MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
SUMY NATIONAL AGRARIAN UNIVERSITY

Epizootiology and Parasitology Department
Faculty of Veterinary Medicine

MODULE SYLLABUS

Epizootology and Infectious Animal Diseases

(compulsory)

Implemented in the "Veterinary Medicine" Academic Program

Area of specialization 211 " Veterinary Medicine"

second (master's) level of higher education

Sumy-2024

Author: _____ (Halyna REBENKO, Phd, Associate professor of Epizootiol and Parasitology Department)

Module syllabus agreed at the epizootology Department meeting	Minutes No 11 dated 06 2024
	Head of Epizootiology and Parasitology Department _____ (Oksana KASIANENKO)

Approved by:

Guarantor of the Academic program _____ Roman PETROV

Dean of the Faculty _____ Oleksandr NECHYPORENKO

Syllabus review (attached) is provided by : _____ (О.Шкромада)
_____ (Г.Зоп)

Representative of the Department of Education Quality assurance, licensing and accreditation _____ (Марія Бобровська)

Registered in electronic data base 25.06. 2024

1. MODULE OVERVIEW

1.	Title	Epizootology and Infectious Animal Diseases			
2.	Faculty/Department	Epizootiology and Parasitology			
3.	Type (compulsory or optional)	compulsory			
4.	Program(s) to which module is attached	211 "Veterinary Medicine"			
6.	Level of the National Qualifications Framework	7-th			
7.	Semester and duration of module	7, 8, 9, 10 and 11			
8.	ECTS credits number	14 ECTS			
9.	Total workload and time allotment	Directed study			Self-directed study
		Lectures	Practicals	Labs	
		76 (16/14/14/16/16)	-	150 (30/30/16/30/44)	254 (44/46/30/44/90)
10.	Language of instruction	English			
11.	Module leader	Halyna Rebenko, Phd, Associate professor			
12.	Module leader contact information	rebenkogi@ukr.net +380958895465			
13.	Module description	Module leads to understanding of the epizootical processes of infectious animal diseases and developing of skills in making decisions on rational measures for the prevention, management and elimination of epizootics			
14.	Module aim	The aim of curriculum “Epizootology and Infectious Animal Diseases” is to form a system of special theoretical knowledge regarding the existing patterns of processes of origin, development, spread and elimination of infectious animal diseases and basic veterinary sanitation			
15.	Module Dependencies (prerequisites, co-requisites, incompatible modules)	The educational component is based on the following: Veterinary microbiology and immunology, Veterinary virology, Veterinary hygiene and sanitation, Pathological physiology, Pathological anatomy, Clinical diagnosis of animal diseases, Veterinary pharmacology, Biotechnology of veterinary immunobiological drugs, Organization and economics of veterinary affairs. The educational component is the basis for studying the following: Veterinary technologies for the prevention of infectious diseases of animals			
16.	The policy of academic integrity	All tasks related to calculations, planning and accounting documentation will have individual initial data. For violation of academic integrity, students may be held subject to the following academic liability: *Academic plagiarism* - grade 0, re-completion of the task. *Academic fraud* (copying, deception, publishing someone's work for their own) - cancellation of points; re-assessment evaluation re-execution of non-independently performed work with new source data; *The use of electronic devices* during the final control of knowledge - removal from work, grade 0, re-passing the final control.			
17	Link in Moodle	https://cdn.snau.edu.ua/moodle/course/view.php?id=3433			

