

**Información del Plan Docente**

<b>Academic Year</b>	2017/18
<b>Faculty / School</b>	109 - Facultad de Economía y Empresa
<b>Degree</b>	449 - Degree in Finance and Accounting
<b>ECTS</b>	6.0
<b>Year</b>	1
<b>Semester</b>	Second semester
<b>Subject Type</b>	Basic Education
<b>Module</b>	---

**1.General information****1.1.Introduction****1.2.Recommendations to take this course****1.3.Context and importance of this course in the degree****1.4.Activities and key dates****2.Learning goals****2.1.Learning goals****2.2.Importance of learning goals****3.Aims of the course and competences****3.1.Aims of the course****3.2.Competences****4.Assessment (1st and 2nd call)****4.1.Assessment tasks (description of tasks, marking system and assessment criteria)****5.Methodology, learning tasks, syllabus and resources****5.1.Methodological overview**

The learning process of this subject is based on a set of theoretical and practical sessions using the blackboard and the computer resources.

**5.2.Learning tasks**

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There are programmed several types of learning activities in order to achieve the objectives of the subject.

(\*) *Theoretical sessions* : These sessions will be taught by means of participative master classes where a set of slides will be used in order to explain the theoretical part of the subject. The aim of these sessions will be to establish the theoretical foundations of each theme, illustrating the studied concepts and ideas by means of illustrative practical examples. It is recommended to attend to these sessions because, in our experience, the theoretical part of the subject is the more difficult part to understand and study.

(\*\*) *Practical Blackboard sessions* : These sessions will be devoted to the resolution of illustrative problems in the blackboard. To that aim an illustrative set of completely solved problems will be given to the students together with a set of some unsolved problems with their final solutions. In these sessions some of these problems will be solved in the blackboard by promoting the participation of the students in their resolution.

(\*\*\*) *Practical computer sessions* : These sessions will be carried out in the computer rooms with the students working by teams. In these classes some supervised problems will be set-up by the teacher and will be solved by the different teams during half hour with a posterior half an hour to discuss among all the groups, the obtained results.

(\*\*\*\*) *Personal tutorials* : These tutorials will have located in the teacher's office by appointment and will be devoted to solve particular doubts about concepts, problems, etc previously explained in the theoretical and practical sessions.

Platform *Moodle 2.0* will be used to publish all the theoretical and practical materials and all the information about the development of the subject along time.

Teaching activities (in credits ECTS): 6 ECTS=150h

Activities	Teaching hours	Hours of personal work	Total
Theoretical sessions (one group)	30	30	60
	22	43	65
<i>Practical computer sessions</i> (two subgroups)	4	6	10
Practical blackboard sessions (two subgroups)	4	6	10
	2		2
Practical P6 (two subgroups)	3		3
Computer Tests (four subgroups)			
Final exam			

<b>TOTAL</b>	65	85	150
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### **5.3.Syllabus**

#### **Lesson 1: Statistical Methods in Business and Economics**

Introductio. Historical Evolution. Concept of Estadistics. The statistical method. Statistics in Business and Economics

#### **Lesson 2: Scales of Measurement and Information Sources**

Introduction. Information Sources. Basic Concepts. Data and variables. Scales of Measurement.

#### **Lesson 3: Describing Univariate Data: Frequency Tables and Graphic Presentation.**

Frequency Tables. Graphical Presentations

#### **Lesson 4: Describing Univariate Data: Numerical Measures**

Introduction. Location measures. Variability measures. Skewness and Curtosis. Boxplot diagrammes. Other measures.

#### **Lesson 5: Describing Bivariate Data: Frequency Tables and Graphic Presentation**

Introduction. Joint, marginal and conditional frequencies distributions. Independence. Graphical Presentations.

#### **Lesson 6: Correlation and Simple Linear Regression**

Introduction. Scatter Diagrammes. Covariance and correlation. Linear regression simple: least squares criterion. Goodness of fit and correlation. Prediction. Non-linear regression.

