COURSE DATA

DATA SUBJECT

Code: 35818
Name: Basic Statistics
Cycle: Undergraduate Studies
ECTS Credits: 6
Academic year: 2025-26

STUDY (S)

Degree	Center	Acad. year	Period
1313 - Degree in Business Management and Administration	Facultat d'Economia	1	Second quarter
1330 - Degree in Business Management and Administration (Ontinyent)	Facultat d'Economia	1	Second quarter
1921 - Double Degree Program BMA and Law	Facultat d'Economia	1	Second quarter
1926 - Double Degree Program Tourism and BMA	Facultat d'Economia	1	Second quarter

SUBJECT-MATTER

Degree	Subject-matter	Character
1313 - Degree in Business Management and Administration	Basic statistics	BASIC
1330 - Degree in Business Management and Administration (Ontinyent)	Estadística	BASIC
1921 - Double Degree Program BMA and Law	Year 1 compulsory subjects	BASIC
1926 - Double Degree Program Tourism and BMA	Asignaturas de formación básica de primer curso	BASIC

COORDINATION

BAEZA SAMPERE ISMAEL

SUMMARY

Basic Statistics is an introduction to Economic and Business Statistics. It is organized as a six-credit introductory course in statistics designed to provide students with the basic concepts and methods of statistical analysis.

The aim of the course is to familiarize students with methods of summarizing collections of measurements (data sets) of economic, business and, in general, social phenomena. Of particular concern will be the

interpretation of summary statistics of data sets, the study of relationships between variables and an introduction to probability theory and its uses in the definition and characterization of random variables. A number of economic and business managament applications will be used to illustrate the methods.

Throughout this course, students will learn many concepts, develop numerous skills, and gain new perspectives of events, observations, and data. The techniques and methods learned will help students in future courses, especially those in quantitative and analytical methods, and in solving real world problems.

PREVIOUS KNOWLEDGE

RELATIONSHIP TO OTHER SUBJECTS OF THE SAME DEGREE

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

OTHER REQUIREMENTS

No prerequisites, although it is recommended to have taken and passed in math.

COMPETENCES / LEARNING OUTCOMES

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Be able to analyse and search for information from different sources.

Be able to analyse the economic situation and understand its implications.

Be able to apply analytical and mathematical methods for the analysis of economic and business problems.

Be able to define, solve and present complex problems systemically.

Be able to express oneself in formal, graphic and symbolic languages.

Be able to make decisions under certainty and uncertainty environments.

Be able to plan, organise, control and evaluate the implementation of business strategies.

Be able to solve problems.

Be able to work in a team.

Demonstrate capacity for analysis and synthesis.

Develop critical capacity on Spanish and international economic current affairs.

Have critical and self-critical capacity.

Manage time effectively.

DESCRIPTION OF CONTENTS

1. UNIVARIATE DATA ANALYSIS

1. Introduction.

2. Univariate data: measures of central position, dispersion and shape.

3. Measures of concentration.

2. MULTIVARIATE DATA ANALYSIS

1. Multivariate data: joint and marginal frequency distributions.

2. Mean vector and variance-covariance matrix.

3. Relationship between variables.

3. REGRESSION

1. Introduction.

2. Least squares regression.

3. Goodness of fit.

4. TIME SERIES MODELS

1. Introduction.

2. Economic indices.

3. Time series.

5. UNIVARIATE PROBABILITY MODELS

1. Introduction to probability theory.

2. Random variable and probability distribution.

3. Discrete and continuous random variables.

4. Expected value and variance. Properties.

6. SPECIFIC UNIVARIATE PROBABILITY MODELS

1. Discrete models.

2. Continuous models.

WORKLOAD

PRESENCIAL ACTIVITIES

Activity	Hours
Theory	30,00
Classroom practices	30,00
Total hours	**60,00**

NON PRESENCIAL ACTIVITIES

Activity	Hours
Attendance at other activities	0,00
Individual or group project	10,00
Independent study and work	20,00

Preparation of lessons	30,00
Preparation for assessment activities	30,00
Resolution of case studies	0,00
Total hours	**90,00**

TEACHING METHODOLOGY

The course is primarily structured around theoretical and practical sessions. Depending on the type of session (theoretical or practical), one teaching method will be chosen.