2. CORRELATION BETWEEN MODULE LEARNING OUTCOMES (MLOs) AND PROGRAM LEARNING OUTCOMES (PLOs)

MLOs: On successful completion of the module the learner will be able to:	**PLOs**								**How assessed**
	PLOs 2	PLOs 6	PLOs 7	PLOs 8	PLOs 9	PLOs 15	PLOs 18	PLOs 19	
MLOs 1. To identify sick and suspected of contagious animals, sources of infectious agents, factors and mechanisms of their transmission		+						+	Case studies and situation analysis
MLOs 2. To substantiate the mechanisms of action, schemes and methods of application of veterinary immunobiological drugs (diagnostic drugs, therapeutic and prophylactic drugs), rodenticides, insecticides, detergents and disinfectants to maintain epizootic well-being, calculate the required amount	+			+		+			Group tasks with self- and mutual assessment. Solving problems to calculate the need for funds
MLOs 3. To recognize the risks of infection and implement measures to protect the population from zoonoses					+			+	Case studies and situation analysis
MLOs 4. To plan, organize and carry out measures aimed at preventing the introduction and spread of infectious / invading pathogens, the treatment of animals suffering from infectious diseases, and the elimination of epizootic foci		+							Simulation exercises Development of plans for disease-control measures
MLOs 5. To justify the use of tools, special devices, devices, laboratory equipment, software and other technical means for monitoring, diagnostic tests, preventive vaccinations, other necessary manipulations during professional activities				+					Practical test of application skills
MLOs 6. To find up-to-date information on specific diseases, their prevention, control, including rapid response mechanisms, development of a strategy for preventive and health measures in accordance with international and domestic standards to ensure the epizootic welfare of livestock for communicable diseases	+	+						+	Project evaluation
MLOs 7. Competently draw up documentation (acts, plans, accompanying, submissions, orders), which relates to anti-epizootic measures							+		Assessment of the correctness of the documents
MLOs 8. To evaluate the effectiveness of anti-epizootic measures and adjust existing treatment regimens.	+		+						Case studies
MLOs 9. To determine the danger of biological waste and organize their disposal according to the requirements.				+				+	Case studies
MLOs 10. To demonstrate problem-solving skills and effective communication with people who are interested in human and animal health								+	Participation in focus groups, simulation exercises

3. MODULE INDICATIVE CONTENT

Topics	Distribution of hours				Learning resources
	Directed study			Self-directed study	
	Lectures	Practicals	Labs		
7-th semester					
Topic 1. Introduction to epizootology. Introduction. Infection and infectious disease. Distribution of pathogenic microbes in the body of animals. Types of infection. The level of study of immunity. Biology of the immune response	2		2 - Measures of personal prophylaxis and protection of people from zoonotic diseases.	2	1, 2, 3
			2 - Prevention of the spread of infectious agents. Organization of treatment of infectious animals..	2	1, 2, 3, 4
			2 - Study of the features of diagnosis of infectious diseases.	2	1, 2, 3
Topic 2. Epizootic process. Epizootic process and its driving forces. Epizootic and natural focus of infectious diseases. Fundamentals of epizootic analysis. Methodology for studying the epizootic situation in the district, region, state. Laws and categories of epizootology.	4		2 - Laboratory methods of diagnostics. Management of mass blood sampling for serological studies.	2	1, 2, 3, 7 https://coursera.org/share/41748f1691f5fea1cbfcbfba67fa1685
			2 - Study of rules of pathological material selection and transfer for laboratory research.		
			2 - Outbreak investigations. Basics of statistic in epizootology.		
Topic 3. Prevention and eradication of infectious diseases. Prevention of infectious diseases. Phenomena of population level in epizootology. Elimination of infectious diseases and health measures. Transboundary animal diseases Therapy and treatment and preventive measures in case of infectious diseases	4		2 - Study of veterinary biologics.	2	11
			2 - Animals and poultry vaccination against infectious diseases. Monitoring the effectiveness of vaccines.	2	11
			2 - Organization and planning of preventive measures.	2	4, 11
			2 - Contingency planning. Disease control and eradication		
				2	

