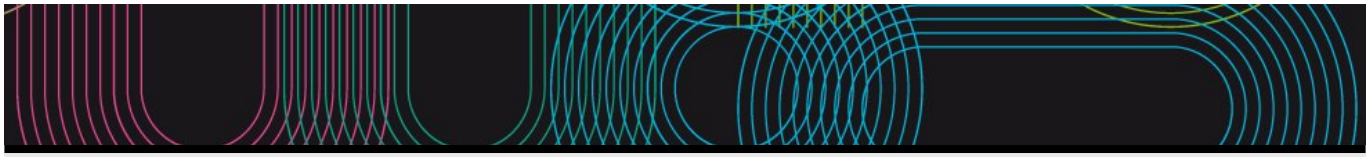
Universidade Vigo

Subject Guide 2018 / 2019



IDENTIFYING DATA				
Statistics: Introduction to administrative statistics				
Subject	Statistics: Introduction to administrative statistics			
Code	P04G091V01202			
Study programme	(*)Grao en Dirección e Xestión Pública			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	6	Basic education	1st	2nd
Teaching language	Spanish Galician English			
Department	Statistics and Operational Research			
Coordinator	Vidal Puga, Juan José			
Lecturers	Novegil Souto, José Vicente Vidal Puga, Juan José			
E-mail	vidalpuga@uvigo.es			
Web	http://vidalpuga.webs.uvigo.es			
General description	Basic notions of statistics are provided for their application in management and public administration.			

Competencies	
Code	
A1	Students have demonstrated to possess and understand knowledge in an area of study that starts from the base of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that imply knowledge coming from the vanguard of his field of study.
A2	Students know how to apply their knowledge to their work or vocation in a professional manner and possess the skills that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study.
A3	Students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical issues.
A4	Students can transmit information, ideas, problems and solutions to a specialized and non-specialized audience.
A5	Students develop those skills of necessary learning to undertake back studies with a high degree of autonomy.
B1	Skills in the search for information, in relation to primary and secondary information sources, including the use of computers for online searches
B2	Ability to analyze, synthesize and integrate knowledge and planning for the preparation of judgments with limited information
B4	Comunicación a través de Internet y, en general, manejo de herramientas multimedia para la comunicación a distancia
B5	Ser capaz de interpretar datos derivados de las observaciones en relación con su significación y relacionarlos con las teorías apropiadas en el ámbito de la dirección y gestión pública
C8	Saber aplicar métodos, modelos y técnicas de datos cualitativos y cuantitativos (estadísticos) para procesos de gestión y dirección pública
D4	Skill for independent resolution of problems in relation with information qualitative and quantitative know
D5	Capacity for taking autonomous and independent decisions Know be / be
D7	Motivación por la calidad y la mejora continua y la innovación
D9	Capacity to create critical thinking and self-criticism

Learning outcomes				
Expected results from this subject	Training and Learning Results			
Distinguish and differentiate the basic concepts of the statistical analysis: individual, observation, case, variable, value, category, data, population and sample.	A5	B2	C8	D4 D9

Classify the variables according to the type of values that can take and the operations that can realise with them.	A1 A3 A5	B2 B5	C8	D4 D9
Identify the basic forms of sampling.	A1 A2 A3	B1		D7 D9
Use on-line questionnaires.	A3 A5	B1 B4	C8	D4 D9
Order, organise and summarice one-dimensional data by tables.	A1 A2 A3 A4 A5	B2 B5	C8	
Illustrate the behaviour of variables by means of suitable graphic representations.	A1 A2 A3 A4	B2 B5	C8	D4 D7 D9
Calculate and interpret the main measures of position, dispersion and form.	A1 A2 A3 A4	B2 B5	C8	D5 D7 D9
Recognise and describe the relation between two variables.	A1 A4	B2 B5	C8	D4 D5 D7 D9
Simple analysis of information: series, formulas and tables.	A1 A4 A5	B2 B5	C8	D5 D7
Basic descriptive analysis of a one-dimensional statistical variable: tables and graphic representations.	A1 A2 A3 A4 A5	B2 B5	C8	
Create tables with data grouped by intervals.	A1 A2 A3 A4 A5	B2 B5	C8	D4
Represent a continuous one-dimensional statistical variable by histograms, area charts and polygons of frequencies.	A1 A3 A4 A5	B2 B5	C8	D4 D7
Simulate a process of sampling.		B2 B5		D4 D5 D7 D9
Represent a discrete numerical variable.	A1 A3 A4 A5	B2 B5	C8	
Calculate the functions for descriptive measures of a quantitative variable.	A1 A2	B2	C8	D4 D7
Create new variables from others already existent.	A1 A2 A5		C8	D4 D7
Descriptive analysis of two statistical variables of continuous quantitative type: graphic representation by means of diagrams of dispersion, calculation and interpretation of the covariance, the coefficient of correlation and the coefficient of determination, and linear prediction.	A1 A2 A4 A5	B2 B5	C8	D4
Use spreadsheets to describe the relation between two qualitative variables: graphic representation by means of charts of bars and of columns grouped and piled, calculation and interpretation of the Chi-square value, the coefficient of association and the coefficient of contingency.	A1 A2 A4	B2 B5	C8	D4 D5 D7 D9
Quote the main organic appearances and legislative of the statistical systems publics in either European, Spanish and Galician levels.	A5			D7

