

Code: 1758 Time Series Analysis**Degree:** 2nd cycle – Mathematics Applied to Biological Sciences**Curricular Year:** 1st/2nd**Semester Course:** 2nd/1st**Credits:** 3 ECTS**Optional****Language:** Portuguese/English**Responsible:** Ana Maria Santos Ferreira Gorjão Henriques**Other lecturer(s):** -**Web Site:** <http://www.isa.utl.pt/home/node/3902>**1. Contact hours:****Lecture/Practicals 35 Others 7 Total 42****2. Objectives:**

The students should learn the basic concepts of Time Series, and should be able to apply the theory.

3. Programme:

1. Descriptive statistics analysis: Cronogram, Periodogram, Correlogram, Moving Average.
2. Time series stochastic models: autoregressive, moving average, and extensions.
3. Model fitting. Forecasting.
4. Applications with appropriate software

4. Bibliography:**Main Bibliography**

Box G.E.P. and Jenkins G.M. (1993) *Time Series Analysis, Forecasting and Control*, Third edition, Holden-Day, San Francisco

Brockwell P. J. and Davis R. A. (1996) *Introduction to Time Series and Forecasting*, Springer-Verlag, New York.

Murteira, Bento J.F., Muller, Daniel A. and Turkman, K. Feridun (1990) *Análise de Sucessões Cronológicas*, McGraw-Hill. Lisboa.

Wei, William W.S. (1990) *Time Series Analysis*, Adisson-Wesley, Redwood City, California.

5. Assessment:

Final exam or coursework

6. Estimated Workload:

84	Hours
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7. Last Update:

15/7/2010
