

Code: 1367 Water Engineering in Rural Areas**Degree:** 2nd cycle – Environmental Engineering**Stream:** all**Curricular Year:** 1st**Semester Course:** 2nd**Credits:** 6 ECTS**Optional****Language:** Portuguese/English**Responsible:** Manuel António Tabuada**Other lecturer(s):** -**Web Site:** <http://www.isa.utl.pt/home/node/3797>**1. Contact hours****Lecture/Practicals 70 Others 14 Total 84****2. Objectives**

To teach the students to solve some hydraulic problems concerning the energy dissipaters, water delivery system, pipe networks analysis and network sewer.

3. Programme:

- Steady flow in open channels: steady gradually varied open channel flow, classification of flow profiles and hydraulic jump
- Orifices and weirs
- Stilling basins
- Reservoirs and dams
- Pipe network analysis
- Network sewer

4. Bibliography:**Main Bibliography**

António Quintela, 1992 - Hidráulica. Fundação Calouste Gulbenkian

Armando Lencastre, 1991 – Hidráulica Geral. Lisboa

J. Peterka, 1974 - Hydraulic Design of Stilling Basins and Energy Dissipators. U.S. Depart. Of the Interior , Bureau of Reclamation

5. Assessment:

Final examination and home works

6. Estimated Workload:

168	Hours
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7. Last Update:

20/7/2010
