Feedstuffs & Feedstuffs Technology [625]

COURSE OUTLINE

(1) GENERAL

SCHOOL	ANIMAL BIOSCIENCES		
ACADEMIC UNIT	DEPARTMENT OF ANIMAL SCIENCE		
LEVEL OF STUDIES	Undergraduate [Required]		
COURSE CODE	**625**	**SEMESTER**	**5th**
COURSE TITLE	FEEDSTUFFS AND FEEDSTUFFS TECHNOLOGY		

INDEPENDENT TEACHING ACTIVITIES	**WEEKLY TEACHING HOURS**	**CREDITS**
Theory Lectures	3	2.5
Laboratory practicals	3	2.5
TOTAL	6	5

COURSE TYPE	Field of Science (theory), Skill development (laboratory practicals)
PREREQUISITE COURSES:	Inorganic and Organic Chemistry, Biochemistry, Nutritional Physiology
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS:	No
COURSE WEBSITE (URL):	Theory: https://oeclass.aua.gr/eclass/courses/EZPY125/ Laboratory:https://oeclass.aua.gr/eclass/courses/EZPY143/
TEACHING STAFF:	Theory : Mountzouris K., Papadomichelakis G. Laboratory : Papadomichelakis G., Paraskeuas V., Katsarou I.

(2) LEARNING OUTCOMES

Learning outcomes

Upon successful completion of the course, students will be able (according to Bloom) to:

- Describe feed classification, physical properties, chemical composition, and content of antinutritional factors (**Knowledge / Comprehension**).
- Explain feed production methods and evaluate their quality depending on feed category (**Comprehension / Evaluation**).
- Select appropriate feedstuffs for each animal category and production stage based on their physicochemical properties, chemical composition, and antinutritional factors (**Application / Analysis**).
- Understand and apply basic elements of feed technology, including preparation, processing, and techniques to improve dietary value, in the context of the modern feed industry (**Comprehension / Application / Synthesis**).
- Identify simple feedstuffs and their nutrients using macroscopic and microscopic techniques (**Application / Analysis**).
- Use analytical techniques to determine the chemical composition of simple and compound feeds (**Application / Analysis**).
- Integrate theoretical knowledge and practical skills to prepare nutritionally balanced diets for different types of animals (**Synthesis / Evaluation**).

General Competences

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

(3) SYLLABUS

Definition of feedstuffs, nomenclature and criteria for the classification of feedstuffs. Factors affecting the dietary properties of feedstuffs. Species and origin of feedstuffs (rouphages, 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

<table>
<tr><td>DELIVERY</td><td>Face to face in classroom</td></tr>
<tr><td>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</td><td>• Theory: Use of powerpoint, communication with students via email, support of learning process via the e class electronic platform
• Laboratory practicals:
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</td></tr>
<tr><td>TEACHING METHODS</td><td>
<table>
<tr><th>Activity</th><th>Semester workload</th></tr>
<tr><td>Lectures in theory</td><td>39</td></tr>
<tr><td>Laboratory practicals: chemical analysis of feedstuffs.</td><td>20</td></tr>
<tr><td>Laboratory practicals: stereoscopic and microscopic analysis and identification of feedstuffs.</td><td>19</td></tr>
<tr><td>Individual study of students on feedstuffs (stereoscopic and microscopic)</td><td>47</td></tr>
<tr><td>Course total (25 h of workload per ECTS)</td><td>125 h (5 ECTS)</td></tr>
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<tr><td>STUDENT PERFORMANCE EVALUATION</td><td>The evaluation on the course’s theory consists of final written examination with long-answer questions.
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.
The final mark is calculated as the average of the theory (50%) and lab practicals (50%) marks.
Marking Scale: 0-10.
Minimum Passing Mark: 5.
The students are being informed on the evaluation criteria during their first lesson of the semester.</td></tr>
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(5) ATTACHED 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)