IDENTIFYING DATA

Statistics: Statistics

Subject	Statistics: Statistics			
Code	O04G020V01204			
Study programme	Grado en Administración y Dirección de Empresas			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Basic education	1st	2nd
Teaching language	Spanish Galician			
Department				
Coordinator	Mosquera Rodríguez, Manuel Alfredo			
Lecturers	Mosquera Rodríguez, Manuel Alfredo Pérez González, Ana			
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Web				
General description	The subject "Statistics" is a subject of basic education where the basic statistical concepts will be studied, starting from the subjects of descriptive statistics, calculation of probabilities, random variables, statistical 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 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 conclusions from the existent information applying the concepts studied in the matter. Know, know, apply and interpret properly the descriptive technicians and of calculation of basic probabilities and value his interest like fundamental tool in the analysis of data.	C7 C9 C10
Solve of effective way problems and questions of each one of the subjects of the program using the appropriate quantitative methods.	C12
Know the importance of the information and be able to value it and classify it in each field of decision. Know apply and interpret properly the basic descriptive technicians for the analysis of one-dimensional and two-dimensional variables.	C12 C16

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.	B3
Encourage sensitivity towards the values of scientific thought, favouring attitudes associated with the use and development of statistical methods such as questioning intuitive ideas, critical analysis of statements, the need for verification, the capacity for analysis and synthesis or rational decision-making.	B1 B2 B13 B14
Improve an attitude of ethical commitment, focusing in the obtaining of the data, to the no manipulation of the results or the not copying the studies of others neither take advantage of of his work.	D3 D4
Wake up the taste by the use and study of the Statistics, seeing it as a tool that allows to learn more on the own field of knowledge and initiate in the realisation of own investigations.	D5

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 probabilities	2.1 Basic concepts of the calculation of 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 principles of statistical inference	4.1 Population, sample and his characteristics. Simple random sampling. 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
Autonomous problem solving	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

Martín Pliego, F. J. y Ruíz-Maya, L., **Fundamentos de Inferencia Estadística**, Thomson, 2005

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

Espejo Miranda, I.; Fernández Palacín, F.; López Sánchez, M. A.; Muñoz Márquez, M.; A. M. Rodríguez, **Inferencia Estadística**, Universidad de Cádiz, 2007

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/O04G020V01912

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, ...