

Module title:	Farm animal infectious diseases	ECTS	4
Polish translation:	Choroby zakaźne zwierząt gospodarskich		
Course:	Veterinary Medicine		

Module language: English		Stage: JM-FVM	
Form of studies: ☒ intramural ☐ extramural	Type of module: ☐ basic ☒ mandatory ☐ directional ☐ elective	Semester: VII.....	☒ winter semester ☐ summer semester
Academic year:		Intake 2022/2023	Catalogue number: FVM-V-JMSS-07W-D25/4_20

Module coordinator:	Prof. dr hab. Iwona Markowska-Daniel
Teachers responsible for the module:	Academic teachers of the Institute ...; Department.../Laboratory of Veterinary Epidemiology and Economics; PhD students in accordance to the internal legal acts; visiting professors; other specialists in the field of study
Objectives of the module:	During the course students acquire theoretical knowledge necessary to understand the biology, etiology, pathogenesis, epidemiology, clinical symptoms, pathological lesions, diagnosis, including differential diagnosis, eradication and importance of infectious diseases listed below. Moreover, they acquire practical skills in diagnosing, treating and controlling these infections. Lecture topics: 1. Introduction to the subject: the most important epidemiological terminology, the significance of infectious diseases for effective animal production and public health protection. The ways of infectious diseases spreading. The rules of disease eradication. The role of OIE in controlling of infectious diseases [2 hrs.] 2. OIE-listed and other notifiable diseases of swine: African swine fever - occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, differential diagnosis, eradication, legal regulations [2 hrs.] 3. OIE-listed and other notifiable diseases of swine: classical swine fever and other pestiviruses - occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, differential diagnosis, eradication, legal regulations [2 hrs.] 4. OIE-listed and other notifiable diseases of swine: porcine reproductive and respiratory syndrome - occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, differential diagnosis, eradication, legal regulations [2 hrs.] 5. OIE-listed and other notifiable diseases of swine: Aujeszky' disease, transmissible gastroenteritis, Nipah virus encephalitis - occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, differential diagnosis, eradication, legal regulations [2 hrs.] 6. OIE-listed and other notifiable diseases of cattle: bovine tuberculosis, enzootic bovine leukosis - occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, differential diagnosis, eradication, legal regulations [2 hrs.] 7. OIE-listed and other notifiable diseases of cattle: infectious bovine rhinotracheitis, contagious bovine pleuropneumonia - occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, differential diagnosis, eradication, legal regulations [2 hrs.] 8. OIE-listed and other notifiable diseases of cattle: bovine spongiform encephalopathy, scrapie - occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, differential diagnosis, eradication, legal regulations [2 hrs.] 9. OIE-listed and other notifiable diseases of cattle: lumpy skin disease, bovine viral diarrhea - occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, differential diagnosis, eradication, legal regulations [2 hrs.] 10. OIE-listed and other notifiable diseases of small ruminants: contagious agalactia, infection with Chlamydia abortus (enzootic abortion of ewes, ovine chlamydiosis), ovine epididymitis, salmonellosis (<i>S. abortusovis</i>), border disease - occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, differential diagnosis, eradication, legal regulations [2 hrs.] 11. OIE-listed and other notifiable diseases of small ruminants: caprine arthritis-encephalitis, Maedi-visna, contagious caprine pleuropneumonia, Nairobi sheep disease - occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, differential diagnosis, eradication, legal regulations [2 hrs.] 12. OIE-listed and other notifiable multispecies diseases: paratuberculosis, anthrax, rinderpest, peste des petits ruminants - occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, differential diagnosis, eradication, legal regulations [2 hrs.] 13. OIE-listed and other notifiable multispecies diseases: bluetongue, Rift valley fever, Crimean Congo haemorrhagic fever, West Nile fever, epizootic haemorrhagic disease, Japanese encephalitis - occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, differential diagnosis, eradication, legal regulations [2 hrs.] 14. OIE-listed and other notifiable multispecies diseases: foot and mouth disease - occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, differential diagnosis, eradication, legal regulations [2 hrs.] 15. OIE-listed and other notifiable multispecies diseases: Q fever, brucellosis - occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, differential diagnosis, eradication, legal regulations [2 hrs.] Class topics: 1. Introduction to the subject: Epidemiological investigation. Sampling and shipment of materials for laboratory examinations. Laboratory diagnosis [3 hrs.] 2. Skin and mucosal diseases of swine: pox, vesicular exanthema of swine, exudative epidermitis, malignant oedema, foot and mouth disease, vesicular disease, vesicular stomatitis, porcine dermatitis and nephropathy syndrome, erysipelas - differential diagnosis, occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, eradication [3 hrs.] 3. Respiratory diseases of swine: porcine respiratory disease complex, swine influenza, PRRS, circovirus infection, pleuropneumonia, mycoplasmosis, atrophic rhinitis, streptococcosis - differential diagnosis, occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, eradication [3 hrs.]

