

## SYLLABUS

Name of the course (as specified in the approved curriculum) <b>Module 11 – Farm Management</b>			Number of ECTS credits <b>6</b>
Name of the course in Polish <b>Zarządzanie Produkcją Zwierzęcą</b>			
Unit providing the course <b>Department of Animal Nutrition</b>			
Course co-ordinator <b>prof. dr hab. Włodzimierz Nowak</b>			
Field of study Animal Production Management	Level II - master studies	Profile Academic general	Semester 4
<b>TYPE OF CLASSES AND COURSE LOAD (Classes with teacher and student's own work)</b>			
Mode of studies: full-time		Mode of studies: part-time	
- lectures	30	- lectures	-
- practical classes	30	- practical classes	-
- field classes	30	- field classes	-
- labs	0	- labs	-
- consultations	5	- consultations	-
- own student's work	35	- own student's work	-
- others	20	- others	-
Total number of hours		150	Total number of hours
<b>OBJECTIVE OF THE COURSE</b>			
This module provides students with an overview of animal farming, focusing on management practices, animal nutrition, health, breeding, husbandry, disease prevention, and EU legal regulations for dairy cattle, swine, and poultry. After completing the module, the student understands the management applied to the farm.			
<b>TEACHING METHODS</b>			
Lectures, exercises, reports, and practical classes on farms. Preparation of a phased project verified by the teacher.			
<b>Course learning outcomes</b>			The reference to the study field learning outcomes
Knowledge	<p>O1: the advanced methodology used in animal breeding, production, as well as the processing and marketing of animal-origin products.</p> <p>O2: an advanced degree, the rules of the usage of technical devices in feed mills, as well as the methodology of research used in the analyses of feed materials, the current state of the law related to the quality and hygiene of feed and their sources, and understands the practical application of this knowledge.</p> <p>O3: aspects related to diagnostic methods, techniques, systems, and technologies used in livestock production, as well as the processing of raw animal origin materials, and the practical implementation of this knowledge.</p>		<p>AP2A_W02 AP2A_W08 AP2A_W09 AP2A_W11 AP2A_W12 AP2A_W13</p>

Skills	<p>O4: development of herd management plans, calving/farming schedules, and production volume planning.</p> <p>O5: understanding the principles of nutrition optimization, feed composition supervision, and animal nutrition (precision feeding).</p> <p>O6: managing farm infrastructure, maintenance of livestock buildings, ventilation systems, feeding, and watering; introducing automation in animal production and modern herd management systems (RFID monitoring, intelligent livestock buildings).</p> <p>O7: understanding the basics of production profitability analysis, feed and energy cost optimization.</p> <p>O8: managing waste in animal production, and managing slurry/manure in accordance with environmental regulations.</p>	<p>AP2A_U01 AP2A_U02 AP2A_U04 AP2A_U05 AP2A_U07 AP2A_U13 AP2A_U15</p>
Social competences	<p>O9: understands the need for lifelong learning and updates its cognitive skills, while also inspiring and organizing others' learning. It possesses a creative attitude and can think and act in an entrepreneurial manner.</p> <p>O10: organizes the work of the animal caretakers, arranges a base feed for different species of animals, takes measures for proper animal nutrition, is aware of the responsibility for the production of mixed feed and premixes of high quality, and their distribution according to the requirements of the Feed Law.</p> <p>O11 - aware of the importance of societal, professional, and ethical aspects of ecological farming methods, with particular reference to domestic animals.</p>	<p>AP2A_K01 AP2A_K03 AP2A_K04 AP2A_K05</p>
<p><b>Methods for verifying learning outcomes</b> Practical classes – individual tasks. Phased project. Written exam (test).</p>		<p>Symbols of course learning outcomes O1 – O11</p>
<p><b>TEACHING CONTENTS</b></p>		
<p><b><u>Content of lectures</u></b></p>		
<p><b>Dairy cows:</b> calves and heifers rearing, cows nutrition in dry period and lactation, diagnostic tools to estimate dairy cow nutrition behavior - rumination, locomotion index, body condition score BCS, physical characteristics of dairy cow diets (fe-NDF), manure analysis (pH, manure scanner), fertility and blood indices interpretation,</p>		
<p><b>Poultry:</b> bird welfare, environmental requirements, key management points, requirements for males and females during rearing, water quality, hygiene management,</p>		
<p><b>Pigs</b> –practical feeding piglets and weaners, diseases caused by feeding, welfare–methods of evaluation,</p>		
<p><b><u>Content of classes</u></b> - milk composition as a mirror of metabolic status of dairy cows, interpretation of monthly report from PFHBiPM, sampling and sensual and chemical silage analysis (practical lab work): pH, ammonia, nitrate and nitrite, organic acids, NIRS spectroscopy as a modern technique of feed analysis (practical lab work), welfare definition EU legislation and standards characteristic of pigs behavior, welfare indicators management of poultry rearing, assessment of bird physical condition, assessment of bird uniformity, organization of biosecurity on farm, management of birds in prelaying and laying period, environmental conditions in production buildings, gut health as a key point in successful production in conventional and organic systems; sampling of biological material (tissues and blood) for microbiological and histological analyses.</p>		
<p><b>Forms and criteria for completing the course</b>  Assignments, phased project Exam</p>		<p><b>Percentage of a final grade</b>  40% 60%</p>

### Literature list

**Core literature:**

Commercial Poultry Nutrition, Steven Leeson and John Summers, 2012

Nutrition Experiments in Pigs and Poultry, Michael Bedford, Mingan Choct, Helen Massey, 2016

Breeder Management and Nutrition, Buyrse, Durax, Peris, Romero Sanchez, 2022

**Additional sources:**

The Mineral Nutrition of Livestock, Eric John Underwood, 2010

Nutrient Requirements of Dogs and Cats, NRC 2006

Nutrient Requirements of Swine, NRC 2012

Journal of Dairy Science <https://www.journalofdairyscience.org/>

Hoard's Dairyman - monthly <https://hoards.com/>