

Code: 1572 Stabilisation and Wine Aging**Degree:** 2nd cycle – Master in Viticulture and Oenology**Curricular Year:** 2nd**Semester Course:** 1st**Credits:** 6 ECTS**Compulsory****Language:** Portuguese/English**Lecturer(s):** Olga Laureano, Cristina Climaco(INRB)**Web Site:** <http://www.isa.utl.pt/home/node/2589>**1. Contact hours:****Lectures 28 Laboratory 56 Total 84****2. Objectives:**

To understand the different phenomena which take place during the storing and stabilization of wines; to develop judgement abilities on wine treatments, according to the type of wine intended.
To promote team work and critical analysis skills.

3. Programme:

- 1 - Wines, quality and quality control: quality characteristics (legal and commercial specifications); types of Portuguese wines; quality management; critical points of control.
- 2 - Physicochemical characterisation of wines
- 3 - Evolution and physicochemical modification of wines: colloidal phenomenon and main mechanisms involved; colouring matter composition and influence of the winemaking technology; evolution of the phenolic compounds during wine ageing (influence of pH, oxygen, dioxide of sulphur and temperature); characteristics and evolution of aroma compounds; wine aging in barrels.
- 4 – Wines stabilization: metallic, protein and tartaric precipitations; stabilization processes; other treatments; stability tests.
- 5 - Clarification of wines: fining agents, fining mechanisms; filtration – mechanisms of filtration; products used in filtration, types of filters.
- 6 - Other oenological practices: international code of oenological practices.

4. Bibliography:**Main Bibliography**

- Amerine, M.A. e Joslyn, M.A. (1970) - *Table Wines. The technology of their production*. U Calif Press, Berkeley
- Curvelo-Garcia, A.S. (1989) - *Controlo de Qualidade dos Vinhos.. I V V*, Lisboa.
- Fianzy, C (1998) - *Oenologie, fondements scientifiques et technologiques*. Tec & Doc, Londres, NY, Paris .
- O.I.V. (2006) - *Recueil des méthodes internationales d'analyse des vins et des moûts*. O.I.V., Paris.
- O I V (1996) - *Code International des Pratiques enologiques*. O.I.V., Paris
- Ribéreau-Gayon, P.; Glories, Y.; Maujean, A.; Dubourdieu, D. (1998) - *Traité d'Oenologie. 2. Chemie du Vin, Stabilisation et Traitements*, Dunod, Paris.

Other Bibliography

- BRAGA, A.; COSME, F.; RICARDO-DA-SILVA, J. M. and LAUREANO, O. (2007) - Gelatine, casein, and potassium caseinate as distinct wine fining agents: *J. Int. Sci. Vigne Vin*, 41 (4):203-214.
- COSME, F.; RICARDO-DA-SILVA, J.M.; LAUREANO, O. (2008) – Interactions between protein fining agents and proanthocyanidins in white wine. *Food Chemistry*, 106 (2): 536-544.
- Dallas, C. e Laureano, O. (1994) - Effects of pH, sulfur dioxide, alcohol content, temperature and storage time on the colour composition on a young Portuguese red wine. *J.Sci.Food Agric.*, 65: 477-484.
- Dallas, C.; Ricardo-da-Silva, J.M. e Laureano, O. (1994) - Degradation of oligomeric procyanidins and anthocyanidins in a Tinta Roriz red wine during maturation. *Vitis*, 34(1): 51-56.
- JORDÃO, A.M.; RICARDO-DA-SILVA, J.M.; LAUREANO, O. (2006) – Effect of Oak Constituents and Oxygen on the Evolution of Malvidin-3-Glucoside and (+)-Catechin in Model Wine. *Am. J. Enol. Vitic.* 57(3) : 377-381

5. Assessment:

Assessment based on a written exam and on the discussion of a report concerning the characterization, evolution and treatments of a wine, attributed to the responsibility of a group of three students, in the beginning of the classes' period.

6. Estimated Workload:

168 Hours

7. Last Update:

1/09/2008

