Code: 1682 **Statistics**
Degree: all 1st cycles, except Landscape Architecture; 2nd cycle – Landscape Architecture
Curricular Year: 2nd (1st cycles); **1st** (LA) **Semester Course: 1st**
Credits: 6 ECTS **Compulsory** (1st cycles, except Landscape Architecture)
Language: Portuguese/English **Optional** (Landscape Architecture)
Responsible: Maria Manuela Costa Neves Figueiredo
Other lecturer(s): Fernanda Maria dos Reis Torroaes Valente, Maria João Teixeira Martins and Marta Guerreiro Duarte Mesquita de Oliveira
Web Site: http://www.isa.utl.pt/home/node/3761

1. Contact hours:
Lectures 28 **Practicals/Laboratory** 42 **Others** 14 **Total** 84

2. Objectives:

To learn the main concepts of summarizing and interpreting statistical data
To study the main probabilistic models necessary to classical statistical inference.
To construct confidence intervals and hypotheses tests.
To learn the R statistical software.

3. Programme:

Probability Theory: Definitions and concepts. Bayes Theorem. Random variables and parameters. The moment generating function. The most common discrete and continuous distributions
Descriptive Statistics: Main objectives, frequency tables and graphs; One and two dimensional data. Simple linear regression.
Introduction to Statistical Inference: confidence intervals and hypothesis testing. The R software.

4. Bibliography:

Main Bibliography

Dagnielie, P. (1985) Estatística: Teoria e métodos. (2 volumes). Europa-América.
Murteira, B. (1993). Análise exploratória de dados. Estatística Descritiva. Mc Graw Hill.
Murteira, B.,Ribeiro, C.S., Silva, J.A. e Pimenta C. (2007). Introdução à Estatística. Mc Graw Hill.
Neves, M. (2009). Introdução à Estatística e Probabilidades. Folhas de apoio disponíveis na página *Web*.

Other Bibliography

Bhattacharyya, G. e Johnson, R. (1988), Statistical Concepts and Methods , John Wiley.
Daniel, W. (1991). Biostatistics: A Foundation for analysis in the Health Sciences. John Wiley.
Pestana, D.D. e Velosa, S.F. (2008). Introdução à Probabilidade e à Estatística. Fundação Calouste Gulbenkian.
Zar, J. (1996). Biostatistical Analysis. Prentice-Hall

5. Assessment:

A final exam and some questions answered in practical classes

6. Estimated workload:	168	Hours
7. Last Update:	8/7/2010	