PESTS AND DISEASES OF TREES

1. GENERAL

SCHOOL	AGRICULTURAL SCIENCES		
ACADEMIC UNIT	AGRICULTURE		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	AGR_1003	**SEMESTER OF STUDIES**	TENTH
COURSE TITLE	Pests and Diseases of Trees		

INDEPENDENT TEACHING ACTIVITIES *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*	**WEEKLY TEACHING HOURS**	**CREDITS**
Lectures	3	
Laboratory exercises	2	
Total	5	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (4).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Selective, Special background, Specialised general knowledge, skills development
PREREQUISITE COURSES:	Typically, there are no prerequisite courses.
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek.
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No
COURSE WEBPAGE (URL)	

2. LEARNING OUTCOMES

Learning outcomes

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.

Consult Appendix A

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

By the end of this course the student will have developed the following skills (general abilities):

- Understand - comprehend the biology and manifestation of diseases (fungal, prokaryotic, viral, non-parasitic) of trees and grapevine.
- Understand - comprehend the biology of the main pests of trees and grapevine.
- Understand - comprehend the symptomatology and etiology of their occurrence and dissemination.
- Understand - comprehend epidemiology, diagnosis and treatment.
- Know how to be informed on cutting-edge issues about pests and diseases of trees and grapevine.

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

Project planning and management

Respect for difference and multiculturalism

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*	*Respect for the natural environment* *Showing social, professional and ethical responsibility and sensitivity to gender issues* *Criticism and self-criticism* *Production of free, creative and inductive thinking* *……* *Others…* *…….*
Generally, by the end of this course the student will, furthermore, have develop the following general abilities (from the list above): *Decision making* *Autonomous (Independent) work* *Team work* *Respect for the Environment* *Promotion of free, creative and inductive thinking*	

3. SYLLABUS

The main fungal, prokaryotic, viral and non-parasitic diseases of trees and grapevine. Description of symptomatology, etiology and biology of pathogens as well as epidemiology and their treatment

1. Prunus species
2. Pome trees
3. Citrus trees
4. Olive tree
5. Grapevine
6. Nut trees

Morphology, biology, ecology, symptomatology, economic significance, control of pests of trees and grapevine

7. Prunus species
8. Pome trees
9. Citrus trees
10. Olive tree
11. Grapevine
12. Nut trees
13. Post-harvesting and planting diseases and vines.

Laboratory exercises:

Sample processing, observation, description of symptoms, identification of disease agent of trees and grapevine:

1. Affected by plant pathogenic fungi.
2. Affected by plant pathogenic bacteria and viruses.
3. Affected by insects and mites.
4. Affected by plant parasitic nematodes.
5. Affected by post-harvest pests and diseases.
6. Showing non-parasitic diseases.

4. TEACHING AND LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Lectures, self-tests of students and problem-solving seminars.
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES *Use of ICT in teaching, laboratory education, communication with students*	Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teaching. The contents of the course of each chapter are uploaded on the internet, in the form of a series of pdf files that the students can freely download using a password which is provided to them at the beginning of the course.

TEACHING METHODS

The manner and methods of teaching are described in detail.

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.

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

Activity	***Semester workload***
Lectures (3 contact hours per week x 13 weeks)	39
Laboratory work (2 contact hours per week x 6 weeks)	12
Field trip	7
Hours for private study of the student, preparation and attendance mid-term or/and final examinations.	67
Total number of hours for the Course (25 hours of work-load per ECTS credit)	***125 hours (total student work-load)***

STUDENT PERFORMANCE EVALUATION

Description of the evaluation procedure

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

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.

1. Mandatory written examination, with full length questions and / or multiple choice questions, as well as questions based on the laboratory work. Minimum pass grade= 5, scale 0-10.
2. Total degree contribution 100%.
3. All the above are taking place in Greek.

5. ATTACHED BIBLIOGRAPHY

Suggested bibliography:

1. Watson G. 2013. Tree Pests and Diseases - An Arborists' Field Guide. The Arboricultural Association Press.
2. Wilcox W.F., Gubler W.D., Uyemoto J.K. 2015. Compendium of Grape Diseases, Disorders, and Pests, 2nd Edition. APS Press.

Related academic journals:

1. Crop Protection.
2. Hellenic Plant Protection Journal. Benaki Phytopathological Institute
3. Journal of Pest Science
4. Plant Disease.