

Livestock Production Systems [1440]

COURSE OUTLINE

(1) GENERAL

SCHOOL	ANIMAL BIOSCIENCES		
ACADEMIC UNIT	DEPARTMENT OF ANIMAL SCIENCE		
LEVEL OF STUDIES	UNDERGRADUATE [Required]		
COURSE CODE	1440	SEMESTER	9th
COURSE TITLE	LIVESTOCK PRODUCTION SYSTEMS		
INDEPENDENT TEACHING ACTIVITIES TOTAL		WEEKLY TEACHING HOURS	CREDITS
Lectures and exercises		2	2
TOTAL		2	2
COURSE TYPE	Scientific area, specialised general knowledge, skills development		
PREREQUISITE COURSES:	-		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK		
IS THE COURSE OFFERED TO ERASMUS STUDENTS:	-		
COURSE WEBSITE (URL):	https://oeclass.aua.gr/eclass/courses/EZPY190/		
TEACHING STAFF:	Politis I., Theodorou, G, Laliotis G.		

(2) LEARNING OUTCOMES

Learning outcomes
The objective of the present course is to introduce to the students of our department the concept of “Production Systems” and their significance for animal agriculture worldwide. The content of the course intends to familiarize students with the methods of analysis and study of Production Systems. Furthermore, the course intends to study “Production Systems” using simulation and Statistical Analysis. Students will familiarize themselves with Productions Systems mainly in Greece and the European Union. Emphasis is placed on productivity and the ability of Production Systems to adjust to constantly changing conditions (e.g., environmental conditions and legislation). Upon successful completion of the course, students will be able (according to Bloom) to: • Comprehend the significance and fundamental principles of Animal Production Systems (Knowledge / Comprehension). • Explore and evaluate production systems at the farm, value chain, regional, and national levels (Analysis / Evaluation). • Understand and assess the environmental impact of production systems, along with their implications for animal welfare, economic viability, and sustainability (Comprehension / Evaluation). • Analyze and calculate production cost data to support decision-making (Application / Analysis). • Analyze and interpret the effects of implementing innovations in nutrition and breeding practices (Analysis / Evaluation). • Work effectively both individually and collaboratively within teams to address production-related challenges (Application / Synthesis / Evaluation).
General Competences
The eight (8) exercises (case studies) developed under the course require independence and group work. • Skills related to searching, analyzing, synthesizing data and information using new technologies as well as decision-making are developed. • The student acquires skills related to respect for the natural environment. • The discussion of students' answers to the laboratory exercises takes place in front of the whole class fostering critical and self-critical thinking.

(3) SYLLABUS

i. Definition, significance for animal agriculture ii. Organization of Production Systems, general principles iii. Descriptive models iv. Mathematical models (Simulation, statistical models)

- v. Biological and Economic viability of Production Systems
- vi. Examples of Production System in Greece and European Union
- vii. Production System and Environmental impact
- viii. Sustainable Production Systems-Precision livestock farming

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY	In class, face to face and distance learning	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	PowerPoint and video presentations. Communication with students via e-mail. Teaching support through access to the e-class platform, to on-line databases etc.	
TEACHING METHODS	Activity	Semester workload
	Lectures	16
	Essay writing	10
	Teamwork/group simulating exercise	10
	Individual study	14
	Course total (25 h of workload per ECTS)	50
STUDENT PERFORMANCE EVALUATION	-Evaluation is conducted in Greek Students can choose to be evaluated either: a) through tasks where the grade is obtained 100% from individual and/or group simulation exercises, depending on the number of students that will choose the course, or b) through written tests work, The option (a) is only valid for ongoing students of 9th semester and not for students who owe the course. Students who owe the course are examined through written test.	

(5) ATTACHED BIBLIOGRAPHY

(A) Suggested literature

- Livestock production systems, Laca G.A. and M&W Demment, EOLSS, 2013
- Animal Production Systems for Pasture-Based Livestock Production. Edited by: Edward B. Rayburn, published by NRAES (2008)
- Precision livestock farming applications: Making sense of sensors to support farm management. Edited by: Ilan Halachmi, published by: Wageningen Academic Publishers (2015)
- A comparative evaluation of models of lactating ruminant. Sauvant D. Ann. Zootechn. 1996. 45:215-235.

(B) Digital Educational Materials (e-class; in Greek):

- Politis (2022). Introduction to Production Systems (Lectures in electronic format)
- G. Laliotis (2022). Agricultural Livestock Production Systems with an emphasis on Ruminants (Lectures in electronic format)
- G. Theodorou (2022). a) Sustainable animal husbandry, b) Precision animal farming, c) Milk production estimation models. (Lectures in electronic format)