

COURSE CURRICULUM

1. GENERAL INFORMATION

SCHOOL	ANIMAL BIOSCIENCES		
DEPARTMENT	ANIMAL SCIENCE		
STUDY LEVEL	UNDERGRADUATE		
COURSE CODE	625	SEMESTER	5 th
DEPARTMENT TO WHICH IS OFFERED	D.A.S.		
COURSE TITLE	FEEDSTUFFS AND FEEDSTUFFS TECHNOLOGY		
INDEPENDENT TEACHING ACTIVITIES <i>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.</i>		WEEKLY TEACHING HOURS	ECTS
Theory Lectures		3	3
Laboratory practicals		3	3
TOTAL		6	6
<i>Add lines if necessary. Teaching and Learning methods should be described in detail in section 4.</i>			
COURSE TYPE <i>Background, Basic knowledge, Field of Science, Skill development</i>	Field of Science (theory), Skill development (laboratory practicals)		
PREREQUISITES	Inorganic and Organic Chemistry, Biochemistry, Nutritional Physiology		
LANGUAGE	Greek		
IS THE COURSE OFFERED to ERASMUS STUDENTS?	No		
COURSE WEB PAGE (URL)	Theory: https://oeclass.aua.gr/eclass/courses/EZPY125/ Laboratory: https://oeclass.aua.gr/eclass/courses/EZPY143/		
INSTRUCTOR(S):	Theory : Mountzouris K., Papadomichelakis G., Paraskeuas V. Laboratory : Chatzigeorgiou J., Paraskeuas V.		

2. LEARNING OUTCOMES

Learning outcomes <i>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.</i> <i>Refer to Appendix A.</i> <ul style="list-style-type: none"> • 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 is an introductory course in animal nutrition and aims at: <ul style="list-style-type: none"> • studying feed classification, physical properties, chemical composition and content of antinutritional factors. • studying feed production methods and their qualitative assessment, depending on their category. • selecting the appropriate feedstuffs (on the basis of their category, physicochemical properties, chemical composition and content of antinutritional factors) for each category and production stage of animals • studying basic elements of feed technology, such as proper preparation and processing of simple feed, techniques to improve their dietary value, and how to apply this technology to the modern feed industry.

- learning the macroscopic and microscopic techniques to identify simple feedstuffs and their nutrients.
- learning the analytical techniques for determining the chemical composition of simple feedstuffs but also compound feeds

Upon completion of the course, the student will be able to:

- be familiar with the properties of simple feedstuffs and processing technology.
- select the appropriate feed for the preparation of diets for each type of animal
- be familiar with identification tools and analytical techniques for the qualitative assessment of simple and compound feedstuffs.

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

- Search, analyze and synthesize data and information using the necessary technologies
- Exercise of criticism and self-criticism

3. COURSE CONTENT

Definition of feedstuffs, nomenclature and criteria for the classification of feedstuffs. Factors affecting the dietary properties of feedstuffs. Species and origin of feedstuffs (roughages, concentrated, inorganic), characteristics and indications of use. Basic elements of feedstuff technology (methods of production and quality assessment). Methods to improve the dietary value of feedstuffs (applied processing technology, improvement results). Definition of feed additives, categories of additives, properties and recommendations for use in animal nutrition. Institutional rules for the control, certification and circulation of feed and additives

4. TEACHING and LEARNING METHODS - EVALUATION

TEACHING METHOD <i>Face to face in classroom, Distance Learning, etc.</i>	Face to face in classroom	
USE OF INFORMATICS and COMMUNICATION TECHNOLOGIES <i>Use of ICT in Teaching, Laboratory Practicals, Communication with Students etc.</i>	<ul style="list-style-type: none"> • Theory: Use of powerpoint, communication with students via email, support of learning process via the e class electronic platform • Laboratory practicals: <ol style="list-style-type: none"> 1. Analytical instrumentation for the determination of chemical composition of feedstuffs 2. Stereoscopes and microscopes for the identification of feedstuffs 3. Support Learning Process via the e-class platform 	
TEACHING ORGANIZATION <i>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.</i>	Activity	Work load (h) per semester
	Lectures in theory	39
	Laboratory practicals: chemical analysis of feedstuffs.	20

<p><i>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</i></p>	Laboratory practicals: stereoscopic and microscopic analysis and identification of feedstuffs.	20
	Individual study of students on feedstuffs (stereoscopic and microscopic)	71
	Total work load (25 h work load per ECTS)	150
<p align="center">STUDENTS' EVALUATION</p> <p><i>Description of the evaluation process</i></p> <p><i>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</i></p> <p><i>Identify certain evaluation criteria and state if and where they are accessible by the students.</i></p>		
<p>The evaluation on the course's theory consists of final written examination with long-answer questions.</p> <p>The evaluation on the course's laboratory practicals consists of identifying (macroscopically) simple feedstuffs, identifying (stereoscopically / microscopically) simple feed in mixtures, and of multiple-choice tests on the procedures (principles, mode) of the chemical composition of the feedstuffs.</p> <p>The final mark is calculated as the average of the theory (50%) and lab practicals (50%) marks.</p> <p>Marking Scale: 0-10.</p> <p>Minimum Passing Mark: 5.</p> <p>The students are being informed on the evaluation criteria during their first lesson of the semester.</p>		

5. RECOMMENDED BIBLIOGRAPHY

Proposed literature for theory:

- Spais, A.B. Feedstuffs and feeds. Thessaloniki 1997, Sygchroni Paideia Publications (in Greek).
- Fegeros, K.I. Feedstuffs and feed additives - Bromatology. Athens 2017, UniBooks Publications (in Greek).
- Kalaisakis, P. Bromatology. Library of the Agricultural University of Athens (in Greek).
- Papadopoulos G. Feedstuff technology. Library of the Agricultural University of Athens (in Greek).

Proposed literature for laboratory research:

- Feggeros K., Animal Feedstuffs (pdf)
- Feggeros K., Feed additives CF1 (pdf)
- Mountzouris K., Feed additives, European legislation (pdf)
- Regulation (EK) no. 1831/2003 of the European Parliament and the council of 22nd September for feed additives that are used in animal nutrition (pdf)