Topic 4. Veterinary and sanitary measures and global protection against infectious diseases. Veterinary sanitation. Anti-epizootic measures in farms of industrial type. Infectious diseases of wild animals, emergent and exotic infections. Veterinary aspects of health. Scheme of studying infectious diseases.	6		2 - Methods of disinfection. 2 - Application disinfectants and evaluation of the effectiveness of disinfection. 2 - Bio-waste disposal 2 - Rodent control. 2 - Livestock insects control	2	https://www.coursera.org/learn/global-health-human-animal-ecosystem/home/welcome
common	16		30	44	
8-th semester					
Topic 1. Infectious diseases with septic flow	2		2 - Organization of measures to fight against anthrax		MSD Veterinary Manual (https://www.msdvetmanual.com/generalized-conditions) Terrestrial Animal Health Code (2017) (http://www.oie.int/standard-setting/terrestrial-code/) Manual of Diagnostic Tests and Vaccines for Terrestrial Animals 2018 (http://www.oie.int/standard-setting/terrestrial-manual/access-online/) AHP Disease Manual http://lrd.spc.int/ext/Disease_Manual_Final https://en.wikivet.net/Learning_Resources
			2 - Organization of measures to fight against pasteurellosis		
Topic 2. Infectious diseases of animals caused by pathogenic anaerobes			2 - Organization of measures to fight against clostridioses		
Topic 3. Infectious diseases with chronic course	2		2 - Organization of measures to control of tuberculosis		
			2 - Organization of measures to fight against brucellosis		
Topic 4. Bacterial natural-focal infections	2		2 - Organization of measures to protect and to fight against leptospirosis		
			2 - Organization of measures to control of bacterial natural-focal infections		
Topic 5. Viral naturally-focal infections	2		2 - Organization of measures to control of rabies		
			2 - Organization of measures to control of Aujeszky's disease and arbovirus infections		
Topic 6. Highly contagious diseases	2		2 - Organization of measures to protect from foot and mouth disease		
Topic 7. Chronic and latent infections	2		2 - Organization of measures to control of ricketcioses		
			2 - Organization of measures to control of chlamydiosis		

			2 - Organization of measures to control of mycoplasmosis		
Topic 8. Mycosis and mycotoxicosis	2		2 - Organization of measures to control of mycoses		
			2 - Organization of measures to control of mycotoxicosis		
Total	14		30	46	
9-th semester					
Topic 9. Diseases of ruminants Black quarter (black-leg), Bluetongue, Borna disease, Bovine virus diarrhoea, Contagious agalactia, Contagious bovine pleuropneumonia, Contagious caprine pleuropneumonia, Contagious Ecthyma of sheep and goats, Crimean Congo Haemorrhagic Fever, Enzootic bovine leucosis, Epizootic haemorrhagic disease, Foot-and-mouth disease, Heartwater, Infectious epididymitis, Lumpy skin disease, Maedi-visna, Malignant catarrhal fever (wildebeest-associated), Nairobi sheep disease, Ovine pulmonary adenomatosis, Paratuberculosis (Johne's disease), Peste des petits ruminants, Rift Valley fever, Rinderpest, Sheep pox and goat pox, Transmissible spongiform encephalopathies (bovine spongiform encephalopathy, chronic wasting disease of deer, feline spongiform encephalopathy, scrapie), Wesselsbron disease, West Nile virus infection, Rift valley fever, epizootic hemorrhagic disease of deer, orbovirus infection of cattle (Ibaraki disease).	