ID	3489
Curricular Unit	Statistics I
Regent	Paula Marta Bruno
Learning Outcomes	The objectives of this course are: (i) To provide basic knowledge of probability and statistics; (ii) To introduce a statistical software (in case, the SPSS).

Syllabus	- Probability, conditional probability and independence Brief overview Total probability and Bayes' theorem - Discrete models Discrete random variable Probability mass function Distribution function Population parameters Pairs of random variables Binomial distribution Poisson distribution - Continuous models Probability density function Continuous random variable Distribution function Population parameters Exponential distribution Normal distribution Central limit theorem Sampling distributions - Introduction to the SPSS statistical software Entering data Level of measurement Manipulation of variables - Exploratory data analysis Descriptive statistics measures Graphical representations Association between two variables Practical applications with SPSS - Introduction to statistical inference Estimation Hypothesis testing - Statistical inference for single populations Inference about the population mean Inference about the population variance Normality tests Wilcoxon test for the population median Practical applications with SPSS
Evaluation	The approval in the course is obtained with final score greater than or equal to 10 values. The assessment can be done in two ways: continuous assessment or a final exam. Continuous assessment: two written tests, where the first test has a score of 7 values and the second test a score of 13 values. The minimum scores are 3 and 5 values, respectively. The final score is the sum (round to units) of the scores of each of the two tests (each of them round to decimals). If an approved student chooses to make final exam at the normal period, the classification attained in the continuous has no effect. Assessment by final exam: a written exam carried out in a scholar period scheduled by the pedagogical board. The written exam includes a theoretical-practical component and a practical component, made at two different times. An oral exam is possible upon teachers approval, but only with a score greater than or equal to 9 values in the written exam.

Bibliography	Main: Bruno, P., Carita, A., Diniz, A., Gonçalves, I., Teles, J. (2008). Introdução à Teoria das Probabilidades, Lisboa: Edições FMH. Bruno, P., Carita, A., Diniz, A., Gonçalves, I., Teles, J. Tópicos de Estatística, manual não editado. Complementary: Afonso, A., Nunes, C. (2011). Estatística e Probabilidades – Aplicações e Soluções em SPSS, Lisboa: Escolar Editora Marôco, J. (2014), Análise Estatística com o SPSS Statistics (6ª ed.), Lisboa: Report Number. Murteira, B., Antunes, M. (2012). Probabilidades e Estatística, Volume I, Lisboa: Escolar Editora. Pallant, J. (2007), SPSS – Survival Manual (3rd ed.), Glasgow: McGraw-Hill. Paulino, C.D., Branco, J.A. (2005). Exercícios de Probabilidades e Estatística, Lisboa: Escolar Editora. Pestana, D., e Velosa, S. (2006), Introdução à Probabilidade e à Estatística (Vol. I, 2ª ed.), Lisboa: Fundação Calouste Gulbenkian.