

Feed Manufacturing Technology [332]

COURSE OUTLINE

(1) GENERAL

SCHOOL	ANIMAL BIOSCIENCES		
ACADEMIC UNIT	DEPARTMENT OF ANIMAL SCIENCE		
LEVEL OF STUDIES	Undergraduate [Major Elective]		
COURSE CODE	332	SEMESTER	8th
COURSE TITLE	FEED MANUFACTURING TECHNOLOGY		
INDEPENDENT TEACHING ACTIVITIES		WEEKLY TEACHING HOURS	CREDITS
Lectures+Study in the field		3	3
Laboratory practicals		0	0
TOTAL		3	3
COURSE TYPE	Field of Science, General Knowledge, Skills development		
PREREQUISITE COURSES:	Feedstuffs and Feedstuffs Technology		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK		
IS THE COURSE OFFERED TO ERASMUS STUDENTS:	NO		
COURSE WEBSITE (URL):	https://oeclass.aua.gr/eclass/courses/EZPY206/		
TEACHING STAFF:	Papadomichelakis G.		

(2) LEARNING OUTCOMES

Learning outcomes
Upon successful completion of the course, students will be able (according to Bloom) to: • Comprehend the quantitative and qualitative criteria for selecting appropriate raw materials (individual feedstuffs) based on the target animal species (Knowledge / Comprehension). • Identify and apply suitable processing methods for raw materials prior to final diet formulation (Application / Comprehension). • Understand the operation and functionality of essential equipment and machinery used in feed manufacturing (Knowledge / Comprehension). • Analyze the organizational structure and management practices of feed industries, including product quality control measures (Analysis / Evaluation). • Implement appropriate adjustments to operational parameters to optimize feed production efficiency and enhance product quality (Application / Evaluation).
General Competences
• Decision making • Individual and group work • Combination of several scientific topics • Work planning and management • Respect to the natural environment

(3) SYLLABUS

• Selection of raw materials based on the digestive physiology of each farm animal species, animal age, feedstuff quality, and cost considerations. • Preparation and processing of individual feedstuffs, including washing, cutting, grinding, weighing, and mixing. • Factors influencing the effective preparation of feedstuffs, such as cutting and grinding dimensions, particle size, grinding duration, weighing accuracy, mixing time, and pelleting parameters. • Infrastructure and equipment used in feed industries, including storage facilities, silos, weighing systems, hammer mills, batch and continuous mixers, and pellet presses, with emphasis on performance indicators.

- Additional feed industry infrastructure and equipment, including extruders, cooling systems, crumblers, sieving systems, liquid addition systems, and transfer lines, along with their performance parameters.
- Management and operational practices within feed manufacturing facilities.
- Classification of feed products based on physical properties and related characteristics.
- Quality control procedures for feed products, addressing aspects such as physical properties, chemical composition, antinutritional factors, and microbiological safety.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY	In class (lectures) and in field (feed manufacturing unit, AUA)	
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY	PowerPoint and video presentations for lectures. Communication with students via e-mail. Teaching support through access to the e-class platform, to on-line databases etc.	
TEACHING METHODS	Activity	Semester workload
	Lectures + Field Study in the feed manufacturing unit	39
	Writing and presenting an assignment in the classroom, as a member of a small team (2-3 persons)	20
	Individual study	16
	Course total (25 h of workload per ECTS)	75
STUDENT PERFORMANCE EVALUATION	I. Theoretical section (a) Optional attendance of lectures by students (assignments, etc.). (b) Group essay (20%) (c) Final written examination (80%) with questions to develop a topic. (d) Marking Scale: 0-10, Minimum Passing Mark: 5. II. Laboratory department - III. The evaluation language is Greek. IV. The evaluation criteria are communicated to the students.	

(5) ATTACHED BIBLIOGRAPHY

Proposed literature:

(A) Relevant literature - books:

1. McElhiney, R.R. Feed manufacturing technology IV. American Feed Industry Association, 1994. Βιβλιοθήκη Γεωπονικού Πανεπιστημίου Αθηνών.
2. Papadopoulos G. Feedstuffs Technology. AUA Library.
3. Kalaisakis P. Feedstuffs and Feedstuffs Technology. AUA Library.

(B) Digital training material (e-class):

1. Papadomichelakis G. 2019. Lectures (pdf) on feed manufacturing technology

(Γ) Proposed books (in EUDOXUS):

1. Fegeros K.I. Feedstuffs and feed additives, Athens 2017, UniBooks Editions (Eudoxus code: 68407501).