

**COURSE DATA****DATA SUBJECT****Code:** 35888**Name:** Quantitative techniques for business**Cycle:** OCU Studies / Undergraduate Studies**ECTS Credits:** 6**Academic year:** 2026-27**STUDY (S)**

| Degree | Center | Acad. year | Period |
|---|---------------------|------------|----------------|
| 1314 - Degree in International Business | Facultat d'Economia | 2 | Second quarter |

SUBJECT-MATTER

| Degree | Subject-matter | Character |
|---|--|------------|
| 1314 - Degree in International Business | Quantitative methods applied to business | COMPULSORY |

COORDINATION

RICO BELDA PAZ

SUMMARY

The subject 'Quantitative techniques for business' is a compulsory subject with duration of one term. The subject is worth 6 ECTS (3 theoretical ECTS and 3 practical ECTS). It is allocated in the second term of the second course of the *Grado* in International Business (GIB).

The aim of this subject is to provide the students with basic skills on the quantitative techniques required to analyze the environment of international business and make data driven decisions.

This subject implies the use of statistical and mathematical methods. Students are required to use previous calculus and statistics concepts. This fact makes 'Quantitative techniques for business' a subject with a high educational level both on the theoretical and practical levels. By using the corresponding software tools, students will develop intermediate skills to apply quantitative methods to analyze the facts of international business.

PREVIOUS KNOWLEDGE



RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

There are no specified enrollment restrictions with other subjects of the curriculum.

OTHER REQUIREMENTS

Basic knowledge on linear algebra, calculus and economics.

COMPETENCES / LEARNING OUTCOMES

1314 - Degree in International Business

Adquirir conocimientos básicos de Estadística.

Be able to work in multidisciplinary and intercultural teams.

Conocer el análisis de datos unidimensionales.

Conocer los aspectos básicos de las series temporales y de los modelos univariantes.

Develop the capacity to evaluate and critically analyse international economic phenomena and agents.

Develop the capacity to prepare and defend reports that contribute to the decision-making of public and private agents.

Know how to use the statistical methods and software to manage the company's operations.

Saber utilizar paquetes informáticos específicos que ayuden a resolver problemas de toma de decisiones en el ámbito empresarial.

Tener conocimientos de regresión.

Use the economic and financial information of the company to make decisions.

DESCRIPTION OF CONTENTS

1. Quantitative information and managerial decision-making

Managerial decision making: traditional approach (expected utility theory)

2.1 Econometric models and economic data

2.2 The linear regression model

2.3 Properties and hypothesis of the regression model



2. Introduction to linear regression models

- 2.1 Econometric models and economic data
- 2.2 The linear regression model
- 2.4 Hypothesis testing with the múltiple regression model
- 2.5 Prediction
- 2.6 Validation of the regression model

3. Time and spatial data

Data with time component: dynamic visualization
Introduction to time series analysis

WORKLOAD

PRESENCIAL ACTIVITIES

| Activity | Hours |
|-----------------------------|--------------|
| Theory | 30,00 |
| Computer classroom practice | 30,00 |
| Total hours | 60,00 |

NON PRESENCIAL ACTIVITIES

| Activity | Hours |
|---------------------------------------|--------------|
| Attendance at other activities | 0,00 |
| Individual or group project | 25,00 |
| Independent study and work | 20,00 |
| Preparation of lessons | 15,00 |
| Preparation for assessment activities | 15,00 |
| Resolution of case studies | 15,00 |
| Total hours | 90,00 |

TEACHING METHODOLOGY

The teaching methodology for this subject will include the following activities:

- Lectures to introduce main theoretical topics (1,2 ECTS).
- Practical activities in the classroom with individual or team work for problem solving and study cases, in applications and presentations (1,2 ECTS).
- Student¿s supervised independent work based on report reading and analysis and problem solving. The



- will involve individual and team work.(1,6 ECTS).
- Personal study and tests (2 ECTS).

EVALUATION

Subject's competences will be evaluated by using the following procedures:

- 1.- Written exam (multiple choice);
- 2.- Evaluation of the practical activities developed by the student(s), as well as the production of reports and works and their corresponding (oral) presentations;
- 3.- Continuous assessment of students, based on their participation and implication in the course.

Students need to pass the written exam to pass the subject. The mark of this exam determines a 70% of the final mark.

Attendances and participation, as well as the development of the activities established by the professor will determine the remaining 30% of the final mark of the subject.

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REFERENCES

Reference 1:

Uriel, E. (2013), Introducción a la Econometría, Manual electrónico, Valencia (<http://www.uv.es/uriel/libroes.htm>)

Uriel, E. (2013), Introduction to Econometrics, Manual electrónico, Valencia (<http://www.uv.es/uriel/libroin>).



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Reference 2:

Wooldridge, J. M. (2009) Introducción a la econometría. Un enfoque moderno. 4ª edición. CENGAGE Learning.

Wooldridge, J. M. (2013) Introductory Econometrics. A Modern Approach, 5th Edition. South-Western, CENGAGE Learning.

Reference 3:

Render, B., Stair, R.M. and Hanna, M.E. (2016) Quantitative analysis for management, 12th Edition, Prentice Hall, Pearson.

Render, B., Stair, R.M. and Hanna, M.E. (2006) Métodos cuantitativos para los negocios, Novena Edición, Prentice Hall, Pearson.