General Zootechnicks

COURSE OUTLINE

ΓΕΝΙΚΑ

SCHOOL	AGRICULTURE SCIENCE		
DEPARTMENT	FOOD SCIENCE AND NUTRITION		
STUDY LEVEL	5 years		
COURSE CODE	CP414	SEMESTER OF STUDY	4th
COURSE TITLE	General Zootechnicks		

INDEPENDENT TEACHING ACTIVITIES *In case ECTS are awarded for distinct parts of the course e.g. Theory Lectures, Laboratory Practicals etc. If ECTS are awarded uniformly for the entire course, give the weekly teaching hours and total ECTS.*	**WEEKLY**	**CREDITS**
Theory Lectures	3	
Exercises	3	
TOTAL		6

COURSE TYPE *Background, Basic knowledge, Field of Science, Skill development*	General background and knowledge regarding animal husbandry and livestock production in relation to the environment and to human.
PREREQUISITES:	No
LANGUAGE:	Greek
IS THE COURSE OFFERED for ERASMUS STUDENTS?	No
COURSE WEB PAGE (URL)	https://food.uth.gr/ Animal Husbundry

LEARNING OUTCOMES

Learning Outcomes

The course learning outcomes, specific knowledge, skills and competences of an appropriate (certain) level, which students will acquire upon successful completion of the course, are described in detail. It is necessary to consult.

Appendix A

• Description of the level of learning outcomes for each level of study, in accordance with the European Higher Education Qualifications' Framework

• Descriptive indicators for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning

And Appendix B

- *• Guidelines for writing Learning Outcomes*

Provision of knowledge in the field of animal husbandry, livestock production in relation to the environment, man, his health and food.
The acquisition of basic knowledge of Animal Husbandry, scientific production terms for all productive animals, understanding of the modern requirements of the national and international market in the field of animal production, future trends and primary production systems that lead to production standards with distinct quality characteristics.
Also, the course aims to acquire students' knowledge on modern, scientifically managed farm animal breeding in order to produce safe and superior quality animal products.
The course material aims to understand all forms of productive exploitation of farm animals with a combination of high standards of productive and reproductive management of farming, as well as modern conditions of housing and equipment.
The course concerns the understanding of the social and economic importance of animal production, the other and complementary branch of Agriculture and analyzes:
- The benefits of farming farm animals for humans.
- The efficiency of animal production in relation to crop production.
- The contribution of animal production to solving the global food problem.
Gives:
- Data on world livestock and production.

- Data from Animal Production in Greece.
Shows:
- Trends in the future development of animal production.
Analyzes:
- The origin, domestication and evolution of farm animals.
- The changes that farm animals underwent during the course of domestication
-The classification of farm animals into breeds.
- The main breeds of cattle, sheep, goats and pigs.
- The importance of preserving rare breeds.
- The intake and digestion of food.
- Metabolism (energy and nutrients).
- The animals' needs for energy, nitrogenous substances, minerals, vitamins and other nutrients.
- The biological value of the proteins of the diet.
Upon successful completion of the course the student will have the skills to:
- Understand that preventive hygiene, nutrition, welfare, biosecurity, environmentally friendly zootechnical regulations, preventive and active hygiene and finally issues of processing, quality, safety of animal products constitute an integrated approach to knowledge of animal production.
- Correlate the theoretical and practical background of his/her knowledge in Anatomy, Genetics, Physiology, Reproduction and Nutrition with the objectives of animal production and consumer demands.
- Know ways of managing farm animals in modern production systems.
- To assess the current situation using the acquired knowledge and skills regarding the animal production sector and its prospects, both in Greece and globally and to propose any interventions for the further and strengthening of the production of animal products in the wider field of animal production

General Competences
Taking into consideration the general competences that students/graduates must acquire (as those are described in the Diploma Supplement and are mentioned below), at which of the following does the course attendance aim?

- *Theoretical thinking and the ability to translate theory into practice*
- *Search, analyze and synthesize data and information, using the necessary technologies*
- *Decision-making*
- *Autonomous work*
- *Teamwork*
- *Promoting free, creative and inductive thinking*
- *Development of lateral and divergent thinking*

COURSE CONTENT

Purpose of General Animal Husbandry
• Classification of pets
•Terminology
•Physiology
•Behaviour
• Management of natural food resources
• Management and systems of rearing productive animals
• Social, anthropological and economic importance of animal production in Mediterranean ecosystems
• Production sectors, production directions
•Tribes
• International trends in livestock production
• New technologies and methods of improving and developing livestock farming

Teaching

Week 1
The Importance of Animal Production
Food production
Food Competition Between Humans and Animals
Animal Production and Environment
Origin and Domestication of Farm Animals
Week 2
Breeds of Farm Animals
Definition of the Concept of Race
Classification of Breeds

