Universida_{de}Vigo

Subject Guide 2023 / 2024

IDENTIFYIN	G DATA			
Statistics: 9	<u> </u>			
Subject	Statistics:			
•	Statistics			
Code	004G020V01204			
Study	Grado en			
programme	Administración y			
	Dirección de			
	Empresas			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Basic education	1st	2nd
Teaching	Spanish	,		
language	Galician			
Department			'	
Coordinator	Mosquera Rodríguez, Manuel Alfredo			
Lecturers	Mosquera Rodríguez, Manuel Alfredo			
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Web				
General	The subject "Statistics" is a subject of basic education	on where the basic sta	atistical concept	ts will be studied,
description	starting from the subjects of descriptive statistics, c inference and index numbers.			

Training and Learning Results 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
- 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

Expected results from this subject	
Expected results from this subject	Training and Learning
	Results
Be able to identify the statistical appearances inside an empirical problem and elaborate	C7
conclusions from the existent information applying the concepts studied in the matter. Know,	C9
know, apply and interpret properly the descriptive technicians and of calculation of basic	C10
probabilities and value his interest like fundamental tool in the analysis of data.	
Solve of effective way problems and questions of each one of the subjects of the program using	C12
the appropriate quantitative methods.	
Know the importance of the information and be able to value it and classify it in each field of	C12
decision. Know apply and interpret properly the basic descriptive technicians for the analysis of	C16
one-dimensional and two-dimensional variables.	

Enter to the student in the handle of computer packages related with the statistics. Of this way, favour a positive attitude to the quantitative, in general, and the statistics, in particular, as well as to his computer manipulation.	В3
Encourage sensitivity towards the values of scientific thought, favouring attitudes associated with	B1
the use and development of statistical methods such as questioning intuitive ideas, critical analysi	sB2
of statements, the need for verification, the capacity for analysis and synthesis or rational	B13
decision-making.	B14
Improve an attitude of ethical commitment, focusing in the obtaining of the data, to the no	D3
manipulation of the results or the not copying the studies of others neither take advantage of of	D4
his work.	
Wake up the taste by the use and study of the Statistics, seeing it as a tool that allows to learn	D5
more on the own field of knowledge and initiate in the realisation of own investigations.	

Contents	
Topic	
Subject 1. Descriptive statistics	1.1 Frequency distributions.
	1.2 Measures of position, dispersion and form.
	1.3 Graphic representations.
	1.4. Simple and complex index numbers. Properties. IPC.
Subject 2. Introduction to the calculation of	2.1 Basic concepts of the calculation of probabilities.
probabilities	2.2 Conditional probabilities and concept of independence.
Subject 3. Random variables	3.1 Definition of a random variable and his distribution function.
	3.2 Characteristics of a random variable.
	3.3 Main distributions of probability.
	3.4 Applications of the Central Limit Theorem.
Subject 4. Concepts and methodological	4.1 Population, sample and his characteristics. Simple random sampling.
principles of statistical inference	Sampling distributions in normal populations.
	4.2 Point estimation. Concept of estimator and his properties.
	4.3 Confidence intervals in normal populations.
	4.4 Hypothesis testing. Hypothesis statement. Classical testings in normal
	populations.
Subject 5. Use of common statistical packages.	5.1 Introduction to the use of the statistical package.
	5.2 Descriptive analyses and calculation of probabilities.
	5.3 Random variables and main distributions of probability.
	5.4 Statistical inference.

Planning			
	Class hours	Hours outside the classroom	Total hours
Lecturing	22	33	55
Previous studies	0	11	11
Autonomous problem solving	20	30	50
Practices through ICT	0	10	10
Essay questions exam	5	10	15
Problem and/or exercise solving	3	6	9

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

Methodologies	
	Description
Lecturing	Exhibition by part of the professor or through material put to disposal of the students in the platform of Remote Campus or virtual platform, of the contents on the matter object of study, theoretical bases and/or guidelines of a work, exercise or project to develop by the student.
Previous studies	Research, reading and work of documentation that makes the students of autonomous form.
Autonomous problem solving	Resolution of problems and questions of each one of the subjects of the program of the subject. Suitable software will be used.
Practices through ICT	Activities of application of the knowledges and of acquisition of basic and procedural skills related with the matter. They developed through ICT and of autonomous form.

