

Code: 1670 Climate and Water Resources**Degree:** 1st cycle - Landscape Architecture**Curricular Year:** 2nd**Credits:** 6 ECTS**Language:** Portuguese/English**Prerequisites:** Physics I**Responsible:** Jorge Manuel Martins Soares David**Other lecturer(s):** Francisco Manuel Souto Gonçalves de Abreu and José Luís Monteiro Teixeira**Web Site:** <http://www.isa.utl.pt/home/node/3730>**Semester Course:** 1st
Compulsory**1. Contact hours:****Lecture/Practicals 70 Others 14 Total 84****2. Objectives:**

To provide knowledge on climate regimes, water cycle and water resources at the global level and in Portugal. Provide skills to tackle problems in this domain, and to evaluate water fluxes and availability at the plot and watershed level.

3. Programme:**I.**

The climate system. The Atmosphere. Energy in climate system and mean atmospheric circulation. Water in the climate system. Evolution of the climate system. Climate regimes. Geoclimatic units.

II.

The watershed. Components of the water balance. Streamflow: water yield and runoff processes (peak and low flows). Influences of vegetation type on the different components of the water balance. The EU water policy. Water legislation.

III.

Plant phenology. Irrigation needs.

4. Bibliography:**Main Bibliography**

Bridgman, H.A. & Olivier (2006). The global climate system. Cambridge Univ Press.

Miranda, P.M. (2001). Meteorologia e ambiente. Universidade Aberta.

Powerpoints e notes from lectures.

Other Bibliography

Book chapters and technical and scientific papers, updated each year.

5. Assessment:

Partial evaluation tests, each 4 weeks.

6. Estimated Workload:

168	Hours
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7. Last Update:

9/3/2011
