

Module title:	Diagnostics of Pig Diseases in swine farm	ECTS	2
Polish translation:	Diagnostyka chorób świń w fermie trzody		
Course:	Veterinary Medicine		

Module language:	English	Stage: JM	
Form of studies:	☒ intramural ☐ extramural	Type of module:	☐ basic ☐ mandatory ☒ directional ☒ elective
		Semester: 9	☒ winter semester ☐ summer semester
Academic year:		2021/2022	Catalogue number: (do uzupełnienia)

Module coordinator:	Piotr Matyba DVM, PhD; Maria Sady DVM, PhD		
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.		
Unit responsible for the module:	Center for Translational Medicine (CMT)		
Faculty in charge:	Faculty of Veterinary Medicine (FVM)		
Objectives of the module:	Swine Disease Diagnostics focuses on the most important veterinary diagnostic tools used in swine herds, including diagnosis of bacterial, viral and parasitic diseases, reproductive disorders and toxicoes. The class includes a discussion of the most preferred diagnostic kits (e.g. PCR or ELISA tests) for a specific clinical case. The course begins with practical training in blood sampling, swabbing, evaluation of post-mortem lesions in slaughterhouses and on-farm necropsy. Then continues with the preparation of a cover letter and the correct shipment of biological material to diagnostic laboratories, as well as the evaluation of the laboratory and autopsy results obtained in relation to the clinical signs found. Finally, differential diagnosis is carried out on the basis of the results obtained in order to make the most probable diagnosis. Monographic lectures: Diagnostic tools -how to choose the best diagnostic method for particular case, shipping of biological material – most common mistakes reducing the power of diagnostics; principles of infectious diseases monitoring at farm; serological profiles; interpretation of results. Field workshops: Sampling and shipping biological material; autopsies at farm; examination at slaughter house; biosecurity rules.		
Teaching forms, number of hours:	Lectures: 2 hours Clinical exercises: 18 hours		
Teaching methods:	Monographic lecture with multimedia presentation , followed by practical workshops in a pig farm, slaughter house and diagnostic laboratory.		
Formal prerequisites and initial requirements:	Passed subjects: Animal anatomy, Comparative anatomy, Animal physiology, Pathophysiology , Pathomorphology, Veterinary pharmacology, Clinical and laboratory diagnostics.		
Learning outcomes:	Knowledge: 01 - students are familiar with pig diagnostic methods 02 - students know how to take a sample of biological material and prepare it for shipping to a diagnostic laboratory; 03 - students are able to evaluate laboratory results and serological profiles	Skills: 04 - students are able to evaluate clinical, postmortem and laboratory findings and perform differential diagnosis 05-students can examine carcasses, and perform autopsy;	Competences: 06- The student demonstrates the ability to interact with the farmer in solving health problems on the pig farm 07- The student possesses a critical appraisal of one's knowledge and use of scientific sources and a willingness to supplement it and to share knowledge and competences with others.
Assessment methods:	Effects 01-05 - evaluation of the project task realization, effects 06-07 student activity during classes Evaluation of the project task based on the compliance of the content with the assigned topic, correct inference, formulation of reasonable solutions, discussion and answers to questions. Evaluation of student activity during the classes based on discussion and the ability to formulate correct conclusions. A student who does not submit a final project cannot pass the course. In the case of a top-down suspension of the realization of classes at the University and the need for remote/hybrid teaching, other forms of verification of learning outcomes are permitted in a manner adequate to the situation.		
Formal documentation of learning outcomes:	Record into the eHMS system and documentation contained in the 'Course File' (i.e. student assessment cards, attendance lists, students' essays).		

Elements impelling final grade:	The final course grade is influenced by the following elements: - project task, - students activity during classes.
Teaching base:	Classrooms, lecture halls and laboratories of CMT SGGW, FVM outside farms, slaughterhouse.
Literature: 1. „Diseases of Swine” ,Zimmerman JJ., Karriker AL., Ramirez A, Schwartz KJ, Stevenson GW, Zhang J , Wiley Blackwell USA, 2019. 2. „Pig Health” John Carr, Shih-Ping Chen, Joseph F. Connor, Roy Kirkwood, Joaquim Segalés, CRC Press, 2017. 3. „The Merc Veterinary Manual” Merck, Michael A. Moses, Melinda D. Merck, Merck & Company, USA,2016.	
Annotations: Protective clothing and individual protective equipment in accordance with accepted bio-assurance principles are mandatory during exercise 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:	50 h
Total ECTS points, accumulated by students during contact learning:	1 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-Students are familiar with pig diagnostic methods.	A.W10, A.W11, A.W13, A.W15, A.W21, B.W1, B.W2, B.W3, B.W4, B.W5	Each 3
Knowledge	02-Students know how to take a sample of biological material and prepare it for shipping to a diagnostic laboratory.	A.W13, A.W15, B.W5, B.W6	Each 2
Knowledge	03-Students are able to evaluate laboratory results and serological profiles.	A.W10, A.W11, A.W15, B.W6, B.W8	Each 2
Skills	04-Students are able to evaluate clinical, postmortem and laboratory findings and perform differential diagnosis	A.U6,B.U2, B.U3,B.U6, B.U16, B.U20	Each 3
Skills	05-Students can examine carcasses, and perform autopsy;	B.U6, B.U17	Each 2
Competences	06-The student demonstrates the ability to interact with the farmer in solving health problems on the pig farm	KS.1, KS.11, KS.2, KS.6, KS.9	Each 3
Competences	07- The student possesses a critical appraisal of one's knowledge and use of scientific sources and a willingness to supplement it and to share knowledge and competences with others.	KS.4, KS.8	Each 2