

Universidad Pablo de Olavide

COURSE SYLLABUS

Academic year 2009/2010

BASIC COURSE INFORMATION

COURSE: BUSINESS STATISTICS I (Estadística Empresarial I – English group)		DEGREE IN: BUSINESS ADMINISTRATION AND MANAGEMENT	
CODE: 501056	STUDY PLAN: 2009		
TYPE: CORE	ECTS CREDITS: 6	ORGANIZATIONAL MODEL: C1	
DURATION: SEMI-ANNUAL	YEAR: 1st	TERM: 2nd	

1. TEACHING TEAM INFORMATION

COURSE COORDINATORS:

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OTHER TEACHERS:

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SPECIFIC COURSE INFORMATION

2. COURSE DESCRIPTION AND OBJECTIVES

This subject intends to initiate students into basic notions about Descriptive Statistics, Probability Calculus and Statistical Inference. The first will include: the development of statistical analysis of real business and economic data, the knowledge of the most popular index numbers (consumer price index, industrial production index, etc.), the introduction to the classic analysis of time series. The latter will include: probability calculus, which intends to obtain a sufficient theoretical basis to develop probabilistic models and inferential methods in the future. Finally, some considerations about main statistical sources of economic data, as its location and searching are studied complementarily. Basic objectives of the subject are to teach students theoretical and practical foundations of statistical analysis and to teach the usage of modern computer techniques (SPSS, Excel) applied in Statistics. During the subjects constant reference to real business and economic problems will be made, with the objective of assimilating easy and intuitively studied concepts. Another aspect that will be looked at will be the organization and sources of public statistics.

3. ACADEMIC CONTEXT

3.1. PREREQUISITES:

Basic knowledge of Mathematics I is needed, especially on solving equation systems, optimization and simple-multiple integration.

3.2. CONTEXT WITHIN THE DEGREE:

This module intends to provide the student with the tools for data analysis that let them assess and forecast the behaviour of economic, social and business events. Such learning is completed with suitable IT tools.

3.3. RECOMMENDATIONS:

Due to the instrumental character of the subject, there are many careers related to statistical application to the business world, e.g. economics research institutions, consulting, enterprises and corporations, public administration potentially need graduates specialized in management and analysis of statistical data. Probability Calculus and knowledge about random variables are going to be foundations of Business Statistics II and, later, of Statistical & Econometric Methods. There, all acquired knowledge will be applied to the business-economic real world. Beyond this direct relation with other associated subjects, statistics is a subject of continuous usage in other subjects of the degree.

3.4. LEARNING TARGETS:

3.4.1. GENERAL SKILLS:

Systematic Competences:

- Self-learning
- Creativity
- Ability to adapt to new environments
- Initiative and entrepreneurship
- Motivation for quality

Personal Competences:

- Team work
- Ability for personal relations
- Critical and logic reasoning
- Ethical compromise in work
- Working under pressure

Instrumental Competences:

- Analysis and synthesis
- Organization and planning
- Usage of Information Technology

- Searching for statistical information
- Defining and solving specific problems about business and economic topics
- Decision Making

3.4.2. SPECIFIC SKILLS:

- Knowing and applying basic statistical concepts to real business

4. DISTRIBUTION OF IN-CLASS LEARNING

No. OF STUDENTS: -

GROUP TYPE	STUDENTS PER GROUP	No. OF GROUPS
GENERAL TEACHING (GT)	-	1
PRACTICAL TEACHING (PT)	-	1
SEMINARS (SEM)	0	0

5. STUDENT LEARNING

TOTAL No. OF HOURS: 150 (6 ECTS CREDITS)

GROUP TYPE	HOURS PER STUDENT	CREDITS PER STUDENT
GENERAL TEACHING (GT)	22.50	0.90
PRACTICAL TEACHING (PT)	22.50	0.90
SEMINARS (SEM)	-	-
SELF-STUDY AND TUTORIALS	100.00	4.00
ASSESSMENT AND GRADING	5.00	0.20
TOTAL	150.00	6.00

6. ASSESSMENT AND GRADING

The assessment for this subject will be based on a set of activities on a continuous, formative assessment basis. Each activity will have a different weighting on the final mark, set according to complexity, effort needed and time devoted by the student.

All teaching activities (BT and PDT) will be assessed in the following way:

General Teaching Assessment (final exam):

The final exam will take place at the end of the term. It will consist of a set of theoretical questions, theoretical practical exercises and problems related to subject contents. Students must show the acquired competences. The weighting of this part of the assessment on the final mark is 50%.

Practical Teaching Assessment (continuous assessment):

There will be a test to evaluate the progress of the student as well as individual projects. This part is exclusively under an continuous assessment scheme and the weighting of it on the final mark is 30%. It can not be retaken.

Three assessed computer sessions will take place with the objective of showing the usage of common statistical software packages (SPSS, MS Excel). This score can be retaken in an exam that will be at the same time as the final exams (BT).

Minimum scores:

General Teaching Assessment: 1,5 points out of 5

Computer Labs Assessment: 1 point out of 2

To pass the subject the student must obtain at least 5 points out of 10, between scores in General Teaching (50%) and Practical Teaching (50%).

Resit exam (July):

The resit exam will take place in July. General Teaching (50%) will be assessed again and a retake of computer labs (20%) will be allowed for those who fail at the continuous assessment and at the retake. The

final mark will be the mark in the resit exam plus the mark in the continuous assessment (30%) that can not be retaken.

Student mobility:

Those UPO students who are not able to attend seminars due to being abroad under official mobility programs (Socrates-Erasmus, Séneca, Atlanticus...) will have an additional exam, or work that will be clearly defined, in order to obtain the 50% of the grade corresponding to the continuous evaluation. Students in this situation must inform the responsible lecturers at the beginning of the academic year, before the 15th of March, 2010.