Find and analyse the distinct public statistics from the databases of the European Union, Spain and Galicia.	A3	B1 B2 B4 B5	C8	D4

Contents	
Topic	
Chapter 1. Basic concepts in Statistics	Population, sample data, types of data. Tables. Graphical representation.
Chapter 2. Univariate analysis	Tendency, dispersion and shape of a single variable.
Chapter 3: Bivariate analysis	Contingency tables, graphical representation via scatterplots and grouped bar charts. Correlation and association.
Chapter 4: Public statistics	Organisation of the statistical activity in the administrations: local (Galicia), national (Spain) and international (Europe). Legislation. Access and basic manipulation of official database (EuroStat, INEBase, IGE)
Chapter 5: Introduction to Statistical Computing	Introduction to electronic spreadsheets with statistical functions. Resolution of practical cases.

Planning	Class hours	Hours outside the classroom	Total hours
Introductory activities	1	0	1
Lecturing	15	0	15
Problem solving	14	0	14
Autonomous problem solving	0	85	85
Computer practices	9	0	9
Autonomous problem solving	0	20	20
Short answer tests	3	0	3
Laboratory practice	3	0	3
*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.			

Methodologies	Description
Introductory activities	Introductory activities.
Lecturing	Basic concepts and theory.
Problem solving	Resolution of problems and/or exercises.
Autonomous problem solving	Resolution of proposed problems and/or exercises.
Computer practices	Use of computer tools applied to Statistics.
Autonomous problem solving	Resolution of proposed problems and/or exercises. The students should upload the answers on time using the eLearning platform.

Personalized attention	
Methodologies	**Description**
Problem solving	The exercises realised in class will be corrected in the same session.
Lecturing	Very applied.
Computer practices	Students will practice the contents.
Introductory activities	Presentation at the beginning of the course, where planning, methodology and evaluation will be explained.
Autonomous problem solving	Generally, the resolution of the proposed exercises will be available so that the students can check their answers.

Assessment	Description	Qualification	Training and Learning Results			
Autonomous problem solving	Individual assignments proposed at the theoretical and practical classes.	20	A1 A2 A3 A4 A5	B1 B2 B4 B5	C8	D4 D5 D7 D9

Short answer tests	Evaluation of the theory.	40	A1 A2 A4 A5	B1 B2 B5	C8	D4 D5 D7 D9
Laboratory practice	Use of computer tools to practice the theory.	40	A5	B1 B2 B4	C8	D4 D5 D7

Other comments on the Evaluation

There will be proposed activities to be done individually, in addition to the use of forums on the webpage. There may be up to two partial midterm exams, apart from the final one in the official dates.

They exist three ways to pass the subject:

- Continuous evaluation.
- Semi continuous evaluation, where selected activities count around 20%-30% of the final qualification.
- Final exam alone.

July evaluaciton (second call): Single exam.

Sources of information

Basic Bibliography

Vidal Puga, J., **Apuntes de clase**,

Complementary Bibliography

Alba Fernández, V.; Muñoz Vázquez, A., **Introducción a la Estadística Pública**, Universidad de Jaén, 2000
Cao Abad, R. et al., **Introducción a la estadística y sus aplicaciones**, Pirámide, 2001
Martín Pliego, F.J., **Introducción a la Estadística económica y empresarial: teoría y práctica**, Thomson, 2005
Gallardo, Agneta, **Curso básico de LibreOffice Calc**, SlideShare, 2017
Pérez López, C., **Estadística aplicada a través de Excel**, Pearson Prentice Hall, 2002
IGE, **Portal Educativo**,
Ritchey, F.J., **Estadística para las ciencias sociales**, Segunda edición, McGraw-Hill, 2008

Recommendations

Subjects that continue the syllabus

Social research techniques and methodologies applied to public administrations/P04G091V01604

Other comments

Both in-class and blended learning share the same study plan, whose subjects (from 1st to 4th) help to develop a learning of competitions based in the continuous evaluation.