Module title:	**Veterinary Prevention**	ECTS	4
Polish translation:	Prewencja weterynaryjna		
Course:	Veterinary Medicine		

Język wykładowy:	English			Poziom studiów:	JM	
Form of studies: ☒ intramural ☐ extramural		Type of module: ☐ basic ☒ directional	☒ mandatory ☐ elective	Semester: 10		☐ winter semester ☒ summer semester
			Academic year:	2019/2020	Numer katalogowy:	(do uzupełnienia)

Module coordinator:	Prof. Romuald Zabielski Dr Sc., DVM
Teachers responsible for the module:	Academic teachers Center for Translationale Medicine; visiting professors; PhD students and other specialists in the field of the course
Unit responsible for the module:	Center for Translational Medicine (CMT)
Faculty in charge:	Faculty of Veterinary Medicine (FVM)
Objectives of the module:	Veterinary prevention (VP) covers all decisions and actions to prevent disease by optimal housing and sanitary conditions and keep welfare of animals. It applies to all activities aimed at preventing occurrence of diseases before development in animals rather than on their diagnosis, treatment or elimination of disease symptoms. The activities concern not so much the health of individual animal, but for all herd. Veterinary prevention is an interdisciplinary subject combining knowledge in the field of physiology, nutrition and zoohygiene, as well as immunology, microbiology but also internal and infectious diseases, reproduction, management and economics. The content of lectures is a supplement to the content of exercises. Monographic lectures: Introduction to veterinary prevention: definition, goals, methods of activity in VP; Environmental conditions (climate, water, air, buildings and farm equipment, microclimate of rooms , dusts, odors) ; Biosecurity rules in pig and dairy cattle farms ; SPIWET form and VP principles in animal trade, review of EU and national legal regulations important in herd health management; waste utilization, regulations, methods of utilization ; VP in newborns, strategies for rearing piglets and calves; Feed additives in the prevention of infectious and metabolic diseases ; VP in wild animals in national parks, in aquaculture and in the ZOOs ; Veterinary prevention of companion animals and horses. Prevention in apiaries. PW in the context of human health; Current issues in veterinary prevention. Laboratory exercises: Utilization of wastes in animal production ; disinfection, disinfestation and rodent control; Parameters for assessing the quality of zoohygienic conditions, preapering to farm assessment (data collection, material collection, ability to read data). Preventive programs - pigs, cattle and horses. Field exercises: Data collection for farm assessment (errors and positive aspects in the context of the biosecurity, welfare and other aspects of veterinary prevention, measurements of microclimate parameters, sampling for microbiological or toxicological tests, samples for feed assessment); Feed assessment in the context in prevention of diseases in animals. Animal welfare control according to EU and local regulation. Preparation of the report from farm, presentation of the report and discussion .
Teaching forms, number of hours:	a) Lectures; hours 30 b) Laboratory exercises; hours 18 Field exercises; hours 27
Teaching methods:	Monography lectures supported by Power Point presentations are given by experts in the field. Practical course includes discussion on preparations for visiting livestock farm, collecting and analysing data, reporting strong and weak points found in farm management and building cost-effective strategies which could be proposed to solve farmer's problem - students' own work in groups chosen by them.
Formal prerequisites and initial requirements:	Passed exams in Agronomy, Environmental protection, Biostatistics and documentation methods, Animal husbandry and technologies, Animal production technologies, Veterinary epidemiology, Animal nutrition and feed science, Immunology, Parasitology and invasiology, Pharmacology, , Feed hygiene, Pathomorphology, Large Animal diseases Student has knowledge and skills from these subjects.
Learning outcomes:	Knowledge: 01 - Student knows methods of microclimate analysis. 02 - Student knows principles of proper disinfection, disinfestation and rodent control.	Skills: 03 - Student has ability to evaluation of the farm (environmental and zoohigienic conditions, work organization, services, evaluation of feeding and immunoprophylactic strategy. 04 - Student can perform evaluation of farm productivity including evaluation	Competences: 06 - Student is able to monitor the implemented preventive actions at farm. 07 – Student achieves the ability to use principles of veterinary prevention in the herd.

	of the strategy taken by the farm and understand it in the context of current market situation; 05 - Student can propose reasonable prevention strategies for evaluated farms.	08- Student shows the abilities to cooperate with farmer in solving health problems in the animal's herd.

