

SUBJECT TEACHING GUIDE

G894 - Statistics II

Double Degree in Law and Administration and Business Management
Degree in Business Administration and Management

Academic year 2019-2020

1. IDENTIFYING DATA					
Degree	Double Degree in Law and Administration and Business Management			Type and Year	Compulsory. Year 2 Compulsory. Year 2
Faculty	Faculty of Economics and Business Studies				
Discipline	Subject Area: Statistics for Business Module: Training in Quantitative Methods				
Course unit title and code	G894 - Statistics II				
Number of ECTS credits allocated	6	Term	Semester based (1)		
Web					
Language of instruction	Spanish	English Friendly	No	Mode of delivery	Face-to-face

Department	DPTO. ECONOMIA				
Name of lecturer	VANESA JORDA GIL				
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Office	Edificio de las Facultades de Derecho y Ciencias Económicas y Empresariales. Planta: + 1. DESPACHO AYUDANTE DOCTOR (E149)				
Other lecturers	JOSE MARIA SARABIA ALEGRIA CARMEN TRUEBA SALAS JAVIER RODRIGUEZ MARTINEZ OSCAR LUIS ALONSO CIENFUEGOS				

3.1 LEARNING OUTCOMES

- Understanding the theoretical and practical fundamentals of probability
- To identify and use the main discrete and continuous probabilistic distributions
- Understanding the main concepts in statistical estimation theory
- To use these concepts for finding the solution of problems of parameters estimation through confidence intervals
- To learn the fundamentals of hypothesis-testing.
- To use the estimation procedures for problem solving by using statistical software

4. OBJECTIVES

Conceptual objectives

To learn the main concepts of statistical information

To understand the theoretical and practical fundamentals of probability and statistical inference

Procedural objectives

To manage the computer tools for problem solving

To interpret the results derived from statistical analysis

Attitudinal goals

To progress in the attainment of personal autonomy

To develop capacity team work skills

6. COURSE ORGANIZATION

CONTENTS

1	<p>Random variables: concepts and applications</p> <p>Discrete and continuous random variables: probability density function, cumulative distribution function and properties</p> <p>Bivariate random variables: concepts and properties</p> <p>Covariance, linear correlation coefficient and independence</p>
2	<p>Probability distributions</p> <p>Discrete random variables: Bernoulli, binomial, Poisson, geometric and negative binomial distributions</p> <p>Continuous random variables: normal, exponential, Pareto and lognormal distributions</p> <p>Central limit theorem</p>
3	<p>Introduction to Statistical inference: sampling and point estimation</p> <p>Population and samples</p> <p>Sampling: random and Monte Carlo sampling</p> <p>Sampling distributions: mean, variance and proportions</p> <p>Point estimation: estimators and main properties</p>
4	<p>Statistical inference: confidence intervals and hypothesis-testing</p> <p>Confidence intervals for the mean, variance and the proportion of one population</p> <p>Hypothesis-testing for the mean, variance and the proportion of one population</p>

7. ASSESSMENT METHODS AND CRITERIA

Description	Type	Final Eval.	Reassessn	%
Test 1	Written exam	No	Yes	35,00
Test 2	Written exam	No	Yes	40,00
Resolution of exercises by specific software	Laboratory evaluation	No	Yes	25,00
TOTAL				100,00
Observations				
If a student does not pass the course in the February examination session, he/she will be able to resit their exams in the September examination session. This exam will include all the contents and it will be passed if the final mark is equal to or higher than 5 points out of 10.				
Observations for part-time students				
Part-time students will take a final exam out of 10 points with all the contents of the course. If a part-time student does not pass the course in the February examination session, he/she will be able to resit the exams in the September examination session. This exam will include all the contents and it will be passed if the final mark is equal to or higher than 5 points out of 10.				

8. BIBLIOGRAPHY AND TEACHING MATERIALS

BASIC

Sarabia, J.M., Prieto, F., Jordá, V. (2016). Apuntes de Estadística II. Facultad de Ciencias Económicas y Empresariales, Universidad de Cantabria.

Sarabia, J.M., Prieto, F., Jordá, V. (2018). Prácticas de Estadística con R. Ediciones Pirámide, Madrid.