

COURSE OUTLINE

1. GENERAL

SCHOOL	AGRICULTURAL SCIENCES		
ACADEMIC UNIT	FOOD SCIENCE AND TECHNOLOGY		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	FST_X11	SEMESTER	WINTER
COURSE TITLE	WASTE MANAGEMENT AND UTILIZATION OF FOOD BY-PRODUCTS		
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	
Laboratory exercises		1	
TOTAL		4	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at 4.			
COURSE TYPE <i>Background, General knowledge, Specialised general knowledge, Skills development</i>	ELECTIVE <i>Specialised general knowledge, Skills development</i>		
PREREQUISITE COURSES:	There are not prerequisite courses		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	NO		
COURSE WEBSITE (URL)	https://eclass.upatras.gr/		

2. LEARNING OUTCOMES

<p>Learning outcomes <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>The course ensures the acquisition of knowledge in the entire scope of the subject of Waste Management & Utilization of Food By-products. The course aims to name the theories and practices regarding the utilization of crop residues, the types of agro-industrial wastes and their management characteristics. It also provides knowledge about Community legislation on the production and disposal of by-products and waste from an agricultural enterprise. Upon successful completion of the course, the student will be able to:</p> <ul style="list-style-type: none"> • Possess knowledge that entails a critical understanding of theories and principles regarding the types of by-products of agricultural industries and the most suitable ways of utilizing them, the modern methods of waste management of agricultural industries and livestock farms as well as their utilization in the production of alternative forms of energy. • Possess knowledge and is able to enrich it using advanced level science textbooks, including views arising from modern developments at the cutting edge of the agricultural by-products & waste Management subject.
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- Gather and interpret relevant data, typically within the domain of Agricultural By-Products & Waste Management, to form judgments that include reflection on relevant social, scientific or ethical issues related to agricultural production.
- Developed those knowledge acquisition skills, which they need to continue in further studies with a large degree of autonomy.
 - Communicate information, ideas, problems and solutions to both specialist and non-specialist audiences as well as collaborate with his fellow students to organize and present an Agricultural Business By-Products & Waste Management Plan.

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?

<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i> <i>Adapting to new situations</i> <i>Decision-making</i> <i>Working independently</i> <i>Team work</i> <i>Working in an international environment</i> <i>Working in an interdisciplinary environment</i> <i>Production of new research ideas</i>	<i>Project planning and management</i> <i>Respect for difference and multiculturalism</i> <i>Respect for the natural environment</i> <i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i> <i>Criticism and self-criticism</i> <i>Production of free, creative and inductive thinking</i>
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- Search, analyze and synthesize data and information
- Assays carried out in groups of students
- Criticism and self-criticism

3. SYLLABUS

- The use of crop residues as animal feed.
- Preparation and utilization of by-products of agricultural industries of plant origin and of animal origin as animal feed. Livestock liquid and solid waste
- Waste from agricultural industries holdings.
- Waste characteristics and waste treatment and management methods.
- Community legislation on the production and disposal of by-products and waste of an agricultural business.

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Learning process support through the e-class online platform

**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*

- I. Written final exam (70%) which includes:
- Short Answer Questions or Questions multiple choice
 - Comparative evaluation of theory elements
- II. Group Work Presentation (30%)
- Delivery of Written Works and Public Presentation them from the working groups

5. ATTACHED BIBLIOGRAPHY

Vassilis Gkekas, Kalliopi Mpalta-Mprouma, 2005. Food industry and environment, Fetus.