



**Enology and Technology of  
Alcoholic Beverages  
Syllabus**

**FENIKA**

<b>SCHOOL</b>	AGRICULTURAL SCIENCES		
<b>DEPARTMENT</b>	FOOD SCIENCE & NUTRITION		
<b>PROGRAMME</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	<b>ME712</b>	<b>SEMESTER</b>	<b>G</b>
<b>COURSE</b>	Enology and Technology of Alcoholic Beverages RESPONSIBLE: D. MAKRIS		
<b>TEACHING ACTIVITIES</b>		<b>TEACHING HOURS PER WEEK</b>	<b>CREDIT UNITS</b>
		LECTURES	3
		LABORATORY	3
			6
<b>COURSE TYPE</b>	SCIENTIFIC AREA/SPECIFIC BACKGROUND/ SKILL DEVELOPMENT		
<b>PREREQUISITES:</b>	NO		
<b>TEACHING AND EXAM LANGUAGE:</b>	GREEK		
<b>COURSE OFFERED TO ERASMUS STUDENTS</b>	NO		
<b>COURSE SITE (URL)</b>			

**LEARNING OUTCOME**

**Learning outcome**

The objective of the course is the understanding of concepts pertaining to raw material (grape) for wine production, the composition of grapes, musts, and wines, the wine and distillate production process, and the quality control of wines and distillates. Laboratory exercises intent to accustom students with official analyses of musts and wines, which are related with wine and distillate production and quality control.

Upon successful completion of the course, students will be able to:

- *Understand the basic knowledge related with wine and distillate raw materials*
- *Have basic knowledge on must and wine composition.*
- *Have basic knowledge on microbiology and biochemical transformations related with wine and distillate production.*
- *Have spherical knowledge on the overall wine and distillate production process.*
- *Have knowledge on the application of analytical methods for wine and distillate quality control.*



### General skills

Upon completion of the course, the students will acquire the following skills:

- Critical thinking and the link between theory and practical applications
- Search, analysis and combination of data and information with the use of cutting edge technologies
- Decision making
- Self-sufficient working
- Team working
- Advancement of free, creative and inferential thinking
- Development of connotative and divergent thinking

### Syllabus

1<sup>st</sup> week: Grape ripening – Technological maturity  
 2<sup>nd</sup> week: Composition and chemistry of musts and wines I  
 3<sup>rd</sup> week: Composition and chemistry of musts and wines II  
 4<sup>th</sup> week: Must production and composition – Prefermentative processes  
 5<sup>th</sup> week: Microorganisms and fermentation biochemistry I  
 6<sup>th</sup> week: Microorganisms and fermentation biochemistry II  
 7<sup>th</sup> week: Post-fermentation treatments and ageing  
 8<sup>th</sup> week: Crystallization – colloids - Stabilisation  
 9<sup>th</sup> week: Overview of white vinification  
 10<sup>th</sup> week: Overview of red vinification  
 11<sup>th</sup> week: Distillation & distillate production I  
 12<sup>th</sup> week: Distillation & distillate production II  
 13<sup>th</sup> week: Overview - summary

Laboratory course: 1. Introduction 2. Determination of must density – Baume grades – Potential alcoholic strength 3. pH measurement – Determination of titratable acidity 4. Determination of reducing sugars 5. Determination of alcoholic strength 6. Determination of free and bound sulfur dioxide. 7. Determination of Folin-Ciocalteu index (total polyphenols). 8. Overview - summary

### TEACHING AND LEARNING METHODS - EVALUATION

<b>TEACHING MODE</b>	On campus. In laboratory courses, following a short demonstration by the teaching staff, students carry out the experiment. Furthermore, students get accustomed to writing of scientific reports, in which the experimental data are appropriately given and discussed.		
<b>USE OF COMPUTER SERVICES</b>	Lectures are delivered by power point presentations and other audio media		
<b>TEACHING ORGANISATION</b>	<b>Activity</b>	<b>Semester workload</b>	
	Lecture course	39	
	Laboratory course	39	
	Study	72	
	Sum	<b>150</b>	
<b>STUDENT EVALUATION</b>	The language of evaluation is Greek. The final grade is 50% the grade of the lecture course and 50% of the laboratory course. The exams of the lecture course include multiple choice questions. The exams of the laboratory course include exercises (50%) and reports (50%).		

### RECOMMENDED BIBLIOGRAPHY

Boulton B.R., Singleton V.L., Bisson F.L., Kunkee E.R., 2018. Enology – Basic principles and vinification methods. ISBN: 9789925563210, BROKEN HILL PUBLISHERS LTD