

## 27610 - Statistics II

### Información del Plan Docente

Academic Year 2017/18

Faculty / School 109 - Facultad de Economía y Empresa

**Degree** 450 - Degree in Marketing and Market Research

**ECTS** 6.0 **Year** 2

Semester First semester

Subject Type Compulsory

Module ---

- 1.General information
- 1.1.Introduction
- 1.2.Recommendations to take this course
- 1.3. Context and importance of this course in the degree
- 1.4. Activities and key dates
- 2.Learning goals
- 2.1.Learning goals
- 2.2.Importance of learning goals
- 3. Aims of the course and competences
- 3.1.Aims of the course
- 3.2.Competences
- 4.Assessment (1st and 2nd call)
- 4.1. Assessment tasks (description of tasks, marking system and assessment criteria)
- 5.Methodology, learning tasks, syllabus and resources
- 5.1.Methodological overview
- 5.2.Learning tasks
- 5.3.Syllabus

The content is



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Lesson 1: Discrete probability distributions.

Random variables. Discrete and continuous random variable. Probability distribution or mass function. Binomial, Hypergeometric and Poisson distributions.

Lesson 2: Continuous probability distributions.

Continuous random variable. Probability density function. Uniform and Exponential distributions. Normal distribution and related to normal distributions.

Lesson 3: Basic notions of sampling theory.

Sampling from a population. Sampling methods. Sampling distribution of statistics: Monte Carlo method. Asymptotic behavior of sampling moments. Sample-size determination.

Lesson 4: Point estimators and Interval estimation

Estimation. Building estimators: method of moments and maximum likelihood estimates. Properties of estimators.

Confidence interval. Methods of finding interval estimators. Confidence intervals for parameters of normal distribution. Some applications.

Lesson 5: Parametric hypotheses.

Basic concepts: Simple, compound, null and alternative hypotheses, significance level, power of a test. Tests of the mean and variance of a normal distribution, tests of the population proportion.

Lesson 6: Two-sample hypothesis tests.

Independent and dependent samples. Comparing proportions, means and variances: confidence intervals and tests of statistical hypotheses.

## 5.4. Course planning and calendar

# 5.5.Bibliography and recommended resources



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