

FUC - Ficha de Unidade Curricular

Curricular Unit's File

Code	L6043
Name (PT)	Análise de Dados para Gestão
Name (EN)	Data Analysis for Management
Regime	Semestral
Level	1.º Ciclo
Teaching language	Inglês
School	Escola de Gestão (EG)
Department	DMQGE
Scientific area	Estatística e Análise de Dados (EAD)
Responsible academic staff	Maria de Fátima Ramalho Fernandes Salgueiro
Pre-requisites	None
Objectives	At the end of the learning unit students are expected to have developed the competencies that enable them to apply univariate and multivariate data analysis techniques to real situations in business and management.
Learning outcomes	At the end of the unit students must be able to: LG1) Understand the utility of data collection and identify methods and techniques of data analysis relevant for management. LG2) Understand the differences between various methods and techniques of data analysis and select the most appropriate, given the problem under analysis, the objectives and the type of data available. LG3) Perform the various statistical data analyses correctly, using the statistical package SPSS. LG4) Interpret the results obtained from the data analyses that were conducted. LG5) Report orally the main results and conclusions from a practical example of data analysis in management. LG6) Write a report summarizing and presenting the main results and conclusions from the statistical analyses that were conducted.
Syllabus	1. Data screening 1.1. The preparation and coding of the data; identification and correction of errors; 1.2. Using the statistical package SPSS. 2. Data analysis 2.1. Descriptive methods: exploring the data using descriptive statistics and plots; 2.2. Hypothesis testing 2.2.1. Parametric hypothesis tests: one-sample t-test; independent samples t-test; paired samples t-test; One-way ANOVA; 2.2.2. Non-parametric hypothesis tests: Kolmogorov-Smirnov test for normality; Chi-square test for independence; Mann-Whitney and Kruskal-Wallis tests. 2.3. Multivariate methods 2.3.1. Principal Components Analysis; 2.3.2. Hierarchical Cluster Analysis and Non-Hierarchical K-means Clustering. 3. Applications with SPSS.
Assessment	For those in the continuous assessment system the overall course mark is a weighted average of three components: i) a group class presentation (10%); ii) group assignment on the statistical analysis of a data set (40%); iii) exam (50% of the final mark), with a minimum mark of 8 (out of 20). The final exam has two parts: a written component (50%) and a data analysis component using a computer (50%).
Teaching methodology	The following teaching-learning methodologies (LM) will be used: LM1) Expository, for the presentation of the theoretical reference frames LM2) Participative, with analysis and resolution of application exercises LM3) Active, with the realization of individual and group works LM4) Experimental laboratory, with development and operation of computer models LM5) Self-study, related with autonomous work by the student, as is contemplated in the Class Planning.

Demonstration of the syllabus coherence with the curricular unit's objectives	<p>The following interconnection between the syllabus (S) and the learning goals (LG) is expected:</p> <p>LG1) - S1.1 and S3 LG2) - S2 LG3) - S1.2 and S3 LG4) - S2 LG5) - S2 and S3 LG6) - All</p>
Demonstration of the coherence between the teaching methodologies and the learning outcomes	<p>LM1) - LG1, LG2 and LG4 LM2) - LG4 LM3) - LG5 and LG6 LM4) - LG3 LM5) - All LG</p>
Main Bibliography	
Complementary Bibliography	