Subdivision of the Tribe
Herd-books
Breeds of cattle
Week 3
Sheep breeds
Goat breeds
Breeds of pigs
Week 4
Population and Quantitative Genetics of Farm Animals
Factors that Alter Gene Frequency
Small Populations and Homomixing
Week 5
Quality Characteristics in Farm Animal Populations
Quantitative characteristics
Farm Animal Development (Concept, Appreciation)
Week 6
Bones (Morphology, Construction)
By length and thickness increase
Skeletal striated muscle tissue
Adipose Tissue (Structure and Histogenesis)
Week 7
Composition of the body
Fattening capacity
Carcass quality
Meat quality
Growth modification using exogenous hormones
Week 8
Reproduction of Farm Animals
Gender Determination and Differentiation
Genital system of the male
Genital system of the female
Reproductive hormones
Pituitary gonadotrophins
Puberty
Spermatogenesis
Week 9
Ovulation
Estrous Cycle
Fertilization
Groove
Gestation
Childbirth physiology
Week 10
Reproductive Yields
Reproduction Biotechnology
Artificial insemination
Synchronization of estrus
Diagnosis of gestation
Induction of labor
Determination of the sex of the fetus
Dairy Farming of Farm Animals
Breast Structure
Week 11
Mastogenesis
Composition of Milk
Composition and Secretion of Milk
Galactogenesis

Week 12 Factors Affecting the Amount of Milk Production Genetic Improvement of Farm Animals Estimation of Bequest Prices Population Response to Selection Week 13 Coupling Systems Methods and Planning of Genetic Improvement Choice Intersection shapes

TEACHING METHODS--ASSESSMENT

METHOD OF DELIVERY *Face to face, Distance learning, etc.*	*Face to face*
USE OF INFORMATION AND COMMUNICATION TECHNOLOGY *Use of ICT in teaching, Laboratory Education, Communication with students*	Lectures: In a classroom. a. Digital media will be used for the teaching of the course (presentations using˝projector˝,˝ PowerPoint˝,˝ Excel˝,˝ videos ˝ and photos), while communication with students will also be possible via the internet (questions, exercises). b. There will be a demonstration-learning of finding modern scientific literature from the internet (renowned international scientific journals). c. The learning of the electronic recording of the reproductive / productive characteristics of farm animals will be done with specially designed by the instructor, spreadsheets˝EXCEL˝, using a computer. d. There will be a daily educational trip to a farm animal breeding unit (with cows, calves, sheep, goats or pigs).
TEACHING ORGANIZATION *The method and methods of teaching are described in detail.* *Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliography Study & Analysis, Tutorial, Internship (Placement), Clinical Practicing, Art Workshop, Interactive Teaching, Educational visits, Project Writing, Writing a project / assignments, Artistic creation, etc.* *The student's study hours for each learning activity are listed as well as the hours of unguided study so that the total workload at semester level corresponds to ECTS standards*	

Activity	***Semester Workload***
Lectures in Auditorium	39
Laboratory field exercise / Laboratory exercises	39
Independent study	69
Study visits	3
Total Course (25 hours of workload per credit)	***150***

STUDENT EVALUATION *Description of the evaluation process* *Assessment Language, Assessment Methods, Formative or Summative, Multiple Choice Test, Short Answer Questions, Essay Development Questions, Problem Solving, Written Assignment, Essay/Report, Oral Examination, Public Presentation, Laboratory Work, Clinical Examination of a Patient, Artistic Interpretation, Other/Others*	I. Written final exam for the theory (100%) including: Questions for the development of topics in known material of suggested bibliography. Questions that require synthesis of information and critical thinking by the student. II. Presentation by students of individual or group work for the laboratory (100%) or written examination for the laboratory (100%) if it is not possible to present papers.

Explicitly defined evaluation criteria and whether and where they are accessible to students are mentioned.	

RECOMMENDED-BIBLIOGRAPHY

-Suggested Bibliography :
Rogdakis, E. (2006). General Zootechnics. Stamoulis Publications S.A., Athens (code Evdoxus 22680), ISBN: 9789603516740.
Chatziminaoglou I., Liamadis D., Avdi M. (2006). Introduction to animal production, Ed. S. Yiachoudis & SIA O.E.
Katsaouni N. and Zygogianni D. (2001). General Animal Husbandry, Ed. Stamoulis.
Acler D. and Cunningham M. (2001). Anim. Sci. and Industry, 5th Ed. Prentice Hall.
Damron W. S. (2018). Introduction to Animal Science: Global, Biological, Social and Industry Perspectives, 6th Edition, Pearson.
Taylor E.R. and Field T.G. (2008) Scientific Farm Animal Production, 9th Ed. Pearson-Prentice Hall
-Related scientific journals:
1. Animal Journal, http://www.animal-journal.eu/.
2. Journal of Animal Science, http://www.journalofanimalscience.org/