7. CONTENTS

Unit 1: ONE-DIMENSIONAL FREQUENCY DISTRIBUTIONS.

1. Statistics: Definition & Objectives. Basic Concepts. Tasks in any statistical research.
2. Frequency Distribution for a characteristic. Graphic Representations
3. Measures of Central & non-Central.
4. Measures of Tendency, Dispersion and Shape.
5. Concentration Measurements: the Gini's Index & the Lorentz's Curve.

Unit 2: JOINT FREQUENCY DISTRIBUTIONS. REGRESSION.

1. Joint Frequency Distributions for two characteristics: Correlation and Contingency Tables.
2. Functional and Statistical Dependence.
3. Linear Simple Regression and Correlation. Introduction to Linear Multiple Regression.
4. Non linear fitting.
5. Study of the association of qualitative variables.

Unit 3: STATISTICS OF THE BUSINESS WORLD: RATES AND INDEX NUMBERS AND TIME SERIES CLASSICAL ANALYSIS

1. Computation of variations, rates and cumulative average rates.
2. Index numbers: simple and aggregate. Properties.
3. Price Indexes. Quantity Indexes. Properties.
4. Base Change: Renovation and enlace of series of index numbers.
5. Value Indexes and deflation.
6. Consumer Price Index (CPI). Base Change 2001.
7. Time Series: concept and definition of components.
8. Trend analysis and cyclical behaviour.
9. Official Sources of Economic Surveys: IEA, INE, EUROSTAT and other organisms.

Unit 4: RANDOM EXPERIMENTS AND EVENTS. PROBABILITY.

1. Random phenomena and events.
2. Counting Tools: Combinatory.
3. Probability.
4. Conditional Probability. Bayes' Theorem.

Unit 5: RANDOM VARIABLES. PROBABILITY MODELS.

1. Probability Distributions of one-dimensional discrete and continuous. Measures of position, dispersion and shape. Change in scale and in origin. Standardization of a random.
2. Two-dimensional Random Variable. Marginal and conditional distributions. Expectation and covariance. Linear Correlation Coefficient. Independence of Random Variables.
3. Probabilistic models of discrete variables.

8. BIBLIOGRAPHY

8.1 GENERAL READING:

ISBN	TITLE	EDITOR	YEAR EDITION
0-13-047785-0	Business statistics: a decision-making approach	Pearson-Prentice Hall	2006
0-07-112290-7	Complete business statistics	McGraw-Hill Irwin	2002

8.2. FURTHER READING:

ISBN	TITLE	EDITOR	YEAR EDITION
0-13-188098-5	Statistics For Business And Economics: Student Solutions Manual		2006
	Statistics for Managers Using Excel and Student CD Package	Prentice Hall	2008
	Statistics for Business and Economics and Student CD	Prentice Hall	2006
	Statistics for Business & Economics	Prentice Hall	2008
	Business Statistics by Example	Prentice Hall	1996
978-0136-032601	Basic Business Statistics	Prentice Hall	2009
	ActivStats	Addison-Wesley	
	ActivStats for Business Statistics	Addison-Wesley	2010
	Business Statistics	Addison-Wesley	2010
	Flash Review: Introduction to Statistics	Addison-Wesley	2002
	How to Lie With Statistics	W. W. Norton & Company	1993
	The Complete Idiot's Guide to Statistics	Alpha	2007
	The Cambridge Dictionary of Statistics	Cambridge University press	
	Applied Statistics in Business and Economics with CDRom		2007
	Basic Statistics Using Excel and MegaStat w Student CD		2008
978-0-07-110151-6	Statistical Techniques in Business and Economics	McGraw-Hill Irwin	2008
	Statistical Techniques in Business and Economics with Student CD	McGraw-Hill Irwin	2008
	Introduction to Statistics for Executives	McGraw-Hill Irwin	
	Statistical Techniques in Business and Economics with Student CD-Rom	McGraw-Hill Irwin	2005
	Business and Financial Statistics using Minitab 12 and Microsoft Excel 97	World Scientific Publishing Co	2000
	Against all odds: Inside Statistics (DVD)	W.H. Freeman and Company	2006
	Introduction to the Practice of Statistics (textbook)	W.H. Freeman and Company	2006
	Introduction to the Practice of Statistics (study guide)	W.H. Freeman and Company	1992
0-32-128672-3	Statistical Reasoning for Everyday Life	Addison Wesley	2008
0-06-273102-5	The Cartoon Guide to Statistics	Collins Reference	1993
0-59-651049-7	Statistics in a Nutshell: A Desktop Quick Reference	O'Reilly Media, Inc.	2008

9. TEACHING ORGANIZATION: WEEKLY COURSE SCHEDULE

WEEK	No. HOURS GT	No. HOURS PT	No. HOURS SEM	No. HOURS SELF-STUDY	No. HOURS ASSESSMENT	UNITS
1	3					Unit 1
2	1.5	1.5				Unit 1
3	1.5	1.5				Units 1 & 2
4	1.5	1.5				Unit 2
5	1.5	1.5				Units 2 & 3
6	1.5	1.5				Unit 3
7	1.5	1.5				Unit 3
8	1.5	1.5				Unit 3
9	1.5	1.5				Units 3 & 4
10	1.5	1.5				Unit 4
11	1.5	1.5				Unit 4
12	1.5	1.5				Unit 4
13	1.5	1.5				Unit 4
14	1.5	1.5				Unit 5
15		3				Unit 5
FINAL EXAM				100	5	
RESIT EXAM						
TOTAL	22.5	22.5	0	100	5	