Code: 1443 **Statistical Modelling I**
Degree: 2nd cycle – Mathematics Applied to Biological Sciences
Curricular Year: 1st **Semester Course: 2nd**
Credits: 6 ECTS **Compulsory**
Language: Portuguese/English
Responsible: Jorge Filipe Campinos Landerset Cadima
Other lecturer(s): Maria Manuela Costa Neves Figueiredo
Web Site: http://www.isa.utl.pt/home/node/3890

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

2. Objectives:

The Linear Model and its specific cases: linear regression, the analysis of variance, the analysis of covariance.

3. Programme:

The Linear Model : the model, parameter estimation, assessing the fit, validating the assumptions.
Specific instances of the model: Linear Regression (simple and multiple); fixed-effects Analyses of Variance (one-, two- and n-way, with and without interactions, with nested factors); comparing related regressions as an example of the Analysis of Covariance.

4. Bibliography:

Main Bibliography

Draper, N.R. & Smith, H. (1998) *Applied Regression Analysis*. 3a. edição. John Wiley & Sons.
Neter, J.; Wasserman, W. & Kutner, M. (1990) *Applied Linear Statistical Models*. 3a. edição. Irwin.

Other Bibliography

Chambers, J.M. & Hastie, T.J. (1992) *Statistical Models in S*. Wadsworth & Brooks/Cole.
Saville, D.J. & Wood, G.R. (1991) *Statistical Methods: the Geometric Approach*. Springer.
Stapleton, J.H. (1995) *Linear Statistical Models*. Wiley Series in Probability & Statistics.
Weisberg, S. (1985) *Applied Linear Regression, 2d. ed.*. John Wiley & Sons

5. Assessment:

Final Exam

6. Estimated Workload: 168 Hours

7. Last Update: 15/7/2010