Universidad Zaragoza

Academic Year/course: 2024/25

27609 - Statistics I

Syllabus Information

Academic year: 2024/25
Subject: 27609 - Statistics I
Faculty / School: 109 - Facultad de Economía y Empresa
Degree: 450 - Degree in Marketing and Market Research
ECTS: 6.0
Year: 1
Semester: Second semester
Subject type: Basic Education
Module:

1. General information

The first goal of the subject is for students to know 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; as a second objective, that students have the necessary knowledge of everything related to the elaboration of indicators as comparative measures of the evolution of a magnitude and as a third goal, that they have a basic knowledge of the Calculus of Probabilities as a support tool for decision making.

2. Learning results

- Understand and situate the statistical description of a data set in the stages of statistical investigation of a phenomenon of an economic nature.
- Be able to handle sources of statistical information in the economic-business field.
- Define, calculate and derive the properties of basic descriptive statistical measures to synthesize the position, dispersion and shape of the frequency distribution of a univariate data set.
- Analyze the relationship between two statistical variables distinguishing by the type of variable (qualitative/quantitative).
- Be able to handle the most commonly used index numbers in Economics and to interpret the results obtained.
- Define basic concepts of probability and apply the fundamental theorems to solve simple problems of Probability Calculus.
- Be able to solve discrete decision problems under uncertainty.
- Implement by means of a spreadsheet the statistical measures and graphical representations presented throughout the subject.
- Be able to prepare statistical reports formulating the conclusions drawn from the study.

3. Syllabus

UNIT 1. Statistical methods in the economic-business field

UNIT 2. Scales of Measurement and Sources of Information

Data sources. Data types and variables. Measurement scales.

UNIT 3. Tabulation and Graphical Representation of Univariate Data

UNIT 4. Numerical description

Position, dispersion and shape measurements. Other measures.

UNIT 5. Tabulation and Graphical Representation of Bivariate Data

Joint, marginal and conditional distributions. Graphical representations. Independence.

UNIT 6. Correlation and simple linear regression

Correlation. Simple linear regression. Goodness of fit. Prediction. Non-linear regression.

UNIT 7. Index numbers

Simple and complex indexes. Impact. Change of base. Deflation.

UNIT 8. Calculation of Probabilities

Basic concepts. Events. Random variables.

UNIT 9. Statistical Decision Analysis

Decisions under risk. Decisions with experimentation.

4. Academic activities

Master classes: 30 hours

Practical classes: 30 hours

Personal Study: 85 hours

Assessment tests. 5 hours

6 ECTS = 150 hours

Lectures will be used to develop the concepts and techniques of each topic, using an expository methodology, but encouraging participation and discussion in class with the students.

Practical classes will be used to show the student how to approach and solve problems both in the classroom and in the computer lab using software.

5. Assessment system

In the two official calls, a GLOBAL evaluation system is applied, consisting of two tests: a Computer Test (PI) and a Written Test (PE), representing 60% and 40%, respectively, of the overall grade . To pass the course you must obtain at least 4 points in each test (PI and PE), and 5 points out of 10 in the final grade.

Students who wish to do so may anticipate the computerized test (PI) during the semester. To do so, they will have to prepare a series of task (TR) and take a Intermediate Informatics Test (PII). In this modality, the PI qualification is obtained through:

PI = 0.3*TR+0.7*PII

In order to pass these activities and to release the Computer Test (PI) of the global evaluation it is necessary to obtain at least 4 points out of 10 both in the Simplified Computer Test and in the proposed assignments.

Those students who have not anticipated the Computer Test (PI), who have not passed the minimum requirements or who wish to improve their qualification, may take the computer test in the official exams.

The written test (PE) will only be administered during the official examinations.

Second call

As indicated above, a GLOBAL evaluation system is applied, consisting of two tests: Test Informatics (PI) and Written Test (PE), representing 60% and 40%, respectively, of the overall grade. To pass the subject you must obtain at least 4 points in each test (PI and PE), and 5 points out of 10 in the final grade.

Students who obtain at least 5 points in any of the two parts in the first call, but do not pass the subject, may only sit for the part they have not passed.

6. Sustainable Development Goals

4 - Quality Education