The theoretical sessions, lasting two hours, will cover the main content of each of the topics included in the course, including the fundamentals of descriptive statistics and probability theory, introducing the concepts and contextualizing them to the different fields of application in the socioeconomic and business environment.

The predominant teaching method in the theoretical classes will be the participatory lecture. This methodology allows for organized leadership of large groups of students, offering the advantages of a lecture without limiting student participation and teacher-student interaction. An effort will be made to encourage class participation and discussion, in order to offer students direct involvement in the content. In the practical sessions, which last two hours, the instructor will present students with situations (real or fictitious) that they must solve by applying the theoretical concepts learned. These practical classes will be conducted using different teaching strategies based on the content discussed in the corresponding theoretical session. The following may be used in these sessions:

- *Project-based learning*: At the beginning of the course, one or more activities may be proposed that will cover the topics of Descriptive Statistics, with the aim of helping students acquire the skills listed in this academic guide.
- *Problem solving*: To complement and apply the concepts studied in the theoretical sessions, practical cases will be solved through manual calculations, the creation of graphs/tables, and the writing of short answers.
- *Quizzes and review questions*: To check understanding of the assignments and lessons, quizzes and review questions may be given in some classes.

While project-based learning and problem-solving can be done in a collaborative environment, quizzes and review questions will be based on individual work.

The structure of these activities, as well as the due dates for the associated reports, will be established by each instructor and communicated in a timely manner.

EVALUATION

The assessment of student learning in this subject will be carried out through a dual process: a summary test at the end of the semester, which evaluates the level of achievement of the learning outcomes, especially those focused on the subject's specific competencies with respect to content and application, and continuous assessment of the student, based on their participation

and involvement in the teaching-learning process.

The summary test will consist of theoretical and practical questions, although significant weight will be given to questions that assess whether the student has assimilated the key elements of the program. This test will be worth 70% of the final grade.

Continuous assessment aims to develop students' competencies and encourage daily work and will be based on an evaluation of students' adherence to the subject through class participation and the completion of assignments. Continuous assessment will account for 30% of the final grade.

By their very nature, continuous assessment activities are NON-RECOVERABLE.

The final grade will be the weighted sum of the summary test and the continuous assessment. If the student fails the summary test (a student passes the summary test if they obtain a score greater than or equal to 3,5 points out of 7 or, alternatively, 5 points out of 10), the final grade cannot exceed a maximum of 4,5.

Students who do not participate in continuous assessment or the practicals may be assessed on the summary test and may obtain a maximum **final grade of 7**. To pass the course, they must have obtained a minimum of 5 out of 7 points on the summary test (or the equivalent score if the summary test is evaluated out of 10 points).

REFERENCES

Basic

- ESCUDER, R. and MURGUI, J.S. (2011). Estadística Aplicada. Economía y Ciencias Sociales. Tirant lo Blanch. Valencia, (2nd edition).

- ESTEBAN, J. et al. (2013). Estadística Descriptiva y nociones de Probabilidad. Paraninfo. (Revised edition).

- LIND, D.A.; MARCHAL, W.G.; WATHEN, S.A. (2020). Estadística Aplicada a los Negocios y la Economía. Méjico McGraw-Hill.

- MURGUI, J.S. et al. (2002). Ejercicios de Estadística. Economía y Ciencias Sociales. Valencia: Tirant lo Blanch.

- NEWBOLD, P.; CARLSON, W.L.; Thorne, B. (2023): Statistics for business and economics, Pearson Education.

Complementary

- ANDERSON, D.R.; SWEENEY, D.J. and WILLIAMS, T.A. (2008). Estadística para Administración y Economía. México: International Thomson.

- CEACES, Proyecto (Hypermedia Container for Statistics Applied to Economic and Social Sciences). Universitat de València. ON LINE: http://www.uv.es/ceaces

- HILDEBRAND, D.K. and OTT, R.L. (1998). Estadística aplicada a la Administración y a la Economía. Wilmington: Addison-Wesley Iberoamericana.

- MARTÍN-PLIEGO, F.J. (2004). Introducción a la Estadística Económica y Empresarial. Madrid: International Thomson.

- MARTÍN-PLIEGO, F.J. and RUIZ MAYA, L. (2004). Estadística I. Probabilidad. Madrid: International Thomson. (3rd edition).