

Principles of Animal Production [3675]

COURSE OUTLINE

(1) GENERAL

SCHOOL	ANIMAL BIOSCIENCES		
ACADEMIC UNIT	DEPARTMENT OF ANIMAL SCIENCE		
LEVEL OF STUDIES	Undergraduate [Required]		
COURSE CODE	3675	SEMESTER	1 st
COURSE TITLE	PRINCIPLES OF ANIMAL PRODUCTION		
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 (ECTS)
Lectures		3	3
Laboratory training		2	2
Total		5	5
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>	Foundation course		
PREREQUISITE COURSES:	No		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS:	-		
COURSE WEBSITE (URL):	https://mediasrv.aua.gr/eclass/courses/EZPY130/		

(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 purpose of the course is to introduce the students of the Department of Animal Science to the science of animal production. Upon successful completion of the course, the student will be able (according to Bloom) to know that: • Animal production is a very important source of valuable and biologically necessary food, and the only means of exploiting land in areas disadvantaged for plant production, particularly through ruminants due to their peculiar digestive system (Knowledge / Understanding). • Animals contribute crucially to the global economy, providing raw materials for industry (wool and leather), manure for fertilizing soils, fuel and building materials, and non-edible parts of carcasses as animal feed (Knowledge / Understanding). • There is an unequal distribution of global food production between developed and developing regions (Knowledge / Understanding). • Although animal production lags behind plant production, the food competition between humans and animals is greater for monogastric species (pigs and poultry) than for ruminants (cattle, sheep, goats) (Knowledge / Analysis). • Forecasts for increasing meat consumption by developing countries will be met mainly by pork and poultry production, while a large increase in demand for cereals for animal feed is expected (Knowledge / Understanding / Application). • Animal production is often criticized for negative environmental effects, while positive effects (e.g., rational grazing, nomadic systems, mixed farming systems) contribute to food production and sustainability; adverse effects include potential contamination of water, increased water use, and biodiversity loss from intensification (Knowledge / Analysis / Evaluation). • The domestication of animals, alongside the discovery of agriculture, marked the transition from hunter-gatherer societies to modern man, with animals adapting to artificial environments and undergoing significant morphological, productive, and behavioral changes (Knowledge / Understanding).

- The breed is a classification unit of a species, facilitating the study of animal properties and environmental conditions for their expression; today, focus is on populations rather than breeds, with improvement goals determined using genetic and economic parameters (Knowledge / Understanding / Application). - Farm animals are classified into breeds based on morphological and physiological characteristics, natural breeding conditions, origin, degree of improvement, productive direction, etc. (Knowledge / Understanding).
General Competences <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>
Search for, analysis and synthesis of data and information, with the use of the necessary technology Adapting to new situations Decision-making Working independently Team work Working in an international environment Working in an interdisciplinary environment Production of new research ideas Project planning and management Respect for difference and multiculturalism Respect for the natural environment Showing social, professional and ethical responsibility and sensitivity to gender issues Criticism and self-criticism Production of free, creative and inductive thinking Others...
- The thirteen (13) laboratory exercises require group and autonomous work. - In-group and individual work, skills related to search, analysis, data composition and information are developed using books from the library as well as new technologies. - Power-point presentations followed by discussion develop critical thinking ability

(3) SYLLABUS

- Social and economic importance of animal production, the complementary branch of agriculture. Benefits of breeding farm animals for humans. Animal production efficiency in relation to crop production. Contribution of animal production to the solution of the global food problem. Elements of global livestock and production. Data from animal production in Greece. Trends for the future evolution of animal production. - Origin, domestication and evolution of farm animals. Changes that farm animals underwent during the domestication process. - Classification of farm animals into breeds. Description of the main breeds of cattle, sheep, goats and pigs. Conservation of rare breeds.

(4) TEACHING and LEARNING METHODS - EVALUATION

TEACHING METHOD <i>Face-to-face, Distance learning, etc.</i>	Face to face (theory, laboratory), e-class platform	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i>	Powerpoint presentations, e-class platform	
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.</i> <i>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>	Activity	Semester workload
	Lectures	39
	Laboratory exercises	26
	Group (1- 4 individuals) and presentation in the class	20
	Individual study	40
	Course total (25 h of workload per ECTS)	125
STUDENT PERFORMANCE EVALUATION <i>Description of the evaluation procedure</i> <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,</i>	I. Greek language is used for the evaluation of the course II. The degrees of the theory courses are dependent from the evaluation of individual or group homework (25%) and from the final written examination (75%). Multiple- choice questions, short questions with text are used for the final examination. III. The degrees for the practical course is 100% dependent from the final written or oral examination.	

laboratory work, clinical examination of patient, art interpretation, other

Specifically-defined evaluation criteria are given, and if and where they are accessible to students.

(5) ATTACHED BIBLIOGRAPHY

-Proposed Literature:

- Emmanouil Rogdakis (2006): General Zootechnia, publisher A. Stamoulis.
- Stricklin R.W. (2001): "The Evolution and Domestication of Social Behaviour", pp: 83-110, in "Social Behaviour in Farm Animals" (eds L.J. Keeling and H. W. Gonyou) ©CAB International 2001,
- Mason, I. L. (1967): Sheep breeds of the Mediterranean. FAO, CAB
- Hale E. B. (1962): "Domestication and the evolution of behaviour" in : Hafez E.S.E. (ed.) The Behaviour of Domestic Animals, 2nd edn. Baillière, Tindall & Cassell, London, pp.22-42
- Price E. O. (1984): "Behavioural aspects of animal domestication". The Quarterly Review of Biology 59, pp.1-32
- Friend J. & D. Bishop (1978): «Cattle of the world in colour», Blandford press Ltd.

-Suggested publications:

- Burt D. W. (2009): "The cattle genome reveals its secrets". The Journal of Biology, 8:36.
- Hackmann T. J. & J. N. Spain (2010): Invited review: "Ruminant ecology and evolution: Perspectives useful to ruminant livestock research and production". J. Dairy Sci. 93:1320– 1334.
- Diamond J. (2002): "Evolution, consequences and future of plant and animal domestication". Nature, Vol 418, 8 August 2002: 700-707. • Groeneveld L. F., Lenstra J. A. , Eding H., Toro M. A., Scherf B., Pilling D., Negrini R., Finlay E. K., Jianlin H., Groeneveld E., Weigend S. and The GLOBALDIV Consortium (2010): "Genetic diversity in farm animals – a review". Animal Genetics, 41 (Suppl. 1): 6–31.
- Hiendleder S., Kaupe B., Wassmuth R. and A. Janke (2002): «Molecular analysis of wild and domestic sheep questions current nomenclature and provides evidence for domestication from two different subspecies». Proc. R. Soc. Lond. B, 269, 893-904
- Konarzewski M. (2004): Meat animals, origin and domestication. Encyclopedia of Meat Science, pages 681-686, Elsevier.
- Vigne J-D. (2011): The origins of animal domestication & husbandry: A major change in the history of humanity and the biosphere. Comptes Rendus Biologies 334, pp171-181.