

COURSE OUTLINE

1. GENERAL

SCHOOL	AGRICULTURAL SCIENCE		
DEPARTMENT	FOOD SCIENCE AND TECHNOLOGY		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	FST_602	SEMESTER OF STUDIES	Spring (6 th)
COURSE TITLE	OENOLOGY I		
INDEPENDENT TEACHING ACTIVITIES <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>	WEEKLY TEACHING HOURS	ECTS CREDITS	
Lectures	3		
Exercises	2		
Total	5	5	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Scientific Area / Special Background / Skills Development		
PREREQUISITE COURSES:	None		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek. Teaching may be however performed in English in case foreign students attend the course.		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr		

2. LEARNING OUTCOMES

<p>Learning outcomes</p> <p><i>The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i> <p>Upon successful completion of the course the student will be able to:</p> <ul style="list-style-type: none"> • Has understood the basic concepts of wine production. • Know the chemical analyses of wines and can relate them to the final quality. • Know the basic elements of the grape and their importance for wine production. • Know the necessary corrections that must be made to the musts. • Perform laboratory analyses to evaluate the main physicochemical parameters of the wines. • Distinguish the main causes of chemical and microbial instability of wines and decide correction practices.

- Evaluate the stability/volatility of wines in the laboratory.
- Perform sensory evaluation.
- Distinguish, evaluate and treat the defective odors of wines.

General Competences

Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

The general skills that the students of the Department of Food Science and Technology should have acquired and that the course is aimed at are:

- *Search, analyze and synthesize data and information, using the most necessary technologies.*
- *Decision making.*
- *Autonomous work.*
- *Teamwork.*
- *Promotion of free, creative and inductive thinking.*

3.SYLLABUS

- Grape composition: Anthocyanins, phenolic components, aromatic compounds, precursor aromatic compounds, sugars, nitrogen compounds, tannins, linoleic.
- Ripening of grapes: evolution of sugars, evolution of acids, polyphenolic ripening.
- Harvesting - transporting grapes to the winery, mechanical treatments.
- Sulfuric anhydride, forms, method of use.
- Malt corrections, increase/decrease potential alcoholic strength, increase/decrease acidity.
- Biochemistry of alcoholic fermentation.
- Chemical composition of wine: Sugars - Dynamic alcoholic strength, organic acids - acidity, phenolics and volatile components.
- Post-fermentation wine treatments, microbial stabilization, wine aging.
- Organoleptic control of wines - visual evaluation, evaluation of aroma, taste, astringency and aftertaste.
- **Laboratory exercises**
- Estimation of sugar content.
- Measurement of pH, Total Acidity, Sulfuric Anhydride, Ethyl Alcohol, Reducing Sugars, Total Phenolics.
- Sulfurization of wines after the end of alcoholic fermentation.
- Organoleptic evaluation of wines: technique, aroma and defective odors of wines.

4.TEACHING AND LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Lectures, seminars and laboratory work face to face.
USE OF INFORMATION	- Electronic communication with students.

<p>AND COMMUNICATIONS TECHNOLOGY</p> <p><i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<p>- Support of learning teaching using slides.</p> <p>The lectures content of the course for each chapter are uploaded on the internet, in the form of a series of .pdf files, where students can freely download them from the platform e-class.upatras.gr</p>													
<p>TEACHING METHODS</p> <p><i>The manner and methods of teaching are described in detail.</i></p> <p><i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i></p> <p><i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i></p>	<table border="1"> <thead> <tr> <th data-bbox="667 394 1010 427">Activities</th> <th data-bbox="1018 394 1361 427">Work Load per semester</th> </tr> </thead> <tbody> <tr> <td data-bbox="667 434 1010 490">Lectures (3 hours per week x 13 weeks)</td> <td data-bbox="1018 434 1361 490">39</td> </tr> <tr> <td data-bbox="667 497 1010 620">Individual work on a case study/Topics related to Oenology according to the literature</td> <td data-bbox="1018 497 1361 620">58</td> </tr> <tr> <td data-bbox="667 627 1010 660">Laboratory exercises</td> <td data-bbox="1018 627 1361 660">16</td> </tr> <tr> <td data-bbox="667 667 1010 723">Writing lab assignments exercises</td> <td data-bbox="1018 667 1361 723">12</td> </tr> <tr> <td data-bbox="667 730 1010 853">Total number of hours for the Course (25 hours of work-load per ECTS credit)</td> <td data-bbox="1018 730 1361 853">125</td> </tr> </tbody> </table>		Activities	Work Load per semester	Lectures (3 hours per week x 13 weeks)	39	Individual work on a case study/Topics related to Oenology according to the literature	58	Laboratory exercises	16	Writing lab assignments exercises	12	Total number of hours for the Course (25 hours of work-load per ECTS credit)	125
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<p>STUDENT PERFORMANCE EVALUATION</p> <p><i>Description of the evaluation procedure</i></p> <p><i>Language of evaluation, methods of evaluation, summative or conclusive, multiple choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p>The evaluation of the students is done with a written final exam (evaluation) after the end of the semester (100%) in Greek which includes:</p> <p>i) Written exam at the end of the semester with questions of critical thinking, ii) Short answer questions and/or multiple-choice questions options, or a combination of the above, iii) Evaluation of laboratory work.</p> <p>Grading scale: 1 to 10. Minimum passing grade: 5. Examination time: 3 hours.</p>													

5. ATTACHED BIBLIOGRAPHY

<p>-Waterhouse, A.L., Sacks, G.L., Jeffery, D.W. Understanding Wine Chemistry. Greek version "Chemistry and Biochemistry of Wine: From Theory to Vinification by Kotseridis, G., Kontoudakis, N. Rosili Publications, 2021, Athens.</p> <p>-OENOLOGY, SCIENCE AND TECHNOLOGY EVANGELOS HI. SOUFLEROS, EVANGELOS SOUFLEROS Publications, 2015.</p> <p>-Soufleros, E. Oenology Science and Technology, 2009, ISBN: 978-960-90699-5-3</p> <p>-Oenology: From the grape to the wine. Tsakiris Argyris. PSYCHALOU Publications, Athens, 1998.</p> <p>-Ribereau-Gayon, P., Glories, Y., Maujean, A., Dubourdieu, D. (2000) Handbook of enology,</p>

volume 1 and 2, John Wiley & Sons Ltd, England

Related Scientific journals:

1. Australian Journal of Grape and Wine Research,
2. Journal of Wine Research,
3. Food Chemistry,
4. Food Research International,
5. European Food Research and Technology