27509 - Statistics I

Syllabus Information

Academic Year: 2021/22
Subject: 27509 - Estadística 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

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The methodology followed in this course is oriented towards achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as such as lectures, practice sessions, computer practice sessions, and tutorials.

Classroom materials will be available via Moodle. These include a repository of the slides and lecture notes used in class, the course syllabus, as well as other learning resources such as leaning exercises, data files and outlines of the computer practices sessions.

4.2. Learning tasks

The course is worth 6 ECTS implying a workload for the student of 150 hours divided between the classroom and private study hours. This workload is distributed in the following way:

Activities	Hours in the classroom	Private study hours	Total student hours
Lectures (whole group)	30	30	60
Computer practice sessions (Two subgroups)	14	26	40
Practice sessions (Two subgroups)	12	23	35
Additional practice sessions (P6) (Two subgroups)	4	6	10
Intermediate tests (Four subgroups)	1		1
Written exam	3		3
TOTAL	64	86	150

- 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.
- Personal tutorials: These tutorials will have located in the teacher's office by appointment and will be devoted to solve particular doubts about concepts, problems, etc previously explained in the theoretical and practical ses*sions.*

The teaching delivery methodology is expected to pivot around face-to-face classes. However, if necessary for health reasons, face-to-face classes may be taught online.

4.3. Syllabus

The course will address the following topics:
- Topic 1. Statistical Methods in Business and Economics. Introduction. Historical Evolution. Concept of Statistics. 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 Diagrammes. 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 índices.
- Topic 8. Probability. Introduction. Concept of Probability: Kolmogorov axiom?s. Laplace rule. Combinatorics. Conditional Probability. Theorem of total probability. Theorem of Bayes. Introduction to random variables.
- 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. Introduction to Random Variables.

4.4. Course planning and calendar

For further details concerning the timetable, classroom and further information regarding this course please refer to the "Facultad de Economía y Empresa " website (http://econz.unizar.es/).