Code: 1444 **Statistical Modelling II**
Degree: 2nd cycle – Mathematics Applied to Biological Sciences
Curricular Year: 1st/2nd **Semester Course: 2nd/1st**
Credits: 6 ECTS **Optional**
Language: Portuguese/English
Responsible: Jorge Filipe Campinos Landerset Cadima
Other lecturer(s): -
Web Site: http://www.isa.utl.pt/home/node/3900

1. Contact hours:
Lecture/Practicals 70 **Others** 14 **Total** 84

2. Objectives:

Extensions of the Linear Model which substantially broaden the field of statistical models.

3. Programme:

Non-parametric methods related with the Linear Model: resistant regressions, the Kruskall-Wallis and Friedman tests. Introduction to **Generalized Linear Models**: logistic and probit regressions, loglinear models.
Introduction to Mixed Models.

4. Bibliography:

Main Bibliography

Hosmer, D.H. & Lemeshow, S.L. (1989) *Applied Logistic Regression*. Wiley Series in Probability and Statistics
McCullagh, P. & Nelder, J.A. (1989) *Generalized Linear Models*. 2a. edição. Irwin
Siegel, S. & Castellan, N.J. Jr. (1988) *Nonparametric Statistics for the Behavioral Sciences*. 2d ed. McGraw-Hill International Editions
Faraway, J.J. (2006) Extending the Linear Model With R : Generalized Linear, Mixed Effects and Nonparametric Regression Models, Chapman and Hall.

Other Bibliography

Agresti, A. (1990). *Categorical Data Analysis*. Wiley Interscience.
Hollander M. & Wolfe D.A. (1999) *Nonparametric Statistical Methods*. Wiley Series in Probability and Statistics
Rousseeuw, P.J. & Leroy, A.M. (1987) *Robust regression and outlier detection.* John Wiley & Sons.
Turkman, M.A.A. & Silva, G.L. (2000) *Modelos Lineares Generalizados*. Edições SPE (Sociedade Portuguesa de Estatística)

5. Assessment:

Final Exam

6. Estimated Workload: 168 Hours

7. Last Update: 15/7/2010