14		2 - Measures to prevent the emergence of BSE in Ukraine. 2 - Diagnosis and control of bovine leukemia 2 - Consideration of diagnostic situations and organization of measures to combat respiratory infections in cattle. 2 - Consideration of diagnostic situations and organization of measures to combat diseases that are accompanied by damage to the sexual function of ruminants. 2 - Consideration of diagnostic situations and organization of measures to combat infectious diseases that occur with signs of damage to the gastrointestinal tract of ruminants. 2 - Diagnosis, differential diagnosis and health measures in case of anaerobic infections. 2 - Consideration of diagnostic situations and organization of measures to combat emerging diseases of ruminants. 2 - Consideration of diagnostic situations and organization of measures to combat infectious diseases that occur with signs of skin and mucous membranes.		http://lrd.spc.int/ext/Disease_Manual_Final/b115__bovine_spongiform_encephalopathy.html http://lrd.spc.int/ext/Disease_Manual_Final/b160__scrapie.html http://lrd.spc.int/ext/Disease_Manual_Final/a070__lumpy_skin_disease.html http://lrd.spc.int/ext/Disease_Manual_Final/a090__bluetongue.html http://lrd.spc.int/ext/Disease_Manual_Final/a040__rinderpest.html http://lrd.spc.int/ext/Disease_Manual_Final/a100__sheep_pox_and_goat_pox.html http://lrd.spc.int/ext/Disease_Manual_Final/b110__infectious_bovine_rhinotracheitis.html http://lrd.spc.int/ext/Disease_Manual_Final/a050__peste_des_petits_ruminants.html http://lrd.spc.int/ext/Disease_Manual_Final/b108__enzootic_bovine_leukosis.html http://lrd.spc.int/ext/Disease_Manual_Final/a160__contagious_bovine_pleuropneumonia.html http://lrd.spc.int/ext/Disease_Manual_Final/b155__contagious_caprine_pleuropneumonia.html http://lrd.spc.int/ext/Disease_Manual_Final/b154__contagious_agalactiae.html http://lrd.spc.int/ext/Disease_Manual_Final/b153__caprine_arthritisencephalitis.html http://lrd.spc.int/ext/Disease_Manual_Final/b161__maedivisna.html
Total	14		16	30	
10-th semester					
Topic 10. Diseases of horses Contagious equine metritis, Crimean Congo Haemorrhagic Fever, Encephalitides (tick-borne), Equine encephalomyelitis (Japanese, Eastern,	4		2 - Consideration of specific situations for diagnosis and organization of measures to combat foot-and-mouth disease, mumps, epizootic lymphangitis. 2 - Consideration of specific situations for diagnosis and organization of measures to combat rhinopneumonia and		http://lrd.spc.int/ext/Disease_Manual_Final/b211__equine_viral_arteritis.html http://lrd.spc.int/ext/Disease_Manual_Final/b205__equine_infectious_anaemia.html http://lrd.spc.int/ext/Disease_Manual_Final/b206__equine_influenza.html http://lrd.spc.int/ext/Disease_Manual_Final/b204__equine_

