

Code:1720 Ecosystems Monitoring**Degree:** 1st cycle – Environmental Engineering**Curricular Year:** 3rd**Credits:** 6 ECTS**Language:** Portuguese/English**Prerequisites:** Ecology**Responsible:** Fernanda Maria Miranda Cabral**Other lecturer(s):** Maria José Antão Pais de Almeida Cerejeira, Maria do Rosário da Conceição Cameira and Maria Teresa Marques Ferreira da Cunha Cardoso**Web Site:** <http://www.isa.utl.pt/home/node/4008>**Semester Course:** 1st
Compulsory**1. Contact hours:****Lecture/Practicals 70 Others 14 Total 84****2. Objectives:**

To understand the main concepts on environmental quality assessment. To learn about the main environmental contaminants, risk evaluation, environmental indicators, and source tracking.

3. Programme:

Introduction: contaminants and pollutants. Point source and diffuse sources. Indicators and indexes of contamination. Risk evaluation. Source tracking. Markers.

Models to predict exposure.

Water and soil monitoring: protocols to sample, preparation of samples. Parameters to measure.

Forest monitoring: american and european networks. Indicators used.

Case-studies:

Biological indicators to monitor quality of water bodies.

Experimentation and modeling to monitor level of nitrates in watertables.

Evaluation of the exposure and toxic effects of pesticides in water.

4. Bibliography:**Main Bibliography**

Powerpoint presentations available on the internet.

Goss et al., 2003 Report on a scoping study for an agro-system indicator of water contamination by pathogens from agricultural operations. 116 pp.

Reeve R. 2002 Introduction to Environmental Analysis. Jhn Wiley & Sons Ltd, Chichester, England, 301 pp.

5. Assessment:

Continuous evaluation.

A final exam for students that failed during term.

6. Estimated Workload:

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| 168 | Hours |
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7. Last Update:

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| 18/8/2011 |
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