Code: 1737 **Probability and Statistics I**
Degree: 2nd cycle – Mathematics Applied to Biological Sciences
Curricular Year: 1st **Semester Course: 1st**
Credits: 8 ECTS **Compulsory**
Language: Portuguese/English
Responsible: Maria Manuela Costa Neves Figueiredo
Other lecturer(s): -
Web Site: http://www.isa.utl.pt/home/node/3887

1. Contact hours:
Lecture/Practicals 84 **Others** 28 **Total** 112

2. Objectives:

To review fundamental concepts and methodologies in probability and statistics.
To learn the main tools of the statistical software R.

3. Programme:

Introduction to the statistical software R.
Probability Theory: revision of the main discrete and continuous distributions.
Descriptive Statistics: one and two dimensional data. Simple regression and correlation.
Inference: Sampling Theory. Point Estimation. Confidence intervals and Hypothesis Testing.
Parametric and non parametric tests. Goodness of fit tests.

4. Bibliography:

Main Bibliography

Dalgaard, P. (2008). Introductory Statistics with R. Springer.
Murteira, B.,Ribeiro, C.S., Silva, J.A. e Pimenta C. (2008). Introdução à Estatística. Mc Graw Hill.
Neves, M. (2009). Probabilidade e Estatística . Notes available in the web page.
Pestana, D. e Velosa, S. (2008). Introdução à Probabilidade e à Estatística. Fundação Calouste Gulbenkian.

Other Bibliography

Daniel, W. (1991). Biostatistics: A Foundation for analysis in the Health Sciences. John Wiley
Rohatgi, V. K. (1976). An Introduction to Probability Theory and Mathematical Statistics. John Wiley&Sons.
Zar, J. (1996). Biostatistical Analysis. Prentice-Hall

5. Assessment:

Final exam.

6. Estimated Workload: 224 Hours

7. Last Update: 15/7/2010