Universidad Zaragoza

Academic Year/course: 2024/25

27509 - Statistics I

Syllabus Information

Academic year: 2024/25
Subject: 27509 - Statistics I
Faculty / School: 109 - Facultad de Economía y Empresa
Degree: 449 - Degree in Finance and Accounting
ECTS: 6.0
Year: 1
Semester: Second semester
Subject type: Basic Education
Module:

1. General information

The first goal of the subject is for the student 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 the student has the necessary knowledge about 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.

These approaches and goals 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, Goal 5 and Goal 9.

2. Learning results

The student, in order to pass this subject, must demonstrate the following results:

1. -Understand and situate the statistical description of a data set in the stages of the statistical investigation of an economic phenomenon nature.

2. -To be able to handle sources of statistical information in the economic-business field.

3. -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.

4. -Analyze the relationship between two statistical variables distinguishing by the type of variable (qualitative/quantitative).

5. -To be able to handle the most commonly used index numbers in Economics and to interpret the results 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 under uncertainty.

8. -Implement by means of a spreadsheet the statistical measures and graphical representations presented throughout the subject.

9. -To be able to prepare statistical reports formulating the conclusions drawn from the study.

3. Syllabus

1. Statistical methods in the economic-business field

2. Scales of Measurement and Sources of Information

Data sources. Data types and variables. Measurement scales.

3. Tabulation and Graphical Representation of Univariate Data

4. Numerical description

Position, dispersion and shape measurements. Other measures.

5. Tabulation and Graphical Representation 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 indexes. Impact. Change of base. Deflation.

8. Calculation of Probabilities

Basic concepts. Events. Random variables.

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 the methodology expository, but encouraging participation and discussion in class with 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.

In principle, the teaching methodology and its evaluation is planned to be based on face-to-face classes . However, if circumstances so require, they may be carried out online.

5. Assessment system

The evaluation system is **GLOBAL** in both **first and second call**.

This evaluation consists of two tests: a Computer Test (PI) (Topics 1 to 6) and a Written Test (PE) (Topics 7 to 9), accounting for 60% and 40%, respectively, of the overall grade. Each test will be graded on a scale of 0 to 10 points. At least 4 points will be required in each test, and 5 points out of 10 in the final grade.

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

PI = 0.3*TR+0.7*PIS

In order to be able to release the Computer Test (PI) of the global evaluation it is necessary to obtain at least 4 points out of 10 in both the Simplified Computer Test and in each of the proposed tasks.

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

The written test will only be given on official dates.

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 they 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 finaly the subject, may only take the part they have not passed.

6. Sustainable Development Goals

4 - Quality Education
5 - Gender Equality
9 - Industry, Innovation and Infrastructure