FUC - Ficha de Unidade Curricular
Curricular Unit's File

Code	L0120
Name (PT)	Estatística II
Name (EN)	Statistics II
Regime	Semestral
Level	1.º Ciclo
Teaching language	Português , Inglês
School	Escola de Gestão (EG)
Departament	DMQGE
Scientific area	Estatística e Análise de Dados (EAD)
Responsible academic staff	Elisabeth de Azevedo Reis
Pre-requisites	None
Objectives	The main purpose of this course is to enable students to know the most important inferential statistical methods and being to identify and apply the adequate method to each specific real situation in business and institutional environments, with the help of statistical software.
Learning outcomes	At the end of this learning unit's term, the student must be able to: 1.Know and use the main concepts of inferential statistics. 2.Recognize the most important sampling distributions and know how to choose the adequate for each problem type. 3.Being able to construct a confidence interval for a population parameter. 4.Know and identify parametric and non parametric hypothesis tests , their errors and probabilities. 5.Know how to interpret SPSS outputs from the application of inferential statistical methods.
Syllabus	1. Sampling: Bernoulli and normal populations. 2. Parameters estimation. 2.1 Point estimation. Maximum likelihood estimators. 2.2 Interval estimation. Pivotal function method. 3. Hypotheses testing. 3.1 Formulation of hypotheses. 3.2 Errors and their probabilities. 3.3 Power function. 4. Parametric tests. 4.1 Tests for one or two populations: one mean, equality of two means with independent and paired samples, one variance and two variances. Tests on the equality of two means for paired samples. 4.2 Oneway Analysis of Variance (ANOVA) and Levene test for the equality of k variances. Multiple comparison tests. 5. Non parametric tests: Chi-square, Kolmogorov-Smirnov and Shapiro-Wilk goodness of fit tests; Chi-square test of independence of two variables. 6. Using SPSS for analysis and interpretation of results.
Assessment	Continuous assessment: - two written tests, with a 40% weight each; - a group coursework (20%) with oral discussion if necessary. - students' attendance of at least 80% of classes, no grade lower than 8 in any of the tests, average grade equal or bigger than 10. Grades higher than 17 will be subject to an oral exam. Final exam: grades between 8 and 9 can undergo an oral exam. Those who obtain a grade higher than 17 will be subject to an oral examination to defend their grades.
Teaching methodology	Each student should acquire analytical information gathering, written and oral communication skills. To acquire these skills the following learning methodologies (LM) will be used: 1.Expositional, to the presentation of the theoretical reference frames 2.Participative, with resolution of exercises 3.Active, with the realization of individual and group courseworks 4.Experimental with computer real applications. 5.Self-study, related with autonomous work by the student.

Demonstration of the syllabus coherence with the curricular unit's objectives	This "demonstration of consistency" stems from the interconnection of the syllabus (S) with learning goals (LG) and is explained as follows: LG1 - S1 to S5. LG2 - S1. LG3 - S2. LG4 - S3 to S5. LG5 - All.
Demonstration of the coherence between the teaching methodologies and the learning outcomes	The learning-teaching methodologies are aimed at the development of the students' main learning competences that allow to fulfill each of the learning goals, therefore, in the grid below, it is presented the main interlinks between the learning-teaching methodologies and the respective goals. Learning-Teaching Methodologies(LTM) - Learning Goal (LG) 1.Expositional, to the presentation of the theoretical reference frames - LG1 to LG5 2.Participative, with analysis and resolution of application exercises - LG2 to LG4. 3.Active, with the realization of individual and group courseworks - LG2 to LG5 4.Experimental with real computer applications - LG3 to LG5. 5.Self-study, related with autonomous work by the student, as is contemplated in the Class Planning. - All
Main Bibliography	
Complementary Bibliography	