

Code: 1573 Advanced Viticulture**Degree:** 2nd cycle – Viticulture and Oenology**Curricular Year:** 2nd**Credits:** 6 ECTS**Semester Course:** 1st**Compulsory****Language:** Portuguese/English**Prerequisites:** Viticulture**Responsible:** Carlos Manuel Antunes Lopes**Other lecturer(s):** Antero Lopes Martins, José E. Eiras Dias (INRB-EVN), Mário Cunha (UP), Pedro Jorge Cravo Aguiar Pinto and Sara Barros Queiroz Amâncio**Web Site:** <http://www.isa.utl.pt/home/node/3911>**1. Contact hours:****Lectures 70 Others 14 Total 84****2. Objectives:**

To complete the background on Viticulture by providing a deeper understanding on specialized areas of viticulture like grapevine breeding, vineyard mechanization, crop development and estimation, precision viticulture, effects of climate changes on viticulture and biotechnology of grapevine.

3. Programme:

1. Grapevine breeding
2. Vineyard mechanization
3. Implications of climate change for viticulture and wine production
4. Crop development and estimation
5. Precision Viticulture
6. Grapevine Biotechnology: main applications in viticulture.

4. Bibliography:**Main Bibliography**

- Clingeffer, P. et al 2001 Crop Development, Crop Estimation and Crop Control to Secure Quality and Production of Major Wine Grape Varieties: A National Approach. Project final report, GWRDC, SA.
- Coombe, B.G., Dry, P.R. 2004 Viticulture. Vol. 1 – Resources. Winetitles, Adelaide, SA.
- Cunha, M. 2002 Previsão de colheitas em viticultura. Integração de modelos aeropolinicos e bioclimáticos. Dissertação de doutoramento, FC, UP, Porto.
- Ferreira RB, et al. 2004 Engineering grapevine for increased resistance to fungal pathogens without compromising wine stability. Trends in Biotechnology. 22, 168-173.
- Intrieri, C. et al. 1998 Meccanizzazione integrale in viticoltura. Terra e Vita, 11, 1-62.
- Jones, GV et al. 2005 Climate change and global wine quality. Climatic Change 73: 319-343.
- Martins, A. 1993 Heritabilidade e ganho de selecção em populações de propagação vegetativa e de reprodução sexuada. Policopiado, AEISA, Lisboa.
- Profit, T. et al. 2006 Precision Viticulture. Winetitles, Ashford, SA.

Other Bibliography

- IFV, 2007. Machines à vendanger. Bonnes pratiques de récolte. IFV (ed.), Paris.
- Martins, A. 2007 Variabilidade genética intravarietal das castas. In J. Bohm (ed.), Portugal Vitícola, o grande livro das castas. Chaves Ferreira Publ., Lisboa.
- Poni, S. 2006 Mechanization and Terroir: Are they compatible? Practical Winery and Vineyard, May/June: 44-63.
- O.I.V. 1990 Programme type pour la réalisation de la sélection clonale de la vigne. Bull. OIV Set/Out:715-716.
- Ferreira R. et al. 2007 The role of plant defence proteins in fungal pathogenesis. Molecular Plant Pathology. 8, 667-700.

5. Assessment:

Evaluation by a written report based on a literature review of a given topic (1/3) and by a final examination (2/3).

6. Estimated Workload:

168	Hours
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7. Last Update:

8/2/2011
