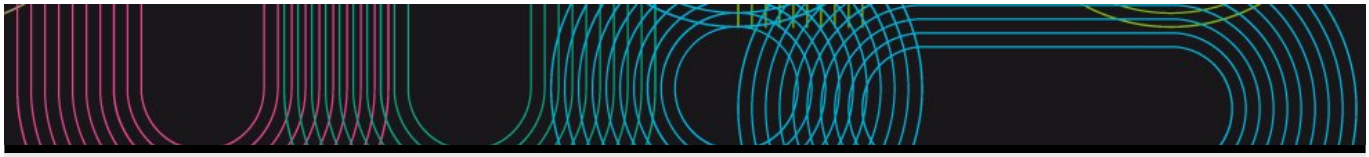
Universidade Vigo

Subject Guide 2018 / 2019



IDENTIFYING DATA				
Statistics: Statistics				
Subject	Statistics: Statistics			
Code	V03G020V01204			
Study programme	(*)Grao en Administración e Dirección de Empresas			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Basic education	1st	2nd
Teaching language	Spanish			
Department	Statistics and Operational Research			
Coordinator	Trigo Gómez, María del Pilar Lorenzo Picado, Leticia			
Lecturers	Gómez Rúa, María Lorenzo Picado, Leticia Trigo Gómez, María del Pilar			
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General description	Statistics is a basic subject where basic statistical concepts will be studied in deep: descriptive statistics, calculation of probabilities, random variables, parametric inference, and index numbers.			

Competencies	
Code	
B1	Ability to analyse and synthesise
B2	Critical and self-critical thinking
B3	Skills related to the use of those computer applications used in business management
B13	Capacity for learning and independent work
B14	Capacity to apply the theoretical and practical knowledge acquired in a specialised academic context
C7	Acquire and understand knowledge regarding: The main instrumental techniques applied to the business context
C9	Identify the generalities of the economic problems posed in companies, and know how to apply the main instruments available in order to address these problems
C10	Assess the situation and foreseeable evolution of a company based on the relevant information records
C12	Solve problems effectively and make decisions using the appropriate quantitative and qualitative methods, including the identification, expression and solution of business problems
C16	Skills in looking for, identifying and interpreting sources of relevant economic information
D3	Responsibility and the capacity to take on commitments
D4	Ethical commitment in work
D5	Motivation for quality and continuous improvement

Learning outcomes	
Expected results from this subject	Training and Learning Results
Be able to identify the statistical aspects within an empirical problem and draw conclusions from the existing information applying the concepts studied in the subject. Learn, know, apply and correctly interpret the descriptive techniques and the calculation of basic probabilities and assess their interest as a fundamental tool in data analysis.	C7 C9 C10
Effectively solve problems and issues of each of the lessons in the program using the appropriate quantitative methods.	C12
Know the importance of information and be able to assess and classify it in each decision area. Know how to correctly apply and interpret the basic descriptive techniques for the analysis of one-dimensional and two-dimensional variables.	C12 C16

Introduce the student in the use of Excel spreadsheet, in particular in the use of its statistical functions. And, in this way, favor a positive attitude towards the quantitative, in general, and the statistics, in particular, as well as towards its computer manipulation.	B3
Promote sensitivity to the values of the scientific thinking, favoring attitudes associated with the use and development of statistical methods such as: the questioning of intuitive ideas; the critical analysis of statements; the need for verification; the ability to analyze and synthesize; or the rational decision-making.	B1 B2 B13 B14
Promote an attitude of ethical commitment, focusing on: how to obtain the data; not manipulating the results or; not copying the studies of others or taking advantage of their work.	D3 D4
Awake a taste for the use and study of Statistics, seeing it as a tool that allows us to learn more about our own field of knowledge and to start carrying out our own research.	D5

