



## Teaching Guide

Identifying Data					2016/17
Subject (*)	ESTADÍSTICA		Code	730G04008	
Study programme	Grao en enxeñaría en Tecnoloxías Industriais				
Descriptors					
Cycle	Period	Year	Type	Credits	
Graduate	2nd four-month period	First	FB	6	
Language	Spanish				
Teaching method	Face-to-face				
Prerequisites					
Department	Análise Económica e Administración de Empresas				
Coordinador	Garcia del Valle, Alejandro	E-mail	alejandro.garcia.delvalle@udc.es		
Lecturers	Crespo Pereira, Diego Garcia del Valle, Alejandro Ríos Prado, Rosa	E-mail	diego.crespo@udc.es alejandro.garcia.delvalle@udc.es rosa.rios@udc.es		
Web					
General description					

## Study programme competences

Code	Study programme competences

## Learning outcomes

Learning outcomes	Study programme competences		
Capacity for abstraction, understanding, analysis and simplification of instances and processes.	A1	B2 B3 B4 B5 B6 B7	C1 C4
Using statistical software for solving engineering problems involving randomness and large volume of data.	A1		C1
Ability to solve statistical problems encountered in engineering.	A1		C1

## Contents

Topic	Sub-topic
Introduction to Statistics	
2. Exploratory data analysis.	
3. Probability.	
4. Random variables.	
5. Discrete random variables and probability distributions.	
6. Continuous random variables and probability distributions.	
7. Joint probability distributions.	
8. Statistical inference.	
9. Point estimation of parameters.	
10. Statistical intervals for a single sample.	
11. Test of hypotheses for a single sample.	
12. Regression and analysis of variance (ANOVA).	

## Planning

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Methodologies / tests	Competencies	Ordinary class hours	Student's personal work hours	Total hours
Guest lecture / keynote speech	A1 B2 B7	30	36	66
Problem solving	B3 B4 B5 C1 C4	20	18	38
ICT practicals	A1 B6	10	10	20
Mixed objective/subjective test	A1 B2 B3 B4 B5	3	9	12
Objective test	A1 B2 B3 B4	3	9	12
Personalized attention		2	0	2

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

Methodologies	
Methodologies	Description
Guest lecture / keynote speech	Lectures about the course topics.
Problem solving	Solving exercises and statistical problems encountered in engineering.
ICT practicals	Resolution of practical cases of statistical problems by Excel.
Mixed objective/subjective test	Midterm exam of the first issues of the subject.
Objective test	Final exam

Personalized attention	
Methodologies	Description
ICT practicals Objective test Mixed objective/subjective test	The personalized attention will be made in the tutorials.

Assessment			
Methodologies	Competencies	Description	Qualification
ICT practicals	A1 B6	Evaluation of case studies solved in small groups.	25
Objective test	A1 B2 B3 B4	Final exam with test questions and troubleshooting.	50
Mixed objective/subjective test	A1 B2 B3 B4 B5	Midterm exam with test questions and troubleshooting.	25

Assessment comments
<p>IMPORTANT: Attendance to at least the 80% of classes is required in order to pass the course, unless justified and authorized by the professor. Students who do not meet this requirement will have the qualification of SUSPENSE. The "students with recognition of a part-time academic and exemption of assistance" will communicate at the beginning of the course your situation to the teachers of the subject, as established by the "Standard that regulates the dedication to the study of undergraduates in the UDC "(Art.3.be 4.5) and the " Standards for evaluation, review and claim of the qualifications of undergraduate and master's degree (Art. 3 and 8b). Students in this situation will be assessed on the date approved by the School Board, by an objective test consisting of solving exercises on the contents of step 3 of the Guide.</p>

Sources of information	
Basic	<ul style="list-style-type: none"> <li>- García del Valle, Alejandro; Crespo, Diego (2010). Apuntes de Estadística para Ingenieros. Moodle UDC</li> <li>- Douglas C. Montgomery, George C. Runger (2011). Applied Statistics and Probability for Engineers. John Wiley</li> </ul>



<b>Complementary</b>	- S. Christian Albright, Wayne Winston, Christopher J. Zappe (1999). Data Analysis &&&&&&& Decision Making with Microsoft Excel. Duxbury - Ronald E. Warpole (1999). Probabilidad y Estadística para Ingenieros. Pearson
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#### Recommendations

##### Subjects that it is recommended to have taken before

##### Subjects that are recommended to be taken simultaneously

##### Subjects that continue the syllabus

ORGANIZACIÓN DE EMPRESAS/730G03024

SIMULACIÓN DE PROCESOS INDUSTRIAIS E OPTIMIZACIÓN/730G04065

##### Other comments

Existe unha bibliografía moi ampla e actualizada sobre Estatística na biblioteca da Escola Politécnica Superior (moita dela en inglés). Os apuntamentos da materia estarán dispoñibles en Moodle así como os enunciados de casos propostos.

(\*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.