

## Global Learning Semesters

### Course Syllabus

Course: Animal Husbandry in the Mediterranean

Department: Biology

Host Institution: University of Nicosia, Nicosia, Cyprus

Course Summary		
Course Code	Course Title	Recommended Credit Hours
BIOL-215	Animal Husbandry in the Mediterranean	3
Subject	Contact Hours	Prerequisites
Animal Science	42-45	Junior Standing, two biology courses
Department	Level of Course	Language of Instruction
Biology	Upper-Division	English

### Course Description

This course focuses on the basic principles of Animal Husbandry with particular reference to the aspects of animal production that are of great economic importance to livestock industry in Cyprus and the Mediterranean region. It focuses on the types and breeds of farm animals, and the fundamental principles used in animal feeding and management and in selecting and breeding them, as well as on the economic problems associated with the production of meat, milk and eggs. Classroom sessions will be supplemented with visits to farms for a first-hand experience of the issues examined in class.

### Prerequisites (if applicable)

Junior standing, two college-level biology courses.

### Instructor Information

Dr. Miltiades Hadjipanayiotou – PhD Agricultural Biochemistry and Animal Nutrition, Newcastle University, U.K.

- Director, GEORGOKTINOTROFIKI CONSULTANTS LTD. [Accredited body no.24, Ministry of Agric., Natural Res. And Environment]. An Organization offering consultancy services in all aspects of crop and animal production.
- Senior Research Officer, Head Animal Production section, of the Agricultural Research Institute, Nicosia, Cyprus (February 2000 – March 2003).
- Agricultural Research Officer `A`. Head of the Animal Metabolism Unit and of the Analytical Laboratory of the Animal Production Section. Participated in government committees responsible for the development of standards on the use of feed additives and animal feeds and also advised the government in new lines concerning animal production , Nicosia, Cyprus (April 1992 – February 2000).
- Project Manager of an **FAO/UNDP** project in Syria, aiming at the Improved and greater use of agricultural by-products for ruminant animals feeding. Supervisor of 26 professionals (April 1990 – March 1992).

- Member of The Nutrition Society, U.K, the American Dairy Science Association, the International Goat Association

Dr. Andreas P. Mavrogenis – PhD Animal breeding and genetics NCSU, USA.

- Head of the Statistics and Information Technology Section, Animal Breeding and Genetics, Agricultural Research Institute, Nicosia, Cyprus.
- Chairman of the Committee of Evaluation of the Agricultural Research Institute , Expert panel from ISNAR and ARI staff
- Chairman of the Interdepartmental Committee for Animal Improvement of MANRE (for the year 2000)
- Chairman of the Editorial Committee for the Scientific Publications of ARI
- Member of the International Referee Board of the Egyptian Journal of Animal Production, Faculty of Agriculture, Cairo University, Giza, Egypt (since 1989).
- Member of the Editorial Advisory Board for the Official Journal of the International Goat Association, Small Ruminant Research, Elsevier (since 1992).
- Reviewer for Small Ruminant Research, The Official Journal of the International Goat Association
- Reviewer for Livestock Production Science, The Official Journal of EAAP
- Member of the American Society of Animal Science.
- Member of the International Goat Association.
- Member of the Honour Society of Agriculture "Gamma Sigma Delta".

## Course Outline

Topic areas to be covered are selected from the following depending on the needs and characteristics of the class:

1. Basic Genetics (Mitosis and Meiosis; Mendelian inheritance; deviations to Mendelian genetics; expression of genes; linkage and crossing over; sex determination, sex influenced and sex limited characters; blood groups and polymorphism; chromosome aberrations; gene and its structure)
2. Quantitative Genetics (Heritability, repeatability and genetic and phenotypic correlations, their methods of estimation and precision of estimates; aids to selection and their relative merits; individual, pedigree, family and within family selection; progeny testing)
3. Selection and Breeding (methods of selection; construction of selection indices and their uses; comparative evaluation of genetic gains through various selection methods; inbreeding, upgrading, cross-breeding and synthesis of breeds; crossing of inbred lines for commercial production)
4. Digestive system and gastrointestinal tract of different animal species.
5. Nutrients and their metabolism
6. Animal feedstuffs used in the region as well as processing methods used for improving their nutritional worth and storage qualities.
7. Feeding and management of dual purpose (milk and meat) sheep and goats under semi-intensive / intensive forms of production (housing facilities, rearing systems etc).
8. Feeding and managing the dairy cow at different production stages and of calf and heifer feeding and management.
9. Nutritional and other measures for reducing adverse effects of heat stressed and during drought.

## Evaluation and Grading

### Grading

Midterm exam: 20%

Final exam:	40%
In-class participation:	20%
Field study participation:	20%

## Readings and Resources

### Required Texts

Handouts and Articles provided

### Optional Reading

1. Monroe W. Strickberger. Genetics. The Macmillan Company. NY.
2. John F. Lasley. Genetics of livestock improvement. Prentice-Hall, inc. New Jersey.
3. I. Michael Lerner. The genetic basis of selection. Greenwood press, Connecticut.
4. P. McDonald et al. Animal Nutrition. Upper Saddle River, NJ: Pentice Hall,Willey, 2005, 5<sup>th</sup> edition.
5. Richard O. Kelmers, D.C. Church. Livestock feeds and feeding. Boston: Prentice hall, c2010, 6<sup>th</sup> edition.
6. Tisch David. Animals feeds, feeding, and nutrition and ration evaluation. Clifton Park, NY: Thomson Delmar Learning 2005.
7. Dairy sheep nutrition/ edited by G. Pulina. Oxfordshire, OX, UK; Cambridge, MA, USA: CABI Pub., c2004.

## Other Academic Policies

Attendance is compulsory.

If unable to attend a class, students must inform the course lecturer in advance. A maximum of 20% excused absences is tolerated; however beyond this percentage, students will be withdrawn from the course. Moreover, any work missed due to absence must be completed on return to class.