

26233 - Oenology

Información del Plan Docente

Academic Year	2017/18
Faculty / School	105 - Facultad de Veterinaria
Degree	294 - Degree in Food Science and Technology
ECTS	6.0
Year	4
Semester	First semester
Subject Type	Compulsory
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

4.1.Assessment tasks (description of tasks, marking system and assessment criteria)

The student must show that he has attained the expected learning outcomes through the following assessment activities

Written test. This part will evaluate the acquisition of theoretical knowledge and its integration within the context of the winery. Therefore, the questions will be theory applied, trying to simulate real situations. Passing this test will accredit the achievement of learning outcomes 1, 2, 3 and 4. It will be done at the end of the semester. The grade will represent 60% of the student's overall grade of the subject.

Evaluation of practices . The competencies, skills and abilities acquired in laboratory practices (learning outcomes 5 and 6) will be assessed through a report. The report will be in pairs. Representing the 20% of the final grade.

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Evaluation of the individualized work. The attendance, participation, preparation and oral presentation of the academic activities supervised in the seminars will be evaluated. It will represent up to 15% of the final grade.

Visits to companies in the sector. The report done by the student will be evaluated. It will represent 5% of the final grade.

The written test will take place on the dates established in the calendar of examinations prepared by the center. Alternatively, tests 2, 3 and 4 will be convened during the academic period. Test 2 will be done after completing the laboratory practices. Test 3 will be done in the scheduled seminars and test 4 will be done after visiting the warehouse. This test will allow the student to eliminate the subject matter of the test.

Evaluation criteria

Valuation criteria and levels of exigency

Written test: the qualification will be grade from 0 to 10 and it will be necessary to obtain a minimum grade of 5 out of 10 to pass. The relevance of the content and the synthesis capacity will be especially valued.

Laboratory practices: The practical report evaluation will be base on the expression (vocabulary, order, clarity), the capacity for analysis and reflection as well as the expression of the results in the appropriate units. A minimum score of 5 out of 10 will be required to pass.

Evaluation of the tutoriced peer group : it will be necessary to present with clarity and precision the work done, and answer the questions that arise about it. The synthesis capacity and relevance of the contents will be evaluated. A minimum score of 5 out of 10 being required to pass. 20 minutes of presentation (4 minutes per person) and 5 minutes of defense are foreseen for this evaluation.

Visits to companies in the sector: the ability to observe, synthesize and clarify in the visit report will be assessed. A minimum score of 5 out of 10 being required to pass

The overall grade will be obtained from the weighted average of the four tests presented: test 1 (60%), test 2 (20%), test 3 (15%) and test 4 (5%).

For the overall grade of the subject, the results obtained in the tests passed will be maintained until the end of the next academic year.

Grading system: in accordance with the Regulations for the Evaluation of Learning Standards of the University of Zaragoza (Governing Council Agreement of 22 December 2010), the results obtained by the student will be graded according to the following numerical scale from 0 to 10, with an expression of one decimal point. Their corresponding qualitative qualification may be added according to:

0-4.9: Suspended (SS).

5.0-6.9: Approved (AP).

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7.0-8.9: Remarkable.

9.0-10: Outstanding (SB).

The mention of "Honors Matrícula" can be granted to students who have obtained a grade of 9.0 or higher. It may not exceed five percent of the students enrolled in the corresponding academic year.

5. Methodology, learning tasks, syllabus and resources

5.1. Methodological overview

The learning process that is designed for this subject is based on the following:

The course is divided into 30 hours of lectures, 5 hours of seminars and 20 hours of laboratory practice performed in the pilot plant. In addition, a visit to a winery as 5 hours of special practices will be held. In the seminars, students are divided into groups to discuss the work previously prepared, each group must make a presentation and each member must present. Each student, along the course and in parallel to the development agenda, will prepare a part of the production of pink wines to expose in class. The aim is to increase student participation, help the assimilation of concepts and train students in preparation and public exposure of a subject.

Out of the 20 hours of laboratory 12 will be of oenological chemical analysis, organized in sessions of 3 hours and 8 sessions of 2 hours of sensory analysis (introduction to wine tasting). Complementing the laboratory activity and with the objective of further approximation to the industrial reality of the wine sector, students will make a study visit to a winery, following the same will write a report to evaluate the acquired knowledge.

In the 50 minutes of the lectures the teacher will present the most important aspects of the subject matter and will rise up questions to the students concerning this matter.

5.2. Learning tasks

The program that is offered to the student to achieve the expected results includes the following activities

Block 1. Composition of grapes and wine. Fermentations.

Learning activities. (3.3 ECTS). Master-classes: 20 hours of lectures

- Laboratory practices: 8 hours. Introduction to sensory analysis. Methodology tasting white, red and special wines in two hours sessions.

Practices: 5 hours of technical visit to a wine cellar. A report of the visit will be made indicating: location of the winery, types of wine produced, machinery, particularities of the winery, etc..

Study by the student. 45 hours of autonomous work, theory and resolution of issues raised in each of the topics

Block 2. Enotecnia

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Learning activities. (2.7 ECTS). Master-classes: 10 hours of lectures

Laboratory practices: 12 hours chemical oenological analysis practices.

Practice 1. Determination of pH, total acidity and volatile acidity (3 hours)

Practice 2. Determination of the density of must, alcohol degree and free and total sulfur grade. (3 hours)

Practice 3. Easily assimilable nitrogen, sugars reductors, iron determination. (3 hours)

Practice 4. Color indexes, total anthocyanins, total tannins. (3 hours)

Practical evaluable work. Report of each practices pairwise. Analysis of the results of the main oenological parameters

Seminar. 5 hours. Resolution of cases in small groups

Study by the student. 35 hours of autonomous work: theory, problem solving and literature search of the issues raised

5.3.Syllabus

Block 1

1. Introduction to oenology. History of oenology. Social and economical importance of the wine industry. Bibliography.
2. The grape. Origin and evolution of the vine. Driving systems vineyard. Varieties of wine *vitis vinifera* .
3. Chemical composition of grape berry. Evolution of chemical composition during ripening. Maturity indices. The grape, pillar of wine quality.
4. Components of wine. Alcohols. Acids. Carbohydrates. Nitrogenous components. Polyphenolic composition of the wines. Color formation and evolution of wine during vinification Compounds responsible for the aroma of the wine.
5. The SO₂ in oenology. Sulphitation of the must. Chemistry of sulfur in wine: balance, reactions.
6. Alcoholic fermentation and yeast. Development of alcoholic fermentation. Useful yeast species. Species of harmful yeasts. Factors influencing the development of alcoholic fermentation.
- 7: The malolactic fermentation and lactic acid bacteria.

Block 2

8. The vintage. Factors that may affect the quality of the vintage.

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9. General scheme of the production of white wines.

10. General scheme of the production of red wines.

11. Factors affecting the maturation and aging of wines. Sensory changes during maturation and aging. Development of the oak barrels.

12: Notions of clarity, clarification and stabilization.

5.4.Course planning and calendar

Schedule sessions and presentation of works

The dates and key milestones of the subject are described in detail, along with the other subjects in the fourth grade in the Grade of CTA, on the website of the Faculty of Veterinary Medicine (link: <http://veterinaria.unizar.es/gradocta>). This link will be updated at the beginning of each academic year.

The winery tour depend on the development of the campaign. Normally it is held after Pilar festivities

5.5.Bibliography and recommended resources

[BB: Bibliografía básica / BC: Bibliografía complementaria]

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