

**Code: 1540 Viticulture****Degree:** 2<sup>nd</sup> cycle – Agriculture; Viticulture and Oenology

Stream: Agriculture – all, except Agricultural Engineering

**Curricular Year:** 1<sup>st</sup>**Semester Course:** 2<sup>nd</sup>**Credits:** 6 ECTS**Compulsory** (Viticulture and Oenology; Agriculture- Horticulture)**Language:** Portuguese/English**Optional** (Agr – Agriculture and Animal Production; Agricultural and Environmental Economics and Rural Development; Plant Protection)**Responsible:** Carlos Manuel Antunes Lopes**Other lecturer(s):** Antero Lopes Martins, Ernesto José de Melo Pestana de Vasconcelos, Ana Maria Silva Monteiro, José E. Eiras Dias (INRB) e Pedro Clímaco (INRB)**Web Site:** <http://www.isa.utl.pt/home/node/3804> and <http://agricultura.isa.utl.pt/?viti>**1. Contact hours:****Lectures 35 Practicals/Laboratory 35 Others 14 Total 84****2. Objectives:**

Develop and deepen the scientific principles underlying grape production and promote the development of student skills in order to implement these principles in the areas of viticulture and enology.

Another aim is to provide knowledge, understanding and learning of modern grape production by disseminating the latest technological innovations in the training systems, canopy management, irrigation and mechanization of the vineyard and its effect on yield, crop health and grape quality.

Additionally, we aim to deepen students' knowledge in the area of berry ripening and grape yield/quality relationships and, through a case study, call students attention to the technology of table grapes production.

**3. Programme:****Lectures**

1. Worldwide Viticulture
2. Grapevine Ampelographic and Selection
3. Vine Ecophysiology
4. Site selection, vine varieties and wine regions
5. Planting, trellising and training the vineyard
6. Fertilization and soil management
7. Canopy management
8. Vineyard irrigation
9. Yield control and yield/quality relationships
10. Berry ripening and grape harvest
11. Special cultural practices for table grape production

**Practicals**

Monitoring and participation in the vineyard cultural practices: winter pruning, spraying, soil and canopy management. Monitoring the responses to crop load and vine phenology. Evaluation of the effects of the training system and variety on vine ecophysiology, vegetative growth, bud fruitfulness and yield potential.

**4. Bibliography:****Main Bibliography**

Coombe, B.G., Dry, P.R. (2001). Viticulture. Vol. 2 – Practices. Winetitles, Adelaide, Austrália, 384 pp.

Huglin, P., Schneider, C. (1998). Biologie et Écologie de la Vigne. 2e édition, Lavoisier, Paris.

May, P. (2004) Flowering and fruitset in grapevines. Lythrum Press, Adelaide, South Australia.

CARBONNEAU, A., CARGNELLO, G. (2003). Architectures de la vigne et systèmes de conduite. Editions La Vigne, Dunod (ed.), Paris, chapitre 2: 19-22.

CARBONNEAU, A., DELOIRE, A.; JAILLARD, B. (2007). Architectures de la vigne et systèmes de conduite. Editions La Vigne, Dunod (ed.), Paris.

LOPES, C. M. A. (1994). Influência do sistema de condução no microclima do coberto, vigor e produtividade da videira (*Vitis vinifera* L.). Dissertação de Doutoramento, ISA, Lisboa. 205 pp.

MAGALHÃES, N. (2008). Tratado de Viticultura. Chaves Ferreira (ed.), Lisboa.

**Other Bibliography**

Lopes, C.M. (2009). A poda da videira. Textos de apoio às aulas, ISA, Lisboa, 16 pp.

Lopes, C.M. (2009). Ecofisiologia da videira. Textos de apoio às aulas, ISA, Lisboa, 16 pp.

Lopes CM, Monteiro A, Machado JP, Fernandes N, Araújo A, 2008. Cover cropping in a sloping non-irrigated vineyard: II - Effects on vegetative growth, yield, berry and wine quality of 'Cabernet Sauvignon' grapevines. *Ciência Téc. Vitiv.* 23(1): 37-43.

Monteiro, A.; Lopes, C.M. 2007. Influence of cover crop on water use and performance of vineyard in Mediterranean Portugal. *Agri. Ecosyst. Environ.*, 121:336-342.

Santos T., Lopes, C.M.; Rodrigues, M.L.; Souza, C.R.; Maroco, J.P.; Pereira, J.S.; Silva, J.R.; Chaves, M.M. (2003). Partial rootzone drying: effects on growth, and fruit quality of field-grown grapevines (*Vitis vinifera*, L). *Functional Plant Biology*, 30: 663-671.

Smart, R.E. & Robinson, M. (1991). Sunlight into wine. A Handbook for Winegrape Canopy Management. Winetitles, Adelaide, Chapter 5: 41-66.

**5. Assessment:**

Evaluation by a final examination (2/3) and by a written report based on data collected during practical courses on the vineyard (1/3).

Minimum of 75% of participation in practical courses.

6. Estimated Workload: 

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| 168 |
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 Hours

7. Last Update: 

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| 25/2/2011 |
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