Personalized assistance			
Methodologies	Description		
	The students will resolve problems that the professor have commissioned them and will be able to expose doubts on the subject to the professor.		

Assessment

	Description	Qualification	Training and Learning Results		
Lecturing	Realisation of exams of each subject	20	B13 B14	C7 C9 C10 C12	D3 D4 D5
Essay questions exam	Proofs of evaluation of the matter	40	B1 B2 B13 B14	C7 C9 C10 C12 C16	D3 D4
Problem and/or exercise solving	Realisation of exams on the practices	40	B3 B13 B14	C7 C9 C10 C12 C16	D3 D4 D5

Other comments on the Evaluation

According to the procedure and the period established by the centre, the students will have to decide his method of evaluation between the following:

- **CONTINUOUS EVALUATION:** it will consist of the activities of evaluation and weightings established in the upper table, taking into account that:
 - The students that reach a weighted note equal or upper to 5 ptos. (On 10) it will be described in records with this final note.
 - The students that reach a weighted note **smaller than 5 ptos.** (On 10) will have the obligation to go to a final exam that will represent 100% of the final note. The students in this situation that do not assist to this final exam will have the final qualification of "Not presented".
 - The activities of evaluation to realize will depend on the number of students, means to work, etc. The student will be informed of any change that may occur due to unforeseen situations.
 - Will be able to implement alternative methodologies to determine if the students can or not following with the continuous evaluation.
- **GLOBAL EVALUATION:** it will consist of a final exam, with a weight of 100% of the final note and has two parts: a part of exercises and another of theory and practical with computer.

For the evaluation of **Second Opportunity and End of Career** will follow the method of global evaluation.

That student that use or cooperate in **fraudulent procedures** (copy, present by another student, plagiarism, ...) in any of the activities of evaluation will have a **final grade of failling in this academic course**. This fact will be communicated to the competent authority so that it could take the corresponding disciplinary actions that consider timely.

The dates and schedules of the evaluation exams of the different periods are the specified in the calendar of evaluation exams approved by the Board of Centre for the current academic year.

Sources of information

Basic Bibliography

Arriaza Gómez, A. J.; Fernández Palacín, F.; López Sánchez, M. A.; Muñoz Márquez, M.; Pérez Plaza, S, **Estadística Básica con R y R-Commander**, Universidad de Cádiz, 2008

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

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

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

Levin, R.I. y Rubin, D.S., **Estadística para Administración y Economía**, 7, Pearson Prentice Hall, 2010

Martín-Pliego F. J.; Montero-Lorenzo, J. M. y Ruíz-Maya, L., Problemas de Inferencia Estadística, AC, 2002

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

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Newbold, P.; Carlson, W. L. y Thorne, B., **Estadística para Administración y Economía**, 8, Pearson Prentice Hall, 2013

Complementary Bibliography

Casas Sánchez, J.M. y Santos Peñas, J., **Introducción a la Estadística para Economía y Administración de Empresas**, Centro de Estudios Ramón Areces, 1995

Espejo Miranda, I.; Fernández Palacín, F.; López Sánchez, M. A.; Muñoz Márquez, M.; A. M. Rodríguez, **Estadística Descriptiva y Probabilidad**, Universidad de Cádiz, 2006

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

Mirás Calvo, M. A. y Sánchez Rodríguez, M. E., **Técnicas estadísticas con hoja de cálculo y R. Azar y variabilidad en las ciencias naturales**, Universidade de Vigo, 2018

Recommendations

Subjects that continue the syllabus

Econometrics/O04G020V01304

Statistical operational techniques/004G020V01912

Subjects that it is recommended to have taken before

Mathematics: Mathematics/O04G020V01104

Other comments

It recommends:

- * basic knowledges of computing in general
- * A Personal Computer with Windows OS (in others OS will not guarantee the operation of the necessary software)
- * Internete connection sufficiently fast to be able to consult MOOVI, Remote Campus and videos of low resolution of platforms like YouTube, Vimeo, ...