

COURSE OUTLINE

(1) GENERAL

SCHOOL	School of Agricultural Sciences		
ACADEMIC UNIT	Biosystems & Agricultural Engineering		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	BAE_704	SEMESTER	7th
COURSE TITLE	SUSTAINABLE AGRICULTURE		
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>	Background and Scientific Area		
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>This course aims to familiarize students with the processes that make agricultural production sustainable (adoption of modern agricultural systems, rational management of water resources, inflows, outflows, biodiversity, etc.). in particular emphasis is put both on understanding the critical agri-environmental indicators associated with the principles of sustainable agriculture and on the environmental footprint of crops. The ways of assessing the environmental impact in the agri-food sector are investigated and the basic principles, the methodological framework and the application of the Life Cycle Assessment (LCA) are analyzed. All of the above will be developed under Sustainable Development and the goals of the Green Agreement and agricultural strategies, such as the strategy "From the field to the plate".</p> <p>After the successful completion of the course, students will be able to understand:</p> <ul style="list-style-type: none"> • the concept of sustainable agriculture and how agricultural systems contribute to sustainable production through the adoption of good agricultural practices. • the parameters of agricultural systems, integrated management, precision agriculture,

<ul style="list-style-type: none"> organic farming, and how they affect the environment environmental / agri-environmental indicators as an assessment tool for the sustainability of an agricultural holding the concept of ecological footprint 																		
<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 border="0"> <tr> <td><i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i></td> <td><i>Project planning and management</i></td> </tr> <tr> <td><i>Adapting to new situations</i></td> <td><i>Respect for difference and multiculturalism</i></td> </tr> <tr> <td><i>Decision-making</i></td> <td><i>Respect for the natural environment</i></td> </tr> <tr> <td><i>Working independently</i></td> <td><i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i></td> </tr> <tr> <td><i>Team work</i></td> <td><i>Criticism and self-criticism</i></td> </tr> <tr> <td><i>Working in an international environment</i></td> <td><i>Production of free, creative and inductive thinking</i></td> </tr> <tr> <td><i>Working in an interdisciplinary environment</i></td> <td>.....</td> </tr> <tr> <td><i>Production of new research ideas</i></td> <td><i>Others...</i></td> </tr> <tr> <td></td> <td>.....</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>Production of new research ideas</i>	<i>Others...</i>	
<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>Production of new research ideas</i>	<i>Others...</i>																	
																	
<p>At the end of this course the student will have further developed the following general skills:</p> <p>Search for, analysis and synthesis of data and information, with the use of the necessary technology</p> <p>Adapting to new situations</p> <p>Decision-making</p> <p>Working independently</p> <p>Team work</p> <p>Production of new research ideas</p> <p>Respect for the natural environment</p> <p>Criticism and self-criticism</p> <p>Production of free, creative and inductive thinking</p>																		

(3) SYLLABUS

<ul style="list-style-type: none"> Principles of Sustainable Development. The main pillars of sustainability. EU's environmental policy on green growth in agri-food. The European Green Agreement and its strategies, with emphasis on the "From the field to the plate" strategy. Sustainable Agriculture / Sustainable Production Systems and environmental impact Sustainable development indicators and the concept of agri-environmental indicators Environmental Footprint: Basic concepts and analysis of the most important footprints Environmental Impact Assessment Introduction to Life Cycle Analysis <p>Tutorial exercises</p> <p>The tutorial exercises aim to familiarize students with concepts and methodologies that are analyzed in the theoretical part. Specifically, the principles of Sustainable Development are analyzed in more detail and the carbon footprint in selected crops is assessed.</p>
--

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Lectures in the amphitheatre and laboratory exercises both in the laboratory and in the field.	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	<ul style="list-style-type: none"> Use of ICT (power point) in Teaching Use of ICT (power point) in Tutorial Training Use of ICT in Communication with students (Learning process support through the electronic platform e-class). 	
TEACHING METHODS	Activity	Semester workload
	Lectures	39

<p>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.</p> <p>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</p>	Tutorials	20
	Writing short reports of laboratory exercises- Exams	21
	Study hours and preparation for the laboratory exercises and the final examination	45
	Course total	125
<p align="center">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>1. The examination in the theory of the course is done with a comprehensive questioner or a multiple-choice questioner that focus on the understanding of the course giving weight to the student's critical ability.</p> <p>3. Oral exams may take place in cases of students who have been exempted from the writing exams and always the same time and day as the writing exams.</p> <p>4. The above are done in the Greek language. For foreign language students (eg Erasmus students) conducted in English</p>	

(5) ATTACHED BIBLIOGRAPHY (In Greek)

- Suggested bibliography:

ΑΕΙΦΟΡΙΚΗ ΑΝΑΠΤΥΞΗ ΓΕΩΡΓΙΚΩΝ ΠΟΡΩΝ, 2017. Συγγραφείς: Χ. Δ. Αναγνωστόπουλος, Δ. Σ. Βερεσόγλου, Π. Α. Γεράκης, Κ. Λ. Καλμπουρτζή, Α. Π. Μαμώλος., ISBN 978-960-357-125-4

ΑΕΙΦΟΡΙΚΗ ΓΕΩΡΓΙΑ ΚΑΙ ΑΝΑΠΤΥΞΗ, 2011. Συγγραφείς: Γεώργιος Κ. Σιάρδος, Αλέξανδρος Ε. Κουτσούρης, ISBN:9789608065826

ΕΝΕΡΓΕΙΑ, ΠΕΡΙΒΑΛΛΟΝ ΚΑΙ ΑΕΙΦΟΡΟΣ ΑΝΑΠΤΥΞΗ. Κωδικός Βιβλίου στον Εύδοξο: 94645312, Έκδοση: 1η/2020. Συγγραφείς: Πολυζάκης Απόστολος. ISBN: 978-618-83590-6-2. Διαθέτης (Εκδότης): Πολυζάκης Απόστολος & ΣΙΑ ΕΕ

Life Cycle Assessment Student Handbook. Editor: Marry Ann Curran, Wiley 2015, ISBN: 978-1-119-08354-2

