COURSE CURRICULUM

1. GENERAL INFORMATION

SCHOOL	**ANIMAL BIOSCIENCES**		
TEACHING DEPARTMENT	**ANIMAL SCIENCE**		
STUDY LEVEL	**UNDERGRADUATE**		
COURSE CODE	**4**	**SEMESTER**	**4th**
DEPARTMENT TO WHICH IS OFFERED:	**Department of Animal Science (DAS)**		
COURSE TITLE	**NUTRITIONAL PHYSIOLOGY OF ANIMALS**		

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 TEACHING HOURS**	**ECTS**
Theory Lectures	4	4
Laboratory practicals	2	2
TOTAL	**6**	**6**
Add lines if necessary. Teaching and Learning methods should be described in detail in section 4.		

COURSE TYPE *Background, Basic knowledge, Field of Science, Skill development*	Field of Science
PREREQUISITES	Biochemistry
LANGUAGE	Greek
IS THE COURSE OFFERED to ERASMUS STUDENTS?	No
COURSE WEB PAGE (URL)	https://mediasrv.aua.gr/eclass/courses/EZPY178/
INSTRUCTOR(S):	**Theory:** Mountzouris K. and Zoidis E. **Laboratory:** Zoidis E.

2. LEARNING OUTCOMES

Learning outcomes

Describe the learning outcomes of the course, the specific knowledge, skills and competences of an appropriate level that students will acquire after successfully completing the course.

Refer to Appendix A.

- *Description of the level of learning outcomes for each course of study in line with the European Higher Education Area Qualifications Framework*
- *Descriptive Indicators of Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning*
- *and Annex B*
- *Learning outcomes Writing Guide*

The course "Nutritional Physiology of Animals" aims to provide students with theoretical and practical knowledge of modern concepts related to:

a) feed intake and digestion and absorption,

b) metabolism of energy, proteins, and other nutrients (e.g., inorganic elements and vitamins),

c) the biological value of proteins,

d) understanding of animal requirements for energy and nutrients based on the animal's characteristics, type of production and physiological stage, and

e) mathematical models for estimating the nutritional value of animal feed.

The laboratory practicals aim to further strengthen the theoretical background and further assist students in understanding how the information on dietary value of animal feeds and the knowledge of animal requirements per production stage is a pre-requisite for the formulation of optimal diets to feed the animals.

General competencies

Considering the general competencies that the graduate (as reported in the Diploma Supplement and listed below) must have acquired, describe in which one(s) the course is intended.

Search, analyze and synthesize data and information, using the necessary technologies
Adapt to new situations
Decision making
Autonomous work
Teamwork
Work in an international environment
Work in an interdisciplinary environment
Production of new research ideas
Project design and management
Respect for diversity and multiculturalism
Respect for the natural environment
Demonstration of social, professional, and moral responsibility and sensitivity to gender issues
Exercise of criticism and self-criticism
Promotion of free, creative, and inductive thinking

- Autonomous work
- Teamwork
- Decision making
- Work in a multidisciplinary environment
- Production of new research ideas
- Search, analysis and synthesis of data and information with the use and the required technologies

3. COURSE CONTENT

- Nutrient composition of animal body and feeds
- Digestive enzymes
- Feed intake
- Nutrient digestion and absorption in monogastics and ruminants
- Feed digestibility
- Metabolism
- Nutrient and Energy balance in the animal
- Dietary and biological value of nitrogenous substances and crude protein
- Prediction models of nutritional value of feeds
- Animal requirements per species, physiological stage, and productivity

4. TEACHING and LEARNING METHODS - EVALUATION

TEACHING METHOD *Face to face in classroom, Distance Learning, etc.*	In class, face to face and via specialized teaching platforms (e.g., Open e-Class, MS teams)
USE OF INFORMATICS and COMMUNICATION TECHNOLOGIES *Use of ICT in Teaching, Laboratory Practicals, Communication with Students etc.*	PowerPoint and video presentations. Communication with students via e-mail. Teaching support through access to the e-class platform, to on-line databases and Specialized Software etc. References to selected scientific websites.
TEACHING ORGANIZATION *Describe in detail the methods of teaching: Lectures, Seminars, Laboratory Practicals, Field Exercise, Study and Analysis of Bibliography, Tutorial, Practice (Placement), Clinical Exercise, Art Workshop, Interactive Teaching, Educational Visits, Project Work, Authoring, Artistic creation etc.* *The student's study hours for each learning activity and hours of non-guided study are indicated so that the total workload at the semester corresponds to the ECTS*	
STUDENTS' EVALUATION *Description of the evaluation process* *Assessment Language, Assessment Methods, Formulation or Conclusion, Multiple Choice Test, Short Response Questions, Test Questions, Problem Solving, Written Work, Reporting, Oral Examination, Public Presentation, Laboratory Work, Clinical Patient Examination, Artistic Interpretation, Other* *Identify certain evaluation criteria and state if and where they are accessible by the students.*	**Assignments** **Exams** Marking Scale: 0-10 Minimum Passing Mark: 5 The students are being informed on the evaluation criteria during their first lesson of the semester. I. Theory Written final exam II. Laboratory Written final exam

Activity	*Work load (h) per semester*
Lectures	52
Laboratory practice	35
Individual/group assay	23
Independent study	40
Total workload (25 h workload per credit unit)	***150***

5. BIBLIOGRAPHY

Proposed Literature for theory:

(A) Printed Related scientific journals - Publications:

- Animal
- Animal Nutrition
- Animal Feed Science and Technology
- Animal Production Science
- British Journal of Nutrition
- EFSA Journal
- Journal of Animal Physiology and Animal Nutrition
- Journal of Animal Science
- Livestock Science

(B) Books

- Nutritional Physiology of Production Animals, G. Zervas, Stamoulis Publications, 2005.
- Animal Nutrition, Mc Donald P., Edwards R.A., Greenhalgh J.F.D. and Morgan C.A. 6th edition, Prentice Hall, 2002.
- Mutch D.M., Wahli W and Williamson G (2005) Nutrigenomics and nutrigenetics: the emerging faces of nutrition The FASEB Journal 19: 1602-1616.