

COURSE OUTLINE

(1) GENERAL

SCHOOL	Animal Biosciences		
ACADEMIC UNIT	Animal Science		
LEVEL OF STUDIES	Undergraduate [Required]		
COURSE CODE	125	SEMESTER	3 rd
COURSE TITLE	ANIMAL HUSBANDRY		
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	2	2	
Laboratory practical's	2	2	
TOTAL	4	4	
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	Field of Science		
PREREQUISITE COURSES:	no		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS:	Yes		
COURSE WEBSITE (URL):	https://oeclass.aua.gr/eclass/courses/2705/		
TEACHING STAFF:	Theory: Koutsouli P., Politis I., Karakatsouli N. Laboratory: Theodorou G., Goliomytis M., Laliotis G., Kominakis A., Simitzis P., Stefos G.		

(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
The aim of the course is to provide students with the necessary and up-to-date knowledge on fundamental topics of General Animal Science. Upon successful completion of the course, the student will be able (according to Bloom's taxonomy) to: Recognize the importance of animal production as a source of biologically essential foodstuffs, particularly in regions that are disadvantaged for crop production. (Knowledge)

- State the role of ruminants in food production for humans due to their specialized digestive system. (Knowledge)
- Identify the main uses of animal production by-products (wool, leather, manure, etc.). (Knowledge)
- Explain why food competition between humans and animals is more intense in monogastric species than in ruminants. (Understanding)
- Describe the main negative environmental impacts of animal production. (Understanding)
- Interpret the contribution of rational grazing, nomadic systems, and mixed farming systems to environmental sustainability. (Understanding)
- Explain the significance of animal domestication in the transition of humans to an agricultural society. (Understanding)
- Describe the morphological, productive, and behavioural changes in animals due to their adaptation to artificial environments. (Understanding)
- Define the concept of breed as a taxonomic unit of a species. (Knowledge)
- Explain the role of genetic and economic parameters in determining breeding objectives. (Understanding)
- Apply classification criteria for assigning farm animals to breeds. (Application)
- Use morphological and physiological characteristics to compare breeds. (Application)
- Analyse the causes of the environmental impacts of intensive animal production. (Analysis)
- Relate genetic improvement to productivity, economic value, and animal welfare. (Analysis)
- Describe the biological basis of farm animal performance (growth, reproduction, and milk production). (Understanding)
- Evaluate the importance of animal welfare for the full expression of animals' genetic potential. (Evaluation)
- Assess the sustainability of different animal production systems with respect to their environmental impact. (Evaluation)
- Design a basic animal production system based on sustainability and economic efficiency. (Creation)
- Formulate simple breeding objectives for farm animals based on productive and genetic data. (Creation)

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>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>Teamwork</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>

Search for, analysis, and synthesis of data and information, with the use of the necessary technology, adapting to new situations, decision-making, and production of free, creative, and inductive thinking. The six (6) laboratory exercises within the course refer to tours of the AUA's Livestock Farm, so that the student can get in touch with the way of rearing the agriculturally productive animals available at

the AUA. Through these exercises, the student will become familiar with the animal as a single organism, including its conformation, characteristics, and movements, so that they can distinguish the merits and demerits of the animal, which are essential for understanding the course of animal husbandry.

(3) SYLLABUS

Importance of animal production: Usefulness of animals. Food competition between humans and animals. Animal production and the environment. Origin and domestication of farm animals. Causes of domestication of livestock. Time and place of domestication. Breeds of farm animals: definition and evolution of the concept of breed. Criteria for classification and subdivision of breeds of cattle, sheep, goats and pigs. Definition and importance of conservation of rare breeds. Population and quantitative genetics of farm animals (Hardy-Weinberg law. Genotypic, phenotypic, and hereditary values. Heritability coefficient. Selection index. Selective progress. Heterosis. Crossbreeding of three lines).

Reproduction of farm animals: structure and function of the male and female reproductive systems. Reproductive hormones. The male and female reproductive systems, male and female reproductive organs. Gametogenesis. Estrous cycle. Fertilization. Physiology of childbirth. Synchronization of oestrus. Artificial insemination.

Dairy production in farm animals: structure of the breast in dairy animals. Chemical composition of milk. Milking curve. Dry period of cows. Factors influencing milk yield.

Growth of farm animals: concept and assessment of growth. Growth rate. Concept, definition, and definition of livestock production. Muscle and adipose tissue. Body composition. Carcass and meat quality.

Aquaculture: Aquaculture farming systems worldwide and in Greece. Suitability of water temperature, salinity in aquaculture. Breeding of Mediterranean fish species.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY <i>Face-to-face, Distance learning, etc.</i>	Face-to-face in the classroom (PowerPoint presentations in theory and in the laboratory)								
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	1. Use of ICT in Teaching, Laboratory Education, and Communication with students. 2. Use of the integrated e-course management system. PowerPoint presentations with audio, video presentations. 3. Communication with students via Open e-class and via e-mail. References to selected scientific websites.								
TEACHING METHODS <i>The manner and methods of teaching are described in detail.</i> <i>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.</i>	<table border="1"> <thead> <tr> <th>Activity</th><th>Semester workload</th></tr> </thead> <tbody> <tr> <td>Lectures on theory</td><td>26</td></tr> <tr> <td>Laboratory exercises in large groups of students</td><td>26</td></tr> <tr> <td>Independent study</td><td>48</td></tr> </tbody> </table>	Activity	Semester workload	Lectures on theory	26	Laboratory exercises in large groups of students	26	Independent study	48
Activity	Semester workload								
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Laboratory exercises in large groups of students	26								
Independent study	48								

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	Course Total (25 h workload per ECTS)	100
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. Theory Written final exams (100%) with open-ended questions, short answer questions and multiple-choice questions. II. Laboratory Assessment in written examination with questions. III. Evaluation is conducted in Greek The grade in theory results 100% from the final written examination. The grade in laboratory results 100% from the final written examination.	

(5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography: 1. Theory: Rogdakis Emm. (2008): Genetic Improvement of Farm Animals, Publ. Stamoulis, Athens. Zygiogiannis D. (2006): Sheep farming, Ruminants farming (vol. A), Synchroni paideia, Thessaloniki. Katsaounis N. (1994): Sheep farming, Kyriakidis Publishers, Thessaloniki. Digital Educational Materials (e-class): Koutsouli P., Lectures on relevant chapters of the course (pdf files), 2024 Politis I., Lectures on relevant chapters of the course (pdf files), 2024 Karakatsouli N., “Aquaculture” (ppt), 2018. Recommended Textbooks (EUDOXOS): Rogdakis Emm. (2006): General Animal Husbandry, Publisher Ath. Stamoulis / Code in «EVDXOS»: 22680 2. Laboratory: Three files (pdf): Charismiadou M. (cow farm), Koutsouli P. (sheep farm), Goliomytis M. (poultry farm) - Related academic journals: Canadian Journal of Animal Science https://cdnsiencepub.com/journal/cjas Animals https://www.mdpi.com/journal/animals Journal of Animal Science https://academic.oup.com/jas
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