Code: 1344 **Water and Soil Conservation**
Degree: 2nd cycle – Agriculture; Environmental Engineering
Stream: Agriculture – Agriculture and Animal Production; Agricultural Engineering; Horticulture; Plant Protection; Environmental Engineering - all
Curricular Year: 1st **Semester Course: 2nd**
Credits: 6 ECTS **Optional**
Language: Portuguese/English
Responsible: Luís Alberto dos Santos Pereira
Other lecturer(s): -
Web Site: http://www.isa.utl.pt/home/node/3795

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

2. Objectives:

To prepare the students for project and evaluation of conservational measures and practices as well as the natural resources use planning, particularly soil and water

3. Programme:

Contents:

1. Introduction: water, land and their uses
2. Water: cycle, hydrological balance and factors that influence its availability
3. Water scarcity: aridity, droughts, desertification and water shortage
4. Water conservation in rainfed agriculture: soil management storage and water harvesting
5. Water conservation in irrigated agriculture: crop water requirements, irrigation methods, and water conservation and water saving measures and practices
6. Water saving and conservation in domestic, urban and industry uses
7. Soil erosion
8. Water erosion in agriculture: estimation methods and models
9. Soil conservation methods and practices and their relation with water conservation
10. Water courses conservation
11. Landscape and conservation
12. Coping with drought: droughts risk management and impact assessment
13. Coping with drought: agricultural, urban an industrial
14. Vulnerability to desertification: physical and hydrologic aspects
15. Vulnerability to desertification: economical and social aspects
16. Desertification combat
17. Integrating land and water conservation, planning and management

4. Bibliography:

Main Bibliography

Pereira, LS, Cordery, I, Iacovides, I, 2002. *Coping with Water Scarcity*. UNESCO IHP VI, Technical Documents in Hydrology No. 58, UNESCO, Paris, 267 p. (available on line: http://unesdoc.unesco.org/images/0012/001278/127846e.pdf)

Other Bibliography

Several papers in international and national journals

5. Assessment:

Individual work on a study case and Final examination

6. Estimated Workload:	168	Hours
7. Last Update:	19/7/2010	