Academic Year/course: 2022/23

27609 - Statistics I

Syllabus Information

Academic Year: 2022/23
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

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The learning process that has been designed for this subject is based on the following:

In the teaching-learning process of "Statistics I" different teaching methods will be used.
Expositive teaching techniques will be used for the theoretical classes, although other teaching methods may be used (didactic

As support will be posted in the ADD, basic information on the subject

4.2. Learning tasks

Presentation of the subject: In the first session of the course the contents of the subject are explained in

Lectures: The professors will present the main contents of the course and try to motivate participation and discussion in the classroom. Slides will be employed in these sessions to help the students to understand the topics. It is recommended to attend the lectures and make notes to complement and clarify the slides.

Practice sessions : In these sessions, the students will learn how to manage and solve practical problems. Before each practical session, the students will have at their disposal the set of problems that will be solved.

Computer practice sessions: During the semester, the students will do several computer practice sessions. In these sessions, they will solve some problems applying the methods and techniques studied in class by using a spreadsheet. Each practice session will consist of two parts. In the first one, the students will be guided to learn the main theoretical concepts; in the second, these concepts will be employed to solve real problems

Tutorials: In addition to the conventional tutorials, other tutorials will take place in the classroom to solve doubts, and make clarifications.

Computer assessment: (informatic room) students must apply the descriptive tools presented in the firs

The use of the Excel functions related to the Statistical Analysis of data, the numerical results obtained

Written assessment: Students must solve various practical problems related to the application of statis

In the resolution, the statistical approach to the problem will be assessed. The use of the statistical nota

In principle, the teaching delivery methodology is expected to pivot around face-to-face classes. Howev

Activities	Hours in the classroom	Private study hours
Lectures (Whole Group)	30	30
Computer Practice Sessions (two subgroups)	24	42
Practice Exercices (two subgroups)	8	12
Intermediate test (four subgroups)	1	
Written examen	3	
Total	66	84

4.3. Syllabus

The course will address the following topics:
- Topic 1. Statistical Methods in Business and Economics. Introduction. Historical Evolution. Concept of Stadistics. The statistical method. Statistics in Business and Economics.
- Topic 2. Scales of Measurement and Information Sources. Introduction. Information Sources. Basic Concepts. Data and variables. Scales of Measurement.
- Topic 3. Describing Univariate Data: Frequency Tables and Graphic Presentation. Frequency Tables. Graphical Presentations.
- Topic 4. Describing Univariate Data: Numerical Measures. Introduction. Location measures. Variability measures. Skewness and Curtosis. Boxplot diagrammes. Other measures.
- Topic 5. Describing Bivariate Data: Frequency Tables and Graphic Presentation. Introduction. Joint, marginal and conditional frequencies distributions. Independence. Graphical Presentations.
- Topic 6. Correlation and Simple Linear Regression. Introduction. Scatter Diagrams. Covariance and correlation. Linear regression simple: least squares criterion. Goodness of fit and correlation. Prediction. Non-linear regression.
- Topic 7. Indices Numbers. Introduction. Simple and complex indices. Deflation economic series. Link and change of base. Repercussion. Some notable economic indices.
- Topic 8. Probability. Introduction. Concept of Probability: Kolmogorov axiom?s. Laplace rule. Combinatorics. Conditional Probability. Theorem of total probability. Theorem of Bayes.
- Topic 9. Statistical Decision Theory. Introduction. Setting-up a decision problem. Decision Making under total and partial uncertainty. Bayes rule. Value and efficiency of the information.

4.4. Course planning and calendar

The teaching load translates into the following planning, which will be adapted to the specific calendar of each group and the academic year:

Date	Content	Teaching method

Session 1	Presentation Lesson 1.	Lectures
Session 2	Lessons 2 and 3.	Lectures
Session 3	Computer Practice 1	Computer Practice
Session 4	Lesson 4. Position measures I	Lectures
Session 5	Computer Practice 2.	Computer Practice
Session 6	Lesson 4. Position measures II. Dispersion and shape measures	Clase expositiva
Session 7	Computer Practice 3	Computer Practice
Session 8	Lesson 4:. Inequality measures. Overview	Clase expositiva
Session 9	Computer Practice 4	Computer Practice
Session 10	Lesson 5 Bivariate Distributions	Clase expositiva
Session 11	Computer Practice 5	Computer Practice
Session 12	Lesson 6. Regression and Correlation (1) Linear	Clase expositiva
Session 13	Computer Practice 6	Computer Practice
Session 14	Lesson 6. Regression and Correlation (1) Non Linear	Clase expositiva
Session 15	Computer Practice 7	Computer Practice
Session 16	Overview Lessons 1 to 4	Computer Practice
Session 17	Overview Lessons 5 and 6	Computer Practice
*	Intermediate Computer Test	
Session 18	Lesson 7: Index Numbers (1). Practice and theory	Lectures/practice
Session 19	Lesson 7: Index Numbers (2). Practice and theory	Lectures/practice
Session 20	Lesson 7: Index Numbers (3). Practice and theory	Lectures/practice
Session 21	Lesson 7: Index Numbers (4). Practice and theory	Lectures/practice
Session 22	Lesson 7: Index Numbers (5). Practice and theory	Lectures/practice
Session 23	Lesson 8. Probability (1). Practice and theory	Lectures/practice
Session 24	Lesson 8. Probability (2). Practice and theory	Lectures/practice
Session 25	Lesson 8. Probability (3). Practice and theory	Lectures/practice
Session 26	Lesson 8. Probability (4). Practice and theory	Lectures/practice
Session 27	Lesson 8. Probability (5). Practice and theory	Lectures/practice
Session 28	Lesson 9: Decision Analysis (1). Practice and theory	Lectures
Session 29	Lesson 9: Decision Analysis (2). Practice and theory	Practice
Session 30	Overview	Practice resolution
	Global Exam	