Contents

Topic	
Lesson 1: Descriptive statistics.	1.1. Distribution of frequencies. 1.2. Measures of position, dispersion, and form. 1.3. Graphic representations. 1.4. Simple and complex index numbers. Properties. CPI.
Lesson 2: Probability theory.	2.1. Basic probability concepts. 2.2. Conditional probability and independent events.
Lesson 3: Random variables.	3.1. Definition of a random variable and its distribution function. 3.2. Characteristics of a random variable. 3.3. Main probability dsitributions. 3.4. Applications of the central limit theorem.
Lesson 4: Statistical inference.	4.1 Population, sample and their characteristics. Simple random sampling. Distributions associated with sampling in normal populations. 4.2. Point estimation. Concept of estimator and its properties. 4.3. Confidence intervals in normal populations. 4.4. Hypothesis testing. Formulation of hypotheses. Classic tests in normal populations.
Lesson 5. Use of statistical software of common use.	5.1. Introduction to the statistical software. 5.2. Descriptive analysis and probabilities. 5.3. Random variables and main probability distributions. 5.4. Statistical inference.

Planning

	Class hours	Hours outside the classroom	Total hours
Lecturing	22.5	45	67.5
Group tutoring	5	4	9
Problem solving	22.5	45	67.5
Essay questions exam	2	4	6

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Lecturing	The professor presents the contents on the subject under study, the theoretical bases and/or the guidelines of a work, exercise or project that the students have to develop.
Group tutoring	Interviews the students have with the teachers of the subject for advice or development of activities related to the subject and of the learning process.
Problem solving	Resolution of problems and questions of each one of the lessons in the program. Microsoft Excel software will be used.

Personalized attention

Methodologies	Description
Group tutoring	In group tutoring, each student will be able to ask the teacher any doubts he/she has about the subject. The teacher will also propose a topic to be discussed and solved among the students in the group.

Assessment

Description	Qualification	Training and Learning Results

Lecturing	Perform test type exams about each lesson.	10	B1 B2 B13 B14	C7 C9 C10 C12 C16	D3 D4 D5
Problem solving	Perform practical exercises of each lesson.	30	B3	C7 C9 C10 C12 C16	D3 D4 D5
Essay questions exam	Final exam of the subject.	60	B1 B2 B13 B14	C7 C9 C10 C12 C16	D3 D4

Other comments on the Evaluation

The evaluation system of the July evaluation will be the same as the one used in the first all in May. That is, the continuous assessment grade will be 40% of the final grade and the exam will be the remaining 60% of the grade.

The dates of the final exams of the different calls will be available in the Faculty webpage.

Sources of information

Basic Bibliography

Cao Abad, R.; Presedo Quindimil, M.A. e Naya Fernández, S., **Introducción a la estadística y sus aplicaciones**, Pirámide, 2001

Casas Sánchez, J.M. e Santos Peñas, J., **Introducción a la Estadística para Administración y Dirección de Empresas**, Centro de Estudios Ramón Areces, 2002

Martín-Pliego López, F. J. e Ruiz-Maya Pérez, L., **Fundamentos de Inferencia Estadística**, Thomson, 2005

Martín Pliego, F. J. e Ruíz-Maya, L., **Estadística I: Probabilidad.**, Thomson, 2004

Complementary Bibliography

Esteban García, J. y otros., **Estadística Descriptiva y nociones de probabilidad**, Thomson, 2005

García Pérez, C.; Casas Sánchez, J.M. e Rivera García, L.F., **Problemas de estadística descriptiva, probabilidad e inferencia**, Pirámide, 1998

Gonick, L. e Smith, W., **A Estatística en Caricaturas**, SGAPEIO, 2001

Gutiérrez, R.; Martínez, A. e Rodríguez, C., **Curso Básico de Probabilidad**, Pirámide, 1993

Levin, Rubin, Balderas, Del Valle y Gómez, **Estadística para Administración y Economía**, Prentice Hall, 2010

Martín-Pliego, Montero-Lorenzo e Ruiz-Maya, **Problemas de Inferencia Estadística**, Thomson, 2005

Recommendations

Subjects that it is recommended to have taken before

Mathematics: Mathematics/V03G020V01104