Assessment methods:	Effects 01-08 evaluation of student's project; 01-06 – written exam. Preparation for the topic of classes and active participation are assessed. In the beginning of all classes, a test may be conducted to check the student's preparation for the topic of the classes. The results from these tests may be included in the final grade of the course. Evaluation of farm assessment is based on compliance of the content with the given topic, correct conclusions, formulating rational solutions, conducting discussions and answering questions. Written exam in the form of a mixed test (open, to be completed and single/multiple choice). The exam covers all topics from lectures and classes. Minimum 51% of the points is needed to pass the subject. In due to extraordinary situation, distance learning and other methods of verifying the learning outcomes might be allowed
Formal documentation of learning outcomes:	Submitted report of farm evaluation, written exam. Record in eHMS system,, presence lists, database of oral and written questions
Elements impelling final grade:	A student who did not submit farm report or did not obtain 51% in the written examination does not pass the course. The final grade in the course is influenced by the following elements: - preparation for classes and active participation in classes (10% of the final grade), - assessment of the farm report (15% of the final grade), - final exam (75% of the final grade);
Teaching base:	Lecture halls, classrooms, laboratories, farms

Mandatory and supportive materials:

Obligatory

1. "Dairy Herd Health" , Green M. , CABI Publishing, Oxfordshire 2012 (related chapters)
2. "Pig Health" Carr J. CRC Press, NY 2018 (related chapters)
3. "Animal Health" Jackson NS . Interstate Publishers INC   (related chapters)

Optional

1. "Pigs welfare and practice." I Camerlink. 5M Publishing.
2. "Agricultural Medicine: Rural Occupational and Environmental Health, Safety, and Prevention" Kelley J. Donham, Anders Thelin. Wiley-Blackwell ,2016 2nd Edition.
3. "Veterinary Infection Prevention and Control" Linda Caveney, Barbara Jones, Kimberly Ellis, Jonhn Wiley and Sons, 2012
4. "Aquaculture Biosecurity: Prevention, Control, and Eradication of Aquatic Animal Disease" David Scarfe, Cheng-Sheng Lee, Patricia J. O'Bryen. Blackwell Publishing, 2006
5. " Handbook of Calf Health and Management: A Guide **to Best Practice Care for Calves**" Sophie Mahendran, 5M Publishing, 2021
6. Recommended articles in PubMedRelevant scientific publications, including those of the module coordinator.

ANNOTATIONS

Disposable protective clothing and individual protective equipment in accordance with accepted bio-assurance principles are mandatory in laboratory and project 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:	**100 h**
Total ECTS points, accumulated by students during contact learning:	**4 ECTS**

Learning outcomes of the module relative to the learning outcomes of the subject:

Outcome category	Learning outcomes:	Learning outcomes relative to the course outcomes	Impact on the each for course outcomes
Knowledge	01 - Student knows methods of animal houses microclimate analyses.	B.W.5, B.W.9, B.W.11, B.W.20	For all 3
Knowledge	02 - Student knows principles of desinfection, desinsection, deratization and repelling synantropic birds.	B.W.8, B.W.17, B.W.20	For all 3
Skills	03 - Student has ability to evaluation of the farm (environmental and zoohigienic conditions, work organization, services, evaluation of feeding and immunoprophylactic strategy.	B.U.2, B.U.7, B.U.16, B.U.20	For all 2
Skills	04 - Student can perform evaluation of farm productivity including evluation of the strategy taken by the farm management and current market situation.	B.U.5, B.U.8, B.U.20, B.U.25	For all 2
Skills	05 -Student propose reasonable prevention strategies for evaluated farms.	B.U19, B.U24, B.U25	For all 2
Competences	06 - Student is able to monitor the implemented preventive actions at farm.	B.U.19, B.U.24, B.U.25	For all 3
Competences	07 – Student achieves the ability to use principles of veterinary prevention in the herd.	KS.1, KS.2, KS.3, KS.7	For all 2
Competences	08- Student shows the abilities to cooperate with farmer in solving health problems in the animal's herd	KS.1, KS.11, KS.2, KS.6, KS.9	For all 3