

Module title:	Herd health management	ECTS	3
Polish translation:	Zarządzanie zdrowiem stada		
Course:	Veterinary Medicine		

Module language: English		Stage: JM-FVM	
Form of studies: ☒ intramural ☐ extramural	Type of module: ☐ basic ☒ mandatory ☒ directional ☐ elective	Semester: 11	☒ winter semester ☐ summer semester
Academic year:		Intake 2021/2022	Catalogue number: FVM-V-JMSS-11W-D69_20

Module coordinator:		Prof. Zdzisław Gajewski Dr Sc.		
Teachers responsible for the module:		Academic teachers of Center for Translational Medicine (CMT), PhD students, visiting professors and other specialists in the field of study.		
Assumptions, Goals, and Course Description		Herd management includes all activities and decisions aimed at achieving high production levels while maintaining good health status, optimal reproductive performance, and animal welfare in high-producing animals. The health and productivity of animals are determined by three fundamental factors: proper nutrition, animal welfare, and effective reproductive management. Proper management of these factors requires knowledge of methods for collecting and analyzing herd data, including health and production records, as well as methods for monitoring nutrition, metabolic disorders, and reproductive disorders at different stages of the production and reproductive cycles. Herd health management is an interdisciplinary field that integrates knowledge from a wide range of veterinary, animal science, and economic disciplines.		
Teaching forms, number of hours:		a) Lectures; hours 15; b) Clinical exercises, hours 45 ;		
Teaching methods:		Original lectures supported by multimedia presentations. Clinical exercises based on case studies using data obtained from the management system of a given farm and herd, including the preparation of critical-point calendars for farm management. Detailed schedule will be defined by the coordinator of the course at the beginning of semester. Detailed organization of consultations will be defined by the coordinator of the course at the beginning of semester.		
Formal prerequisites and initial requirements:		Passed subjects include: Agronomy, Environmental Protection, Biostatistics and Documentation Methods, Animal Husbandry and Breeding, Technologies in Animal Production, Ethology, Animal Welfare and Protection, Veterinary Epidemiology, Animal Nutrition and Feed Science, Veterinary Economics, Immunology, Parasitology and Invasiology, Pharmacology, Diseases of Farm Animals, Feed Hygiene, Pathomorphology, Veterinary Professional Ethics, Forensic Veterinary Medicine, Dietetics, Administration, Veterinary Prevention; the student possesses knowledge and skills obtained during the completion of core subjects.		
Learning effects		Course outcomes:	Learning outcomes relative to the course outcomes	Impact on the course outcomes*
Knowledge:	1	Student knows the methods of obtaining and evaluating the value of production and herd health indicators.	B.W3, B.W4, B.W5	3
	2	Student knows the methods of proceeding during herd evaluation and is familiar with computer programs for herd health management.	B.W4, B.W5	2
Skills:	1	Student is able to evaluate the production results of the farm, taking into account the strategy adopted by the management and the current market situation.	B.U20, B.U25, B.U5, BU8	3
	2	Student demonstrates the ability to build viable farm management strategies.	B.U19, B.U24, B.U25	3
	3	Student has the ability to monitor the effects of the implemented management strategy for the farm.	B.U17, B.U19, B.U2, B.U5, B.U9	2
Competences:	1	Student achieves the ability to apply the principles of herd health management.	KS.1, KS.4, KS.5, KS.7	2
	2	Student demonstrates the ability to interact with the farmer in solving herd health and production problems.	KS.1, KS.11, KS.2, KS.6, KS.9	3
Objectives of the module required to obtain learning effects:		Monographic lectures Herd health management: definition, objectives, and forms of herd management. Acquisition and interpretation of production performance data and diagnostic test results. Use of metabolic tests and laboratory diagnostic panels to assess the health status of ruminant and swine herds. Health management of dairy cattle herds during the periparturient and lactation periods. Mammary gland diseases and herd health management. Metabolic disorders in dairy cattle herds. Causes of culling and depopulation in high-producing herds.		