		4. Enteric diseases of swine: colibacteriosis, clostridiosis, adenomatosis, swine dysentery, salmonellosis, porcine epidemic diarrhoea, rotavirus infection - differential diagnosis, occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, eradication [3 hrs.] 5. Reproductive disorders of swine: parvovirus, porcine reproductive respiratory syndrome, circovirus, swine influenza, SMEDI, brucellosis, leptospirosis, chlamydiosis - differential diagnosis, occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, eradication [3 hrs.] 6. Nervous system disorders of swine: Teschovirus encephalomyelitis, vomiting and wasting disease, rabies, listeriosis, tetanus, botulism, streptococcosis, Glässer disease, oedema disease - differential diagnosis, occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, eradication [3 hrs.] 7. Periodic test (infectious diseases of swine) [3 hrs.] 8. Respiratory diseases of cattle: enzootic bronchopneumonia, pasteurellosis - differential diagnosis, occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, eradication [3 hrs.] 9. Enteric diseases of cattle: viral and bacterial diarrheas - differential diagnosis, occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, eradication [3 hrs.] 10. Nervous system diseases of cattle: rabies, BSE, malignant catarrhal fever - differential diagnosis, occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, eradication [3 hrs.] 11. Reproductive system diseases of cattle: bovine genital campylobacteriosis, trichomonosis, Schmallenberg virus infection - differential diagnosis, occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, eradication [3 hrs.] 12. Nervous system diseases of small ruminants: listeriosis, border disease - differential diagnosis, occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, eradication. Respiratory diseases of small ruminants: enzootic pneumonia, ovine pulmonary adenomatosis, enzootic nasal tumor - differential diagnosis, occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, eradication [3 hrs.] 13. Skin diseases and lameness of small ruminants: sheep pox and goat pox, contagious ecthyma, foot root - differential diagnosis, occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, eradication [3 hrs.] 14. Clostridial diseases of small ruminants: enterotoxemia, lamb dysentery, infectious necrotic hepatitis, bradset, tetanus - differential diagnosis, occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, eradication Wasting diseases of small ruminants: caseous lymphadenitis, Morel's disease - differential diagnosis, occurrence, etiology, pathogenesis, clinical picture, pathological lesions, diagnosis, eradication [3 hrs.] 15. Periodic test (infectious diseases of ruminants) [3 hrs.] The content of lectures is complementary to the content of classes.		
Teaching forms, number of hours:		a) Lectures; hours 30...; b) Laboratory classes; hours 45...; c) Seminars; hours ...; d) Clinical laboratories; hours ...; e) Field exercises; hours ...;		
Teaching methods:		- copyright multimedia presentations, - clinical cases presentations, - video tutorials, - students' self-training 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. Consultations 1 hr/week; the consultation schedule will be determined by the course coordinator at the beginning of the semester -		
Formal prerequisites and initial requirements:		Following courses completed: Veterinary epidemiology, Microbiology, Virology, Immunology, Physiology & pathology, Immunopathology, Pathological anatomy		
Learning effects		Course outcomes:	Learning outcomes relative to the course outcomes	Impact on the course outcomes*
Knowledge:	1	Student has knowledge and understanding of epidemiological nomenclature	A.W.20	2
	2	Student knows the rules of conducting epidemiological investigation	A.W.15, B.W.4, B.W.5, B.W.6	3
	3	Student knows the mechanisms of infectious disease	A.W.2, A.W.5, A.W.10, A.W.12, A.W.11, B.W.1	3
	4	Student understands the routes of transmission of infectious diseases	A.W.13	3
	5	Student knows and understands the rules of treatment of infected animals	A.W. 16 A.W. 17, B.W. 3	1 3
	6	Student knows the rules of prevention of infectious diseases (general and specific)	A.W. 13, B.W. 3	3
	7	Student knows the global and national databases containing information on the occurrence of infectious diseases subject to notification	C.W.2	3