#### **Lesson 7: Indices Numbers**

Introduction. Simple and complex indices. Deflation economic series. Link and change of base. Repercussion. Some notable economic índices.

#### **Lesson 8: Probability**

Introduction. Concept of Probability: Kolmogorov axiom's. Laplace rule. Combinatorics. Conditional Probability. Theorem of total probability. Theorem of Bayes.

#### **Lesson 9: Statistical Decision Theory**

Introduction. Setting-up a decision problem. Decision Making under total and partial uncertainty. Bayes rule. Value and efficiency of the information.

#### 5.4.Course planning and calendar

Date	Contents	Session
First week	Presentation.	Theoretical
	Lessons 1 and 2	Theoretical
Second week	Lesson 3	Theoretical
	Problems Lessons 1 and 2	Practical computer
Third week	Lesson 4	Theoretical
	Problems Lessons 3	Practical computer
Fourth week	Lesson 4	Theoretical
	Problems Lesson 4	Practical blackboard
Fifth week	Lesson 4	Theoretical
	Computer practice Lessons 2 to 4	Practical computer
Sixth week	Lesson 5	Theoretical
	Computer practice Lessons 2 to 4	Practical computer
	Problems Lesson 5	Practical blackboard
Seventh week	Lesson 6	Theoretical
	Problems Lesson 6	Practical computer

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Eighth week	Lesson 6	Theoretical
	First intermediate exam (Lessons 2 to 4)	
Ninth week	Lesson 7	Theoretical
	Problems Lesson 6	Practical blackboard
Tenth week	Lesson 7	Theoretical
	Problems Lesson 5 and 6	Practical computer
Eleventh week	Lesson 8	Theoretical
	Problems Lesson 7	Practical blackboard
Twelfth week	Lesson 8	Theoretical
	Second intermediate exam (Lessons 5 and 6)	
Thirteenth week	Lesson 8	Theoretical
	Problems Lesson 8	Practical blackboard
Fourteenth week	Lesson 9	Theoretical
	Problems Lesson 8	Practical blackboard
	Problem Lesson 9	Practical blackboard
Fifteenth week	Lesson 9	Theoretical
	Problems Lesson 9	Practical blackboard
	Final exam (lessons 7 to 9)	

## 5.5. Bibliography and recommended resources

[BB: Bibliografía básica / BC: Bibliografía complementaria]

- [BB] Lind, Douglas A.. Estadística aplicada a los negocios y a la economía / Douglas A. Lind, William G. Marchal, Samuel A. Wathen ; revisión técnica, Ofelia Vizcaíno Díaz ... [et al.] . 16ª ed. México D.F. : McGraw-Hill, cop. 2015
- [BB] Newbold, Paul. Estadística para administración y economía / Paul Newbold , William L. Carlson, Betty M. Thorne ; traducción, Esther Rabasco Espáriz . 8ª ed. Madrid : Pearson Educación, [2013]
- [BB] Pérez López, César. Estadística aplicada a través de Excel / César Pérez López . Reimp. Madrid [etc.] : Prentice Hall, 2011
- [BC] Manual de Estadística Empresarial con ejercicios resueltos / Eva Ropero Moriones (coordinadora) . - 1ª ed. Madrid : Delta Publicaciones Universitarias, D.L.2009.

Listado de URL

- Índice de precios de consumo (IPC), Base 2006. Metodología. [23/06/2015]  
[<http://www.ine.es/daco/daco43/metoipc06.pdf>]
- Índice de precios de consumo armonizado, EU. Metodología general. [23/06/2015]  
[<http://www.ine.es/daco/daco43/notaipca.htm>]
- Portal de Eurostat. [23/06/2015] [<http://ec.europa.eu/eurostat>]
- Portal del Instituto Aragonés de Estadística. [23/06/2015] [<http://www.aragon.es/iaest>]