Academic Year/course: 2024/25

27309 - Statistics I

Syllabus Information

Academic year: 2024/25
Subject: 27309 - Statistics I
Faculty / School: 109 - Facultad de Economía y Empresa
228 - Facultad de Empresa y Gestión Pública
301 - Facultad de Ciencias Sociales y Humanas
Degree: 448 - Degree in Business Administration and Management
454 - Degree in Business Administration and Management
458 - Degree in Business Administration and Management
ECTS: 6.0
Year: 1
Semester: Second semester
Subject type: Basic Education
Module:

1. General information

The first objective of the course is to provide the student with knowledge of the main sources of information used in Economic Statistics and to be able to carry out an initial analysis of a set of univariate and bivariate data. The second objective is to provide the student with the necessary knowledge on the elaboration of indicators as comparative measures of the evolution of a magnitude and the third objective is to provide the student with a basic knowledge of the Probability Calculus as a support tool for decision making.
These approaches and objectives are aligned with the Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda, specifically contributing to the achievement of Goal 4 in general and Target 4.4 in particular.

2. Learning results

The following results must be demonstrated in order to pass this course:
1. Understand and situate the statistical description of a data set within the stages of the statistical study of an economic phenomenon.
2. Be able to handle statistical information sources in the Business and Economics areas.
3. Define, calculate and deduce the properties of the basic descriptive statistical measures in order to synthesise the location, the dispersion and the shape of the frequency distribution of a univariate data set.
4. Analyse the relationship between two statistical variables depending on the type of the variable (qualitative/quantitative).
5. Be able to handle index numbers employed in the economy and interpret the results that are obtained.
6. Define basic concepts of probability and apply the fundamental theorems to solve simple problems of Probability Calculus.
7. Be able to solve discrete decision problems in an environment of uncertainty.
8. Implement, using a spreadsheet, the statistical measures and the graphical techniques studied in the course.
9. Be able to write statistical reports formulating the conclusions that are derived from the study of a data set.

3. Syllabus

1. Statistical Methods in Business and Economics
2. Scales of Measurement and Information Sources
Information sources. Data and variable types. Scales of measurement.
3. Describing Univariate Data: Frequency Tables and Distributions, and Graphic Presentation
4. Describing Univariate Data: Numerical Measures
Location, dispersion and shape measures. Other measures.
5. Frequency Tables and Distributions and Graphic Presentation of Bivariate Data
Joint, marginal and conditional distributions. Graphical representations. Independence.
6. Correlation and Simple Linear Regression
Correlation. Simple linear regression. Goodness of fit. Prediction. Non-linear regression.
7. Index Numbers
Simple and complex indices. Repercussion. Shifting of the base. Deflation.
8. Probability Concepts
Basic concepts. Events. Random variables.
9. Statistical Decision Theory
Decisions under risk. Decisions with experimentation.

4. Academic activities

• Lectures: 30 hours
• Practice sessions: 30 hours
• Personal study: 85 hours
• Assessment tests: 5 hours 6 ECTS = 150 hours
Lectures will be used to present the concepts and techniques of each unit, using an explanatory methodology, but encouraging

participation and discussion in class with the students. Practice sessions will be used to show the student how to address and solve problems both in the classroom and in the computer room using software.
In order to encourage student participation, some exercises and questionnaires will be proposed in the theoretical and practical sessions, which will be collected at the end of the sessions.

5. Assessment system

The assessment system is GLOBAL, with two tests: a Computer Test (CT) and a Written Test (WT), accounting for 60% and 40%, respectively, of the overall grade. At least 4 points will be required in each test, and 5 points out of 10 in the final grade.

Students will be able to take the computer test by means of continuous assessment. In this case, they must produce a series of assignments (ASG) and take an Intermediate Computer Test (ICT). In this modality, the grade of the CT is obtained through:

$CT = 0,3*ASG+0,7*ICT$

It will be necessary to obtain at least 4 points in both the Intermediate Computer Test (ICT) and the assignments part (ASG).

All students may sit the computer test in the official calls, either because they have not opted for the continuous assessment option, or because they have opted for it but failed it, or because they want to improve their grade.

The written test will only take place in the official calls.

Second call

Students who obtain at least 5 points in one of the two parts in the first call, but do not pass the course, may only sit for the part they did not pass.

6. Sustainable Development Goals

4 - Quality Education