	Neonatal problems in herd health management of cattle, swine, and horses. Health management in beef cattle herds. Economic analysis and management of swine and ruminant herds. Clinical exercises Development and analysis of a critical-point calendar for herd health management in dairy cattle, beef cattle, pig, and horse herds. Evaluation of the impact of production technology on herd health. Assessment of the impact of genetics on herd production performance. Practical acquisition and interpretation of production data in livestock herds. Development of hormonal and immunoprophylaxis programs for herd health monitoring. Detection and prevention of metabolic disorders in high-producing dairy cattle herds. Comparison and analysis of cattle feeding systems (TMR, PMR, and others). Monitoring mammary gland health and mastitis in dairy cattle herds. Interpretation of individual and bulk milk sample results in relation to nutrition, metabolic disorders, and reproductive performance in dairy cattle herds. Nutritional prevention of diseases in herds based on the analysis of laboratory and production reports. Use of virtual herd health evaluation and monitoring programs to assess reproductive performance, udder diseases, musculoskeletal diseases, and metabolic disorders. Evaluation of herd health and identification of herd management problems on a selected farm based on collected data.
Assessment methods:	Written assessment in the form of short-answer questions during clinical exercises, evaluation of the completed project task, and a written examination. In the event of unforeseen or exceptional circumstances, mandatory remote teaching and remote assessment may be implemented.
Detail description of assessment methods; Formal documentation of learning outcome:	Evaluation of the project task is based on the relevance of the content to the assigned topic, the correctness of the conclusions, the formulation of appropriate solutions, the quality of the discussion, and the student's ability to answer questions. During selected classes, written tests assessing the student's level of theoretical preparation may be administered (so-called entrance tests). Each entrance test consists of 3–7 questions, which may include open-ended, fill-in-the-blank, and/or single- or multiple-choice questions. An unexcused absence from an exercise class results in 0 points being awarded for the entrance test. To pass the exercise classes and be eligible to take the final examination, the student must obtain at least 51% of the total points from all entrance tests and receive a positive evaluation of the project task. If the student does not obtain the required number of points from the entrance tests, they must take a so-called exit test covering the entire scope of the exercise material. The exit test consists of 6–14 questions, with a minimum passing threshold of 51%. An unexcused absence from the exit test results in 0 points. A student who does not obtain the required minimum number of points in the exit test is not eligible to take the final examination and does not receive credit for the course. During practical classes, the student's activity and engagement are assessed. Based on observations and data obtained during clinical classes, as well as on the available literature, the student prepares a project task. The project is evaluated based on the relevance of its content to the assigned topic, the correctness of the conclusions, the formulation of appropriate solutions, the quality of the discussion, and the student's ability to answer questions. The written examination is conducted in the form of a mixed-format test consisting of open-ended, fill-in-the-blank, and/or single- or multiple-choice questions and covers all the educational content of the course. The minimum passing threshold is 51%. Examination Terms I and II are conducted in the same format. In the event of a university-wide suspension of on-site classes and the need to conduct teaching remotely or in a hybrid format, alternative methods of verifying the achievement of learning outcomes may be implemented, as appropriate to the circumstances. Assessment methods: short written tests, written examination, and project task. Documentation: records in the eHMS system and documentation included in the Course File, including individual student assessment records, attendance lists, the question database for written assessments, and students' written assignments.
Elements impelling final grade:	A student who has not submitted the project assignment and/or has not obtained the required minimum number of points from the entrance tests is not eligible to take the final examination and does not receive credit for the course. The final grade for the course is based on the following: -evaluation of short written tests and/or the student's activity during practical classes; -evaluation of the project task; -the grade obtained in the final examination.
Teaching base:	Classrooms, lecture halls, laboratories of CMT and FVM, outside farms
Mandatory and supportive materials : 1. Carleton. Blackwell's Five-Minute Veterinary Consult Clinical Companion: Equine Theriogenology. 2011. Wiley-Blackwell. 2. Cockcroft P. Bovine Medicine. 2015. John Wiley and Sons 3. de Kruif A., Mansfeld, Hoedemaker M. Tierärztliche Bestandsbetreuung beim Milchrind. 2007. Enke. 4. Green M. Dairy Herd Health. 2012. CABI Publishing. 5. Horsfall T. Flint Ch.L. Milch Cows and Dairy Farming: comprising the breeds, breeding, and management in health and disease, of dairy. 2017. Hansebooks 6. Hulsen J.H.J.L., Lam T., Feliu M. Stewart S. Udder Health: a practical guide to first-rate udder health. 2008. Roodbont Publishers B.V. 7. Noordhuizen J. Dairy Herd Health and Management: A Guide For Veterinarians And Dairy Professionals. 2012. Context Publications 8. Peek S.F., Divers T.J. Diseases of dairy cattle. 2016. Elsevier. 9. Pugh D.G, Baird N., Edmonson M., Pasler T. Sheep, Goat, and Cervid Medicine. 2020 Elsevier. 10. Thomas. H. S. The Cattle Health Handbook. 2009. Storey Publishing, LLC. 11. Scientific publications pointed out by the lecturer in the field of the educational content discussed and scientific research conducted in the facility. ANNOTATIONS Protective clothing is required during clinical classes.	

Quantitative summary of the module:

Estimated number of work hours per student (contact and self-study) essential to achieve presumed learning outcomes of the module - base for quantifying ECTS:	90h
Total ECTS points, accumulated by students during contact learning:	3 ECTS