Skills:	1	Student knows how to diagnose particular infectious disease of livestock	A.U.4, A.U.10, A.U.14, B.U.2, B.U.6, B.U.16	3
	2	Student can plan and implement appropriate treatment of infectious diseases	A.U.11, B.U.9, B.U.13	3
	3	Student is able to plan and implement proper general and specific prevention of infectious diseases	B.U.21	3
	4	Student has the ability to eradicate infectious diseases of farm animals	B.U.8, B.U.19	3
	5	Student is able to use scientific resources in solving clinical problems	A.U.21; A.U.23 B.U.20	3
Competences:	1	Student is ready to perform differential diagnosis of infectious diseases of farm animals	K.S.1, K.S.2, K.S.4, K.S.5	3
	2	Student is ready to eradicate infectious diseases in accordance with legal regulations	K.S.1, K.S.2, K.S.4, K.S.5, K.S.11	3
	3	Student is aware of his/her knowledge, understands the necessity of consultancy and is prepared to share the competencies with the veterinary team and the animals' owner	KS.1; KS.2; KS.3; KS.4; KS.7; KS.8;KS.9 KS.5; KS.6	3 2
	4	Student is aware of the necessity of constant education	KS.1; KS.2; KS.4; KS.5; KS.6; KS.7; KS.8; KS.9	3
Objectives of the module required to obtain learning effects:		During the course students acquire theoretical knowledge necessary to understand the biology, aetiology, pathogenesis, epidemiology, clinical symptoms, pathological lesions, diagnosis, including differential diagnosis, eradication and importance of infectious diseases listed below. Moreover, they acquire practical skills in diagnosing, treating and controlling these infections.		
Assessment methods:		2 written tests, written exam ... In case of unforeseen, unusual circumstances mandatory remote teaching and remote assessment methods might be adopted.		
Detail description of assessment methods;		Theoretical written periodic exams and written final exam which comprises the whole material – descriptive and single- or multiple-choice questions No extra assessment methods are anticipated.		
Formal documentation of learning outcome:		eHMS entry. Records collected in the course portfolio i.e. individual records of student results, presence lists, database of oral and written questions, written assessments of the students.		
Elements impelling final grade:		The necessary condition for participation in classes is the possession of accident insurance (in Polish: ubezpieczenie NNW). Lectures are voluntary. Student is allowed to miss 9 hours of classes (3 classes). Conditions of receiving positive final score: 2 periodic exams will be conducted: 1. infectious diseases of swine – written exam (10 descriptive and single- or multiple choice questions); 2. infectious diseases of ruminants – written exam (10 descriptive and single- or multiple choice questions); Both exams will be based on the information provided during the classes. Each question will be evaluated using a scale: 0, 1 and 2. The max points in each exam = 20. For students with justified absence on the one or both exams an extra exam will be organized. After the second chance no additional exams will be organized. Student will receive a positive grade from periodic exams if they receive a minimum of 60% of maximal score (max. = 20 points.; min. = 12 points). Students who do not get 12 points will not be allowed to take the final exam. At the end of the semester final written exam covering the information provided during lectures and classes will be organized (30 descriptive and single- or multiple choice questions evaluated as mentioned above). Student will receive a positive grade from the exam if they receive a minimum of 60% of maximal score (max. = 60 points; min. = 36 points). The final grade from the course is based on the total score from both periodic as well as final exams. The final evaluation depends on the number of points received: 0-60 points – 2.0 61-68 points – 3.0 69-76 points – 3.5 77-84 points – 4.0 85-92 points – 4.5 93-100 points – 5.0 Only one retake is allowed.		
Teaching base:		Lecture facilities and laboratories of the Institute of Veterinary Medicine		

Mandatory and supportive materials :

1. Diseases of swine, 11th edition, Wiley-Blackwell 2019, Ed. J.J. Zimmermann, L.A. Karriker, A. Ramirez, K.J. Schwartz, G.W. Stevenson, J. Zhang
2. Handbook of Pig Medicine, Elsevier 2007, Jackson P., Cockcroft P.,
3. Infectious Diseases of Livestock, 2nd edition, Oxford University Press, Ed. J. A. W. Coetzer, R. C. Tustin

Supplementary literature:

1. www.oie.int
2. www.isid.org
3. www.pubmed.com

Relevant scientific publications including those of the module coordinator.

ANNOTATIONS

* 3 – complete and detailed, 2 – moderate, 1 – basic.

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:	3..... ECTS