **DEGREE LEARNING RESULTS**

Knowledge

- CON02: Knowledge of statistical and econometric tools for the analysis of economic and business variables

Competencies

- CP08. Ability to analyse, integrate and evaluate information from the economic environment, necessary for decision-making.
- CPT01. Create new ideas and concepts from known ideas and concepts, reaching conclusions or solving problems, challenges and situations in an original way.

- CPT03. Use information and communication technologies for data research and analysis, research, communication and learning.
- CPT05. Cooperate with others in the achievement of a shared goal, participating actively, empathetically and exercising active listening and respect for all members.
- CPT07. Adapt to adverse, unexpected situations, and situations that cause stress, whether personal or professional, overcoming them and even turning them into opportunities for positive change.

• **SUBJECT LEARNING OUTCOME**

- Preparation of reports on key economic and financial variables using econometric techniques.
- Modeling the behavior of economic relationships.
- Making decisions in the business context based on data analysis and techniques for forecasting economic and financial variables.

4. CONTENT

- Introduction to Econometrics
- The General Linear Model
- Goodness of Fit and Hypothesis Testing
- Qualitative Independent Variables
- Multicollinearity
- Heteroscedasticity
- Autocorrelation

5. TEACHING-LEARNING METHODOLOGIES

The types of teaching-learning methodologies used are indicated below:

- Cooperative learning (face-to-face mode)
- Problem Based Learning (ABP) (Face-to-face mode)
- Master classes (face-to-face mode)

6. LEARNING ACTIVITIES

Listed below are the types of learning activities and the number of hours the student will spend on each one:

Campus-based mode:

Learning activity	Number of hours
Master class	24
Asynchronous classes	16

Autonomous work	20
Oral presentations	5
Problem Based Learning (PBL)	25
Writing reports	10
Teamwork activities	20
Tests and exams	10
Tutorials	20
TOTAL	150

7. ASSESSMENT

Listed below are the assessment systems used and the weight each one carries towards the final course grade:

Campus-based mode:

Assessment system	Weight
Test and exams	50%
Case analysis and problem resolution	20%
Reports	20%
Oral presentation	10%

When you access the course on the *Campus Virtual*, you'll find a description of the assessment activities you have to complete, as well as the delivery deadline and assessment procedure for each one.

7.1. First exam period

To pass the course in the first exam period, you must obtain a final course grade of at least 5 points out of 10 (weighted average).

In any case, you will need to obtain a grade of at least 5 points in both tests for it to count towards the final grade, along with all the grades corresponding to the other activities.

IMPORTANT: to take the first exam period, students must reach (at least) 50% in face-to-face classes. If attendance falls below 50%, the student will be moved directly to the second exam period. Additionally, assignments for continuous evaluation must be submitted by the deadline; any submissions made after this deadline will receive a grade of 0 points.

7.2. Second exam period

To pass the course in the second exam period, you must obtain a final grade of at least 5 out of 10 (weighted average).

In any case, you will need to obtain a grade of at least 5 points in the final exam for it to count towards the

final grade, along with all the grades corresponding to the other activities.

In case the student passed both tests in the first round but didn't reach a global mark of 5 points in the subject due to the deliveries of continuous assessment, he/she will have to deliver a dossier of activities proposed by the professor.

IMPORTANT: assignments for continuous evaluation must be submitted by the deadline; any submissions made after this deadline will receive a grade of 0 points.

8. SCHEDULE

This table shows the delivery deadline for each assessable activity in the course:

Assessable activities	Deadline
Activity 1. Knowledge Test	Week 2
Activity 2. Simple Linear Correlation Knowledge Test	Week 4
Activity 3. Data Analysis using bivariate correlation and a Simple Linear Regression	Week 5
Activity 4. Multiple Linear Regression Knowledge Test	Week 7
Activity 5. Data Analysis using a Multiple Linear Regression	Week 8
Activity 6. ANOVA One-way Knowledge Test	Week 10
Activity 7. Oral presentation of Market Research results	Week 13
Activity 8. Knowledge Test	Weeks 14-15

This schedule may be subject to changes for logistical reasons relating to the activities. The student will be notified of any change as and when appropriate.

9. BIBLIOGRAPHY

The main references works for this subject are:

- Wooldridge, J. M. (2020). *Introductory econometrics: A modern approach* (7th ed.). Cengage Learning.

Below is the recommended bibliography:

- **Goyal, P.** (2020, March 4). *OneWayANOVA* [Rpubs presentation]. <https://rpubs.com/pg2000in/OneWayAnova>
- **Yousif, Z.** (2023, November 27). *Correlation and linear regression* [Rpubs presentation]. <https://rpubs.com/zaidyousif/1120340>
- **Serra, I.** (2023). *Multiple Linear Regression in R* [Publicación en Rpubs]. RStudio. Recover from <https://rpubs.com/DonArres/MultipleLinearRegression>
- **Benson, S.** (≈2018). *Multiple Linear Regression R Guide* [Publicación en Rpubs]. RStudio. Recover from <https://rpubs.com/bensonsyd/385183>

- Damodar, N., 2009. *Basic Econometrics Fifth Edition*. McGraw-Hill.
- Hanck, C., Arnold, M., Gerber, A., & Schmelzer, M. (2019). *Introduction to Econometrics with R*. University of Duisburg-Essen, 1-9.
- Berenson M.L. and Levine D.M. (1996). *Basic Business Statistics*, Prentice-Hall, Englewood Cliffs, New Jersey.
- Rutherford, A. (2011). *ANOVA and ANCOVA: A GLM Approach*: (2 ed.). Wiley.
<https://elibro.net/es/ereader/universidadeuropea/185473?page=1>

10. EDUCATIONAL GUIDANCE AND DIVERSITY UNIT

From the Educational Guidance and Diversity Unit we offer support to our students throughout their university life to help them reach their academic achievements. Other main actions are the students inclusions with specific educational needs, universal accessibility on the different campuses of the university and equal opportunities.

From this unit we offer to our students:

1. Accompaniment and follow-up by means of counselling and personalized plans for students who need to improve their academic performance.
2. In terms of attention to diversity, non-significant curricular adjustments are made in terms of methodology and assessment for those students with specific educational needs, pursuing an equal opportunities for all students.
3. We offer students different extracurricular resources to develop different competences that will encourage their personal and professional development.
4. Vocational guidance through the provision of tools and counselling to students with vocational doubts or who believe they have made a mistake in their choice of degree.

Students in need of educational support can write to us at:

orientacioneducativa.uev@universidadeuropea.es

11. ONLINE SURVEYS

Your opinion matters!

The Universidad Europea encourages you to participate in several surveys which help identify the strengths and areas we need to improve regarding professors, degree programs and the teaching-learning process.

The surveys will be made available in the “surveys” section in virtual campus or via e-mail.

Your assessment is necessary for us to improve.

Thank you very much for your participation.