Western and Venezuelan), Equine infectious anaemia, Equine influenza, Glanders, Infection with equid herpesvirus-1 (EHV-1) (abortigenic and neurological strains), Equine arteritis, Infection with Getah virus, Infection with Hendra virus, Infection with Histoplasma farciminosum (epizootic lymphangitis), Rift Valley fever, Salmonellosis equi , Vesicular stomatitis.			influenza. 2 - Diagnosis and organization of measures to combat herpesvirus infections. Contagious metritis. Salmonellosis abortion of mares. 2 - Diagnosis, prevention and control of infectious anemia in horses. Viral arteritis. African horse sickness. 2 - Plan of anti-epizootic measures in horse breeding (by tasks)		viral_encephalomyelitis.html http://lrd.spc.int/ext/Disease_Manual_Final/b201__contagious_equine_metritis.html http://lrd.spc.int/ext/Disease_Manual_Final/a110__african_horse_sickness.html http://lrd.spc.int/ext/Disease_Manual_Final/b203__epizootic_lymphangitis.html http://lrd.spc.int/ext/Disease_Manual_Final/b208__equine_rhinopneumonitis.html
Topic 11. Swine Diseases African swine fever, Aujeszky's disease, Bungowannah (porcine myocarditis), Classical swine fever, Enzootic bronchopneumonia, Infectious atrophic rhinitis, Influenza in swine, Glasser's Disease, Porcine epidemic diarrhoea, Swine vesicular disease, Porcine enteroviral encephalomyelitis(Teschen disease), Nipah virus infection, Porcine reproductive and respiratory syndrome, Post-weaning multi-systemic wasting syndrome, Swine Dysentery, Swine Erysipelas, Swine vesicular disease, Transmissible gastroenteritis, Vesicular exanthema, Pleuropneumonia in pigs due to Haemophilus pleuropneumoniae, Porcine parvovirus infection.	6		2- Consideration of specific situations for the diagnosis and organization of measures to combat classical and African swine fever. 2 - Diagnosis, measures to control erysipelas, vesicular exanthema and swine vesicular disease. 2 - Diagnosis, prevention and control of reproductive infections of pigs. Chlamydia of pigs. Reproductive-respiratory syndrome. Parvovirus of pigs. 2 - Consideration of specific situations for the diagnosis and control of intestinal infections in pigs. Transmissible gastroenteritis. Swine dysentery. Ileitis (Lawsoniosis) of pigs 2 - Diagnosis and organization of measures to combat Teschen's disease, swine edema. 2 - Diagnosis, differential diagnosis of respiratory diseases of pigs: hemophilic polyserositis, actinobacillus pleuropneumonia, enzootic bronchopneumonia, IAR and swine flu. Diagnosis, prevention and control measures. 2 - Plan of anti-epizootic measures in pig breeding (by tasks)		http://lrd.spc.int/ext/Disease_Manual_Final/a120__african_swine_fever.html http://lrd.spc.int/ext/Disease_Manual_Final/a130__classical_swine_fever_hog_cholera.html http://lrd.spc.int/ext/Disease_Manual_Final/swine_influenza.html http://lrd.spc.int/ext/Disease_Manual_Final/b052__aujeszkys_disease.html http://lrd.spc.int/ext/Disease_Manual_Final/enzootic_pneumonia_of_pigs.html http://lrd.spc.int/ext/Disease_Manual_Final/b254__transmissible_gastroenteritis.html http://lrd.spc.int/ext/Disease_Manual_Final/b256__enterovirus_encephalomyelitis.html http://lrd.spc.int/ext/Disease_Manual_Final/porcine_parvovirus.html http://lrd.spc.int/ext/Disease_Manual_Final/b257__porcine_reproductive_and_respiratory_syndrome.html http://lrd.spc.int/ext/Disease_Manual_Final/a030__swine_vesicular_disease.html
Topic 12. Factoral diseases of the young animals. Salmonellosis, escherichiosis, streptococcosis, staphylococcosis, anaerobic enterotoxemia, adeno-, corona-, parvo- and rhinovirus infection.	4		2 - Consideration of specific situations for the diagnosis and organization of measures to combat bacterial infections of young animals: colibacillosis and edema, salmonellosis and anaerobic enterotoxemia of young animals. 2 - Diagnosis of diseases of young animals with a predominant lesion of the digestive tract. Principles of treatment, prevention and measures to combat them. Coronavirus. Rotavirus. Reovirus infections. 2 - Diagnosis and differential diagnosis of diseases of young animals with predominant lesions of the respiratory system.		https://en.wikivet.net/Learning_Resources
Total	14		30	46	

