

**Estadística II****2014/2015**Code: 102114  
ECTS Credits: 6

Degree	Type	Year	Semester
2501231 Comptabilitat i Finances	FB	2	1
2501232 Empresa i Tecnologia	FB	2	1

**Contact**Name: Maria Dolores Márquez Cebrián  
Email: MariaDolores.Marquez@uab.cat**Use of languages**Principal working language: català (cat)  
Some groups entirely in English: Yes  
Some groups entirely in Catalan: Yes  
Some groups entirely in Spanish: No**Teachers**Nestor Garcia Alvarez  
David Moriña Soler**Objectives and Contextualisation**

This subject will enable the students to understand and apply the statistical method to solve problems characteristic of economics and business. Thus, starting from empirical evidence gathered in a given sample the students will be able to arrive to conclusions scientifically valid which will help them in decision making.

This subject must also provide students with the theoretical foundations that will enable them to follow satisfactorily other subjects (Econometrics, Econometric forecast models, Operations Research) of quantitative content as well as tools that will help them with a better understanding of subjects such as Macroeconomics, Game Theory, Marketing Research) in which some statistical concepts (theoretical or practical) can play an important role.

**Content**

## Unit 1 Introduction to Inferential Statistics

1.1 Inferential Statistics: Definition and Inference Methods

1.2 Definition and properties of Simple Random Sampling

1.3 Distribution of the main sample statistics: mean, variance and proportion

1.4 Central Limit Theorem

## Unit 2 Estimation

2.1 Objective of statistical estimation

2.2 Definition and characteristics of estimators

2.3 Properties of estimators: bias, efficiency and consistency

2.4 Methods of point estimation: maximum likelihood and method of moments

2.5 Methods of interval estimation

Unit 3 Parametric hypothesis tests

3.1 Concept of parametric test: null hypothesis and alternative hypothesis

3.2 Test statistic and error type

3.3 Tests on the population mean, population variance and population proportion

3.4 Test of differences

3.5 Analysis of Variance

Unit 4 Goodness-of-fit and analysis of the relationship between variables

4.1 Test of goodness-of-fit

4.2 Types of relationships between variables

4.3 Test of independence between qualitative variables

4.4 Analysis of the correlation between quantitative variables: correlation coefficient and hypothesis test

Unit 5 Introduction to the regression model

5.1 Objectives of the model

5.2 Hypothesis of the model specification

5.3 Estimation by Ordinary Least Squares (OLS) and their properties

5.4 Model testing

5.5 Coefficient of the goodness-of-fit and relationship between the correlation and the regression analysis

5.6 Forecasting