

COURSE LAYOUT

1. GENERAL

SCHOOL	School of Animal Biosciences		
DEPARTMENT	Department of Animal Science		
STUDY LEVEL	<i>Undergraduate - Compulsory</i>		
COURSE CODE	3675	SEMESTER	1st
COURSE TITLE	PRINCIPLES OF ANIMAL PRODUCTION		
INDEPENDENT TEACHING ACTIVITIES	WEEKLY TEACHING HOURS	ECTS	
Theory and laboratory practices	5	5	
COURSE TYPE (Foundation course, General knowledge, Scientific area, Developing skills)	foundation course		
PREREQUISITES	none		
LANGUAGE	Greek		
IS THE COURSE OFFERED for ERASMUS STUDENTS?	no		
COURSE WEB PAGE	https://mediasrv.aua.gr/eclass/courses/EZPY130/		

2. LEARNING OUTCOMES

Learning outcomes
<p>The purpose of the course is to introduce the students of the Department of Animal Husbandry to the science of animal production. Upon successful completion of the course the student will be able to know that:</p> <p>The animal production is a very important source of production of valuable and biologically necessary food, the only means of exploiting the land in areas that are disadvantaged for the exercise of plant production. In particular, ruminants are due to their peculiar digestive system, essential food producers for humans.</p> <ul style="list-style-type: none"> • The contribution of animals to the global economy is crucial because animals provide raw materials for industry (wool & leather), their manure is used for fertilizing soils, as a fuel and as a building material and finally the non-edible parts of carcasses are used as animal feed. • There is an unequal distribution of global food production between developed and developing regions of earth. • Although animal production lags behind in terms of plant production, the food competition between humans and animals is greater for monogastric species (pigs and poultry) than for ruminants (cattle, sheep and goats). • Forecasts for increasing meat consumption by developing countries will be met mainly by an increase in pork and poultry production, while a large increase in the demand for cereals for animal feed is expected. • Animal production is often criticized for its negative effects on the environment, while positive ones are rarely affected. Rational grazing, nomadic systems, mixed farming systems contribute to food production and environmental sustainability. Adverse effects include possible contamination of surface and groundwater from improper storage or distribution of manure, increased water needs during the production process of animal products and finally the possible shrinkage of biodiversity due to further intensification of production by replacing production. • The domestication of animals in parallel with the discovery of agricultural practice was the

beginning of the transition from hunter-gatherer to modern man. The animals adapted to the artificial environment provided by humans while their morphological, productive and ethological characteristics changed significantly.

- The breed is a classification unit of the species which facilitates the study of the properties of animals and the environmental conditions required for the acquisition of these properties. Today the subject of zoological science is more the population and less the race. With the help of genetic and economic parameters, the improvement goal is determined and only the properties that affect the economic value and well-being of the animals are given importance.
- Farm animals are classified into breeds with criteria such as their morphological and physiological characteristics, natural conditions of the breeding area, country of origin, degree of improvement and evolution, productive direction, etc.

General Competences

- 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 the critical thinking ability

3. COURSE CONTENT

- 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	Face to face (theory, laboratory)	
	e-class platform	
USE OF INFORMATICS and COMMUNICATION TECHNOLOGIES	Powerpoint presentations, e-class platform	
TEACHING ORGANISATION (Lectures, individual or group assignments, field trips, individual study et.c.)	Activities	Workload per semester
	Lectures	39
	Laboratory exercises	26
	Group (1- 4 individuals) and presentation in the class	20
	Individual study	40
	Total contact hours and training	125
STUDENTS EVALUATION	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	

	<p>are used for the final examination.</p> <p>III. The degrees for the practical course is 100% dependent from the final written or oral examination.</p>
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5. Suggested bibliography

- 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.