11-th semester					
Topic 13. Diseases of dogs, cats and fur animals. Parvovirus, Distemper, Infectious Canine Hepatitis, Coronavirus, Kennel Cough, Canine Adenovirus type 2 and Parainfluenza virus, Feline leukemia, feline immunodeficiency, Feline panleukopenia, Devil Facial Tumour Disease, Myxomatosis, Viral hemorrhagic disease.	6		4 - Diseases of dogs; 4 - Diseases of cats; 4 - Diseases of fur-bearing animals		http://lrd.spc.int/ext/Disease_Manual_Final/canine_parvovirus.html http://www.cfsph.iastate.edu/DiseaseInfo/disease.php?name=canine-influenza&lang=en http://lrd.spc.int/ext/Disease_Manual_Final/feline_viral_rhinotracheitis.html http://lrd.spc.int/ext/Disease_Manual_Final/feline_panleucopaenia.html http://lrd.spc.int/ext/Disease_Manual_Final/feline_infectious_peritonitis.html http://www.cfsph.iastate.edu/DiseaseInfo/disease.php?name=feline-spongiform-encephalopathy&lang=en http://www.cfsph.iastate.edu/DiseaseInfo/disease.php?name=rabbit-hemorrhagic-disease&lang=en
Topic 14. Avian Diseases Avian Influenza, Duck virus hepatitis, Duck viral enteritis (Duck plague), Escherichia coli infections, Salmonelloses, Paratyphoid infections, Fowl cholera, Riemerella anatipestifer infections, Mycoplasma, Avian tuberculosis, Haemorrhagic enteritis of turkeys, Egg drop syndrome -1976, Infectious bursal disease (Gumboro), Infectious bronchitis (IB), Laryngotracheitis, Swollen head syndrome, Infectious encephalomyelitis, Newcastle disease`, Fowl pox, Reovirus infections, Virus-induced neoplastic diseases Marek's disease, Lymphoid leukosis.	4		2 - Acute viral infections of birds 2 - Chronic neoplastic infections of birds 2 - Diseases affecting egg production, reproductive capacity 2 - Bacterial infections of poultry 2 - Plan of anti-epizootic measures in poultry (by tasks).		http://lrd.spc.int/ext/Disease_Manual_Final/a150__avian_influenza.html http://lrd.spc.int/ext/Disease_Manual_Final/a160__newcastle_disease.html http://lrd.spc.int/ext/Disease_Manual_Final/b307__fowl_pox.html http://lrd.spc.int/ext/Disease_Manual_Final/b307__fowl_typhoid.html http://lrd.spc.int/ext/Disease_Manual_Final/b313__pullorum_disease.html http://lrd.spc.int/ext/Disease_Manual_Final/b309__infectious_bursal_disease.html http://lrd.spc.int/ext/Disease_Manual_Final/b301__avian_infectious_bronchitis.html http://lrd.spc.int/ext/Disease_Manual_Final/b302__avian_infectious_laryngotracheitis.html http://lrd.spc.int/ext/Disease_Manual_Final/b311__mycoplasmosis_m_gallisepticum.html http://lrd.spc.int/ext/Disease_Manual_Final/b306__fowl_cholera.html http://lrd.spc.int/ext/Disease_Manual_Final/b310__mareks_disease.html http://lrd.spc.int/ext/Disease_Manual_Final/c853__avian_encephalomyelitis.html http://lrd.spc.int/ext/Disease_Manual_Final/b312__avian_chlamydiosis.html
Topic 15. Bee diseases Infection of bees with Paenibacillus larvae (American foulbrood), Infection of bees with Melissococcus plutonius (European foulbrood), Acute and chronic viral paralysis, aspergillosis, ascospherosis, melanosis.	2		2 - Diseases of bees 2 - Anti-epizootic measures in apiaries.		http://lrd.spc.int/ext/Disease_Manual_Final/b452__american_foulbrood.html http://lrd.spc.int/ext/Disease_Manual_Final/b453__european_foulbrood.htmlhttps://www.wur.nl/en/Research-Results/Research-Institutes/plant-research/Biointeractions-Plant-Health/Bees-1/Bee-diseases.htm https://www.uaex.edu/farm-ranch/special-programs/beekeeping/hive-pests-diseases.aspx http://lrd.spc.int/ext/Disease_Manual_Final/chalkbrood.html
Topic16. Fish Diseases Furunculosis, Bacterial kidney Disease, Columnaris, Infectious Pancreatic Necrosis, Viral Haemorrhagic Septicaemia, Channel Catfish Virus, Saprolegniosis, Branchiomycosis.	2		2 - Diseases of fish 2 - Anti-epizootic measures for fish farms.		http://www.cfsph.iastate.edu/DiseaseInfo/disease.php?name=viral-hemorrhagic-septicemia&lang=en http://www.cfsph.iastate.edu/DiseaseInfo/disease.php?name=spring-viremia-of-carp&lang=en
Total	14		30	46	

