

COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Agricultural Sciences		
ACADEMIC UNIT	Biosystems & Agricultural Engineering		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	BAE_510	SEMESTER	5 th
COURSE TITLE	PHYTOPATHOLOGY		
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	CREDITS	
Lectures	3		
Tutorials	2		
Laboratory	0		
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 background		
PREREQUISITE COURSES:	There are no prerequisite courses.		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek .-For Erasmus students in English		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes		
COURSE WEBSITE (URL)			

(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>2 At completion of the course students will have acquired knowledge and familiarity on a theoretical and practical level with plant diseases, their causes, the biology of phytopathogenic microorganisms and their interaction with plants and the basic principles of disease management.</p>																		
<p>General Competences</p> <p><i>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?</i></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i></td> <td style="width: 50%; border: none;"><i>Project planning and management</i></td> </tr> <tr> <td style="border: none;"><i>Adapting to new situations</i></td> <td style="border: none;"><i>Respect for difference and multiculturalism</i></td> </tr> <tr> <td style="border: none;"><i>Decision-making</i></td> <td style="border: none;"><i>Respect for the natural environment</i></td> </tr> <tr> <td style="border: none;"><i>Working independently</i></td> <td style="border: none;"><i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i></td> </tr> <tr> <td style="border: none;"><i>Team work</i></td> <td style="border: none;"><i>Criticism and self-criticism</i></td> </tr> <tr> <td style="border: none;"><i>Working in an international environment</i></td> <td style="border: none;"><i>Production of free, creative and inductive thinking</i></td> </tr> <tr> <td style="border: none;"><i>Working in an interdisciplinary environment</i></td> <td style="border: none;"><i>.....</i></td> </tr> <tr> <td style="border: none;"><i>Production of new research ideas</i></td> <td style="border: none;"><i>Others ...</i></td> </tr> <tr> <td style="border: none;"></td> <td style="border: none;"><i>.....</i></td> </tr> </table>	<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management</i>	<i>Adapting to new situations</i>	<i>Respect for difference and multiculturalism</i>	<i>Decision-making</i>	<i>Respect for the natural environment</i>	<i>Working independently</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i>	<i>Team work</i>	<i>Criticism and self-criticism</i>	<i>Working in an international environment</i>	<i>Production of free, creative and inductive thinking</i>	<i>Working in an interdisciplinary environment</i>	<i>.....</i>	<i>Production of new research ideas</i>	<i>Others ...</i>		<i>.....</i>
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<p>In general, upon completion of this course the student will have further developed the following general skills (from the list above):</p>																		

Search, analysis and synthesis of data and information, using the necessary technologies
Adaptation to new situations
Decision making
Autonomous work
Teamwork
Respect for the natural environment
Exercise criticism and self-criticism

(3) SYLLABUS

Lesson 1: Purpose, significance and historical background of Phytopathology
 Lesson 2: The Concept of Illness
 Lesson 3: Symptoms of Sick Plants
 Disorders and Deviations in growth, cell proliferation and morphogenesis of tissues and organs
 Disorders and Deviations in the appearance of the natural colors of leaves, tissues and organs
 Disorders due to availability problems and difficulties in water circulation
 Disorders and Deviations due to necrosis or sepsis of cells, tissues and organs
 Disorders due to abnormal secretions Drops of plant organs and tissues
 Lesson 4: Signs (Fungi - Bacteria - Viruses)
 Lesson 5: Basic Knowledge of Phytopathological Mycology
 Fungal and Oomycete Morphology
 Fungal and Oomycete Reproduction
 Classification of Fungi and Oomycetes
 The most important phytopathogenic genera and species of Fungi and Oomycetes
 Lesson 6: Basic Knowledge of Phytopathological Bacteriology - The most important phytopathogenic genera and species of Bacteria
 Lesson 7: Basic Knowledge of Phytoplasmas and Spirals
 Lesson 8: Basic Knowledge of Phytopathological Virology
 Virus Morphology
 Entry and Proliferation of viruses in host cells
 Virus Reproduction
 Virus Classification
 The most important phytopathogenic viruses
 Movement of viruses in plant cells
 Symptoms of Virological Diseases
 Transmission of Viruses
 Identification and Identification of Viruses
 Dealing with Viruses
 Lesson 9: Basic Knowledge of Plant Ioids
 Lesson 10: Phanerogama Plant Pests - Non-Parasitic Diseases
 Lesson 11: Plant Defense Mechanisms
 Lesson 12: Intrinsic Plant Immune System
 Lesson 13: The Tetrahedron of Disease - Principles and Methods of Treating Diseases
 Laboratory exercises:
 1. Diseases due to Fungi
 1.1. Ascomycetes
 1.2. Basidiomycetes
 1.3. Adilomycetes
 2. Diseases due to Oomycetes
 3. Diseases due to Bacteria
 4. Diseases due to Viruses
 5. Non-parasitic diseases

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face to face deliveries.
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<p>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<ul style="list-style-type: none"> • Use of ICT (power point) in Teaching • Use of ICT (power point) in Laboratory Training • Use of ICT in Communication with students (Learning process support through the electronic platform e-class). 													
<p>TEACHING METHODS <i>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</i></p>	<table border="1"> <thead> <tr> <th data-bbox="619 394 1050 427"><i>Activity</i></th> <th data-bbox="1050 394 1342 427"><i>Semester workload</i></th> </tr> </thead> <tbody> <tr> <td data-bbox="619 427 1050 461">Lectures</td> <td data-bbox="1050 427 1342 461">39</td> </tr> <tr> <td data-bbox="619 461 1050 495">Tutorials</td> <td data-bbox="1050 461 1342 495">26</td> </tr> <tr> <td data-bbox="619 495 1050 528">Final Exams</td> <td data-bbox="1050 495 1342 528">26</td> </tr> <tr> <td data-bbox="619 528 1050 618">Study hours and preparation for tutorials and the final examination</td> <td data-bbox="1050 528 1342 618">44</td> </tr> <tr> <td data-bbox="619 618 1050 651">Course total</td> <td data-bbox="1050 618 1342 651">125</td> </tr> </tbody> </table>		<i>Activity</i>	<i>Semester workload</i>	Lectures	39	Tutorials	26	Final Exams	26	Study hours and preparation for tutorials and the final examination	44	Course total	125
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Course total	125													
<p>STUDENT PERFORMANCE EVALUATION <i>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.</i></p> <p>1</p>	<ol style="list-style-type: none"> 1. The main assessment criteria focus on understanding and correlating the knowledge that students gain from the course with other knowledge. Particular emphasis is placed on whether they have developed the ability to apply this knowledge to crop selection and to assess the impact of these changes on the environment. Emphasis is also placed on demonstrating critical ability and justifying the choices they make in each problem. 2. Evaluation is dynamic. It mainly involves problem solving. is done orally or in writing or with a combination of the two, with or without pre-examination on the basic principles of the course, with or without exculpatory advances and with other test or inventive methods, depending on the composition of the dynamics and the needs of the audience. 3. The above are done in the Greek language. For foreign language students (eg Erasmus students) conducted in English 													

5. RECOMMENDED LITERATURE

-Προτεινόμενη Βιβλιογραφία :

- Θεωρία: Φυτοπαθολογία, Ελευθέριος Τζάμος, Εκδόσεις ΑΘ. ΣΤΑΜΟΥΛΗΣ, Αθήνα 2007

Εργαστήριο: Εργαστηριακές Ασκήσεις Φυτοπαθολογίας, Συγγραφικής ομάδας μελών του Εργαστηρίου Φυτοπαθολογίας,

