

27621 - Data Analysis and Multivariate Techniques

Información del Plan Docente

Academic Year	2016/17
Academic center	109 - Facultad de Economía y Empresa
Degree	450 - Degree in Marketing and Market Research
ECTS	6.0
Course	3
Period	First semester
Subject Type	Compulsory
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

The method is mostly theoretical-practical. The working method will be individualized as far as possible, which means that each student will analyze a particular database.

5.2.Learning activities

The offered program to help the student in doing the expected results includes the following activities:

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Theoretical and practical classes: will be used to develop concepts and theoretical developments in each of the topics. In some of them, exhibition techniques will be used but encouraging participation and discussion in class. The teacher will rely on the computer to illustrate the practical use of the techniques explained by its application to solving real cases using the databases of the subject. In addition, the SPSS 22.0 package will be used to implement the techniques in the exhibition.

Tutorials in small groups : optional classes are held throughout the course, scheduled times by the teacher according to students. In these tutorials the teacher will plan the most appropriate model to introduce them into concrete market research statistical method.

Individual tutorials , personalized and on-line: the student may attend the scheduled tutoring to ask questions about the subject. In the case of students whose tutorials coincide with school hours of other materials, they can send an email to make an appointment.

5.3.Program

INTRODUCTION

CHAPTER 0: Introduction

Objectives. Why multivariate analysis? Basic types of data and analysis. Preliminary steps in multivariate analysis in Marketing and Management.

I: EXPLORATORY DATA ANALYSIS

CHAPTER 1: Exploratory data analysis (A.E.D.)

Objectives. Organizing data. Data exploration: the use of pictures. Surveys in different contexts. Goals of some researches. Study of outliers and missing data.

II: DATA EXPLORATION AND DIMENSION REDUCTION

CHAPTER 2: Regression analysis

Introduction. Estimating the regression equation and prediction. Multiple linear regression. Variable selection in linear regression. Applying linear regression ideas.

CHAPTER 3: Factor analysis

Introduction. Principal component method. Examples. Choosing the number of factors. Rotation. Interpretation. Validity of the factor analysis model. Study of outliers.

III: STUDY OF CONTINGENCY TABLES

CHAPTER 4: Surveys and contingency tables.

Internet as a source of information. Contingency tables in samples from a data base. The $r \times c$ Contingency table. Study of some profiles. Interpretation.

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IV: CLASSIFICATION ANALYSIS

CHAPTER 5: Cluster Analysis.

Introduction. Measures of similarity or dissimilarity. Hierarchical clustering. Single, complete and average linkage. Choosing the number of clusters. Cluster validity. Nonhierarchical methods.

CHAPTER 6: Discriminant analysis.

Introduction. The discriminant function for two groups. Interpretation of discriminant functions. Applications.

5.4.Planning and scheduling

Timetable	CHAPTER	METHOD
1 ^a week	LEARNING OBJETIVES	Statement class
	INTRODUCTION	Statement class
2 ^a week	Chapter 1	Theoretical-practical class
	Chapter 1	Theoretical-practical class
3 ^a week	Chapter 1	Theoretical-practical class
	Chapter 1	Practical class
4 ^a week	Chapter 2	Theoretical-practical class
	Chapter 2	Theoretical-practical class
5 ^a week	Chapter 2	Theoretical-practical class
	Chapter 2	Practical class
6 ^a week	Chapter 3	Theoretical-practical class
	Chapter 3	Theoretical-practical class

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7 ^a week	Chapter 3	Theoretical-practical class
	Chapter 3	Practical class
8 ^a week	Test 1	
	Chapter 4	Practical class
9 ^a week	Chapter 4	Practical class
	Chapter 4	Practical class
10 ^a week	Approach to work	Practical class
	Chapter 5	
11 ^a week	Chapter 5	
		Theoretical-practical class
12 ^a week	Chapter 5	
		Theoretical-practical class
13 ^a week	Test 2	
14 ^a week	Chapter 6	Theoretical-practical class
15 ^a week	EXAM	
	STATEMENT PAPER	Speech and discussion

5.5. Bibliography and recommended resources