FACULTY/SCHOOL	FACULTY OF ENVIRONMENT		
DEPARTMENT	FOOD SCIENCE AND TECHNOLOGY		
LEVEL OF STUDY	*BACHELOR*		
COURCE UNIT CODE	**FST604**	**SEMESTER**	**6**
COURCE TITLE	**VITICULTURE AND VINE PRODUCTS**		

INDEPENDENT TEACHING ACTIVITIES *in case credits are awarded for separate components/parts of the course, e.g. in lectures, laboratory exercises, etc. If credits are awarded for the entire course, give the weekly teaching hours and the total credits*	**WEEKLY TEACHNG HOURS**	**CREDITS (ECTS)**
Lectures	2	
Tutoring	---	
Laboratory	2	
Total	**4**	**6**
Add rows if necessary. The organization of teaching and the teaching methods used are described in detail under section 4		

COURSE TYPE *Background knowledge, Scientific expertise, General Knowledge, Skills Development*	*Scientific expertise, Skills Development*
PREREQUISITE COURSES:	
LANGUAGE OF INSTRUCTION:	Greek
LANGUAGE OF EXAMINATION/ASSESSMENT:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS	No
COURSE WEBSITE (URL)	

LEARNING OUTCOMES

Learning Outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate (certain) level, which students will acquire upon successful completion of the course, are described in detail.

It is necessary to consult:

APPENDIX A

- *Description of the level of learning outcomes for each level of study, in accordance with the European Higher Education Qualifications' Framework.*
- *Descriptive indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and*

APPENDIX B

- *Guidelines for writing Learning Outcomes*

The objective of this course is to familiarize students with the morphology, the physiological functions of the vine plant, and expose them to the basic principles of viticulture and basic cultivation techniques that are used in a production vineyard for high yield and high quality vine products. The course focuses on the methodology for establishing and running a modern production vineyard, techniques related to training, fruiting, and the annual vegetative cycle to produce wine grapes, table grapes, and

raisins. Special attention is paid to biotic and abiotic factors that control yield and especially the quality and uniqueness of vine products among various locales.

After completing this course, students must be able to:

- Comprehend the morphology and anatomy of the organs of the vine plant and their role in the production of vine products
- Describe the annual vegetative cycle, phenological stages and their physiological basis
- Understand the establishment of a production vineyard and the factors that affect it
- Outline the significance of pruning for training and fruiting and their utilization in viticultural practice
- Understand the significance of factors affecting *terroir* and the unique quality characteristics of various wines and other vine products

General Competences

Taking into consideration the general competences that students/graduates must acquire (as those are described in the Diploma Supplement and are mentioned below), at which of the following does the course attendance aim?

Search for, analysis and synthesis of data and information by the use of appropriate technologies,
Adapting to new situations
Decision-making
Individual/Independent work
Group/Team work
Working in an international environment
Working in an interdisciplinary environment
Introduction of innovative research
Project planning and management
Respect for diversity and multiculturalism
Environmental awareness
Social, professional and ethical responsibility and sensitivity to gender issues
Critical thinking
Development of free, creative and inductive thinking
……
(Other…….citizenship, spiritual freedom, social awareness, altruism etc.)
…….

- Autonomous work and teamwork
- Decision making
- Working in a global context
- Project planning and management
- Respect for the natural environment
- Researching, analyzing, and synthesizing data and information with the use of suitable technologies

COURSE CONTENT
Theory

1. Introduction, historical background, viticulture in Greece and the world, grape varieties, cultivated areas and production of vine products, vine and wine products, Greek vineyards.
2. Vine morphology and anatomy.
3. Vine physiology; annual vegetative cycle.
4. Soil and climatic requirements.
5. Vineyard establishment (climate, soil, grape variety and rootstock selection, planning, planting a new vineyard, vine support systems), vineyard replanting; spatial layout; propagation.
6. Cultivation practices (irrigation, fertilization, management of natural vegetation, tillage, etc.).
7. Training and pruning.
8. Plant protection (diseases, viruses, pests, nutrient deficiencies, other factors affecting vine product quality).
9. Grape varieties; elements of ampelography.
10. Grapes (chemical composition, developmental stages, changes during maturation), must, harvest.
11. Organic viticulture and its special characteristics, its products and its prospects in Greece and the world.
12. Vine product quality schemes (Protected Designation of Origin, Protected Geographical Indication), vine product and wine *terroir.*

Laboratory

Laboratory exercises correspond to the teaching units of the theoretical part. Depending on the nature of the teaching unit, they involve field trips for the *in situ* observation of morphological characteristics (leaves, tendrils, buds, fruits, etc.), surveying physiological characteristics (photosynthesis, respiration, transpiration), phenological attributes (number of leaves, dissolved solids in must, phenolic substances, etc.), practical training in cultivation practices and methods in our experimental vineyard (e.g., budding and grafting, pruning, de-leafing, etc.), laboratory determinations (nutrient content of soil and tissues), observations related to vine health (e.g., disease and pest attacks) and their nutrition, case studies in contemporary topics and problems of the viticultural sector and its products.

TEACHING METHODS--ASSESSMENT

<table>
<tr><td>MODES OF DELIVERY
Face-to-face, in-class lecturing, distance teaching and distance learning etc.</td><td>Face-to-face, in-class lecturing, at the field part of lab work</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATION TECHNOLOGY
Use of ICT in teaching, Laboratory Education, Communication with students</td><td>Power point presentation, Video, Whiteboard writing, Communication with students through e-class and e-mails</td></tr>
<tr><td>OURSE DESIGN</td><td><table><tr><th>Activity/Method</th><th>Semester workload</th></tr><tr><td>Lectures</td><td>60</td></tr><tr><td>In class lab work</td><td>22</td></tr></table></td></tr>
</table>

Description of teaching techniques, practices and methods: *Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, Internship, Art Workshop, Interactive teaching, Educational visits, projects, Essay writing, Artistic creativity, etc.* *The study hours for each learning activity as well as the hours of self-directed study are given following the principles of the ECTS.*	Autonomous field lab work: 22 Total contact hours and training: ***104***
STUDENT PERFORMANCE EVALUATION/ASSESSMENT METHODS *Detailed description of the evaluation procedures:* *Language of evaluation, assessment methods, formative or summative (conclusive), multiple choice tests, short- answer questions, open-ended questions, problem solving, written work, essay/report, oral exam, presentation, laboratory work, other……etc.* *Specifically defined evaluation criteria are stated, as well as if and where they are accessible by the students.*	**Theory:** Final written examination that includes: -multiple choice questions -fill-in the blanks questions -short answer questions **Laboratory:** 75% from final written examination in laboratory that includes: -fill-in the blanks questions -short answer questions -multiple choice questions 25% from lab reports

SUGGESTED READING:

Books

- Gerling C. (2015). Environmentally Sustainable Viticulture: Practices and Practicality. CRC Press, Boca Raton, FL.
- Gladstones J. S. (1992). Viticulture and Environment. Winetitles, Adelaide, Australia.
- Gladstones J. S. (2018). Wine, Terroir and Climate Change. Wakefield Press, Mile End, Australia.
- Johnson, H. and J. Robinson (2019). The World Atlas of Wine. 8th ed. Mitchell Beazley, London.
- Skelton, S. (2009). Viticulture: An Introduction to Commercial Grape Growing for Wine Production. Self-published, London.

Scientific Journals

- Vitis
- American Journal of Enology and Viticulture