

Code: 1762 Horticultural Production Systems – Vegetables, Fruits and Grapes I**Degree:** 1st cycle – Agriculture**Curricular Year:** 3rd**Semester Course:** 1st**Credits:** 6 ECTS**Compulsory****Language:** Portuguese/English**Responsible:** António José Saraiva de Almeida Monteiro**Other lecturer(s):** Cristina Maria Moniz Simões Oliveira and Carlos Manuel Antunes Lopes**Web Site:** <http://www.isa.utl.pt/home/node/4016>**1. Contact Hours:**

Lectures 35 Practicals/Laboratory 35 Others 14 Total 84

2. Objectives:

To study vineyards, fruit crops and vegetables, integrating basic knowledge with the technological solutions, in a perspective of decision making focused on problem solving. Capacity building to manage major woody and herbaceous crops using knowledge of plant biology, ecology and utilization, plant propagation, and production methods e.g. pruning and training, fertilizing, irrigation, pest management, growth and yield control, harvest, and packing.

3. Programme:

1. Harvest and fruit, vegetable and grape quality. Harvest time, product quality evaluation and post-harvest techniques
2. Biology and ecology of grapevines and fruit trees. Growth and fruiting patterns, crop and biological cycles, basics of crop ecophysiology
3. Pruning and training fruit trees and grapevines. Pruning principles and methods. Training systems.
4. Plant propagation. Principles and practices of the propagation of herbaceous and woody plants. Nursery production
5. Vegetable biology and utilization. Edible parts, utilization, nutritive value and growing constraints of major vegetables.
6. Practice essays: (1) Vineyard yield and pruning; (2) Fruit quality; (3) Propagation
7. Field visits to nurseries and grape, fruit and vegetable growers

4. Bibliography:**Main Bibliography**Agustí, M. 2004. *Fruticultura*. Mundi-Prensa Madrid.Hartman, H.; D. Kester; F. Davies Jr., R. Geneve. 2002. Hartmann and Kester's Plant Propagation, Principles and Practices (7th Ed.). Prentice Hall.

Almeida, D. 2006. Manual de Culturas Hortícolas, Vol. 1 e 2, Ed. Presença

Castro, R., Cruz, A., Botelho, M. *Tecnologia Vitícola*. MAPF, Portugal**Other Bibliography**

Kader, A.D. Postharvest Biology and Technology: an overview Cap. 4. pp. 39-48. IN: Postharvest Technology of Horticultural Crops Publication 3311 - University of California, Davis

Huglin, P., Schneider, C. (1998). *Biologie et Écologie de la Vigne*. 2e édition, LavoisierMaroto, J.V. (2002). Horticultura Herbacea Especial (5^a edição). Mundi-Prensa**5. Assessment:**

Continuous assessment along the semester based on classroom quizzes, practical essays and visits. Practice grade is the weighted mean of the various practical essays: viticulture-35%; vegetable crops-40%; and fruit crops and others-25%.

The final grade is the weighted mean of the practice grade and the quiz or written exam grade

6. Estimated Workload:

168

Hours

7. Last Update:

8/7/2010