

Course Unit	Winemaking Technology		Field of study	Food Industries	
Bachelor in	Oenology		School	School of Agriculture	
Academic Year	2023/2024	Year of study	3	Level	1-3
Type	Semestral	Semester	1	Code	9998-705-3105-00-23
Workload (hours)	162	Contact hours	T 30	TP -	PL 30
			TC -	S -	E -
			OT 4	O -	

T - Lectures; TP - Lectures and problem-solving; PL - Problem-solving, project or laboratory; TC - Fieldwork; S - Seminar; E - Placement; OT - Tutorial; O - Other

Name(s) of lecturer(s) João Luís Verdial Andrade

### Learning outcomes and competences

At the end of the course unit the learner is expected to be able to:

1. Know the phenomena that occur from the process of elaboration of wines and the justification of the technologic processes followed.
2. Make the operations of winemaking.
3. Identify the most common problems that occur during the process and focus its solution.
4. Plan the several operations that take place in a winery/distillery over time.
5. Interpretation of technical information; analysis reports.
6. Choose the equipment/techniques more suitable for different situations.

### Prerequisites

Before the course unit the learner is expected to be able to:  
General knowledge: microbiology, chemistry and viticulture

### Course contents

Grape ripening; control of maturation. Transport and reception of the grapes. Preparation of facilities and cellar. Pre-fermentation operations. Use of sulfur dioxide. Corrections of musts. Vinifications in white, rosé, red, late harvest, sparkling, sparkling and liqueur wines. Carbonic maceration. Conducting alcoholic fermentation. Control of malolactic fermentation and influence on wines. Post-fermentation operations and wine maturation. Aging phenomena and influence on wine characteristics. I

### Course contents (extended version)

1. Introduction
2. Chemical Constituents of Grapes and Wine
3. Basic Procedures of Wine Production
4. Harvesting and Criteria for Timing of Harvest
5. Winemaking in white, rose and red.
6. Special wines: late harvest, sparkling, sparkling and liqueur wines. Carbonic maceration.
7. Conducting alcoholic fermentation. Control of malolactic fermentation and influence on wines.
8. Post-fermentation operations and maturation. Aging phenomena and influence on wine characteristics.

### Recommended reading

1. CARDOSO, A. D. (2019). O vinho da Uva à Garrafa. 2ª edição. Quantica Editora. Porto. Portugal
2. PEYNAUD, E. Et BLOUIN, J. (1996). Le Goût du Vin Le Grand Livre de la Dégustation. Dunod. França.
3. RIBÉREAU GAYON, P. et al. (1998). Traité D'Oenologie. Dunod. França
4. TOGORES, J. H. (2003) Ediciones Mundi-Prensa. Tomo I e II
5. USSEGLIO TOMASSET, L. (1995). Chimie Oenologique. Teclviique & Documentation. França.

### Teaching and learning methods

Presencial classes (Theoretical-Theoretical-practical, laboratory practices/ winery and works in the vineyard)for the application of knowledge, with the elaboration of the respective technical reports. Lecture and critical discussion of bibliography and technical and scientific papers published.

### Assessment methods

1. Alternative 1 - (Regular, Student Worker) (Final, Supplementary, Special)
  - Practical Work - 20% (Oral presentation and discussion)
  - Final Written Exam - 80%
2. Final exam - (Regular, Student Worker) (Final, Supplementary, Special)
  - Final Written Exam - 100%

### Language of instruction

1. Portuguese
2. Spanish

### Electronic validation

João Luís Verdial Andrade	Luís Manuel Cunha Santos	António Castro Ribeiro	José Carlos Batista Couto Barbosa
22-01-2024	22-01-2024	27-01-2024	28-01-2024