4. TEACHING AND LEARNING METHODS

MLOs	Teaching methods (directed study)	Hours	Learning methods (self-directed study)	Hours
MLOs 1. To identify sick and suspected of contagious animals, sources of infectious agents, factors and mechanisms of their transmission	Consideration of situations with a description of symptoms, concomitant factors and circumstances of the disease. Analysis of possible ways of introduction and spread of the pathogen		To study clinical and pathological features of specific diseases, their epizootological features (ways of isolation and infection, mode of transmission, seasonality, morbidity and mortality)	
MLOs 2. To substantiate the mechanisms of action, schemes and methods of application of veterinary immunobiological drugs (diagnostic drugs, therapeutic and prophylactic drugs), rodenticides, insecticides, detergents and disinfectants to maintain epizootic well-being, calculate the required amount	Group tasks with museum preparations (their division into groups according to the principle of action) with further discussion and mutual evaluation of results. Written task "cross out mistakes" Showing a video about the use of biologicals, disinfectants, rodenticides and insecticides. Tasks for the sequence of actions in carrying out activities with the use of drugs (or means) Solving problems by calculating the required number of drugs for the manufacture of working solutions (or baits) for disinfection, deratization, disinsection.		Understand the classification of veterinary drugs by mechanism of action, study their characteristics and methods of application Master the step-by-step procedure for allergic or serological diagnosis, vaccination, disinfection, disinsection, deratization Make calculations according to the problem and write an explanation of the problem	
MLOs 3. To recognize the risks of infection and implement measures to protect the population from zoonoses	Explanation of possible situations with the risk of infecting people from infected animals. Consideration of cases with emphasis on precautionary measures and measures to eliminate zoonoses.		To study the main zoonoses: signs of their presence in animals, ways of human infection and transmission factors, as well as measures to prevent or eliminate the disease in case of occurrence.	
MLOs 4. To plan, organize and carry out measures aimed at preventing the introduction and spread of infectious / invading pathogens, the treatment of animals suffering from infectious diseases, and the elimination of epizootic foci	Explain the purpose and principles of anti-epizootic measures. Consideration and analysis of items of action plans for the prevention of major communicable diseases and plans for the elimination of diseases (health measures)		Using the instructions on measures to combat specific infectious diseases (according to the tasks and according to the subject of training) to develop action plans to eliminate the outbreak (or recovery of livestock)	
MLOs 5. To justify the use of tools, special devices, devices, laboratory equipment, software and other technical means for monitoring, diagnostic tests, preventive vaccinations, other necessary manipulations during professional activities	Demonstration of available equipment and devices, as well as videos of their use during diagnostic, preventive, veterinary and sanitary works Demonstration of capabilities for working with software for geographic information monitoring systems		Learn the types of tools, devices, equipment, their purpose and features of application	
MLOs 6. To find up-to-date information on specific diseases, their prevention, control, including rapid response mechanisms, development of a strategy for preventive and health measures in accordance with international and domestic standards to ensure the epizootic welfare of livestock for communicable diseases	Familiarization with the main official sources of information on communicable animal and poultry diseases, especially those that require a rapid response as they are extremely dangerous and notifiable		To practice the skills of obtaining up-to-date information on infectious diseases and the current epizootic situation, performing tasks – analisis of the scientific article on a given topic	

MLOs 7. Competently draw up documentation (acts, plans, accompanying, submissions, orders), which relates to anti-epizootic measures	Detailed explanation of the purpose and form of information in veterinary documents, which are drawn up in the planning and accounting of measures to control and prevent infectious diseases		Fill in all the forms of documents that are in the workbook, modeling the situation according to the task. Practice compiling surveys of these imaginary objects. Receive comments from the teacher if mistakes are made, and make adjustments.	
MLOs 8. To evaluate the effectiveness of anti-epizootic measures and adjust existing treatment regimens.	Explanation of the principles of determining the effectiveness of measures and possible ways to improve it		Analyze the provided action plans and the current epizootic situation, make judgments about the effectiveness of certain measures and propose changes, justifying their feasibility.	
MLOs 9. To determine the danger of biological waste and organize their disposal according to the requirements.	Getting acquainted with the general principles of biowaste management and specific measures for their disposal for individual diseases.		Find in the relevant instructions for disease control measures a list of requirements for the disposal of biowaste in the event of an outbreak.	
MLOs 10. To demonstrate problem-solving skills and effective communication with people who are interested in human and animal health	Conducting focus groups and simulation exercises		Find in the relevant instructions on disease control measures a list of prohibitions and restrictions, as well as a list of measures regulated for a particular case	

5. ASSESSMENT

5.1. Diagnostic assessment

5.2. Summative assessment

5.2.1. Intended learning outcomes methods:

No	Summative assessment methods	Grades	Deadline
	7-th semester		
	Assessment of the ability to plan the location and arrangement of veterinary passages, barriers, isolators for infected animals or other objects of protection of the farm from the introduction of infectious agents	5/5%	By the end of the 2 weeks
	Assessment of the ability to prepare and conduct an allergic diagnostic test for tuberculin, record the reaction to it (based on vivarium) and complete the act.	5/5%	By the end of the 3 weeks
	Assessment of the ability to prepare and select material for laboratory tests, compile an accompanying document and describe the nature of one of the serological reactions	5/5%	By the end of the 5th week
	Testing the ability to analyze the data obtained during the epidemiological examination, to form assumptions about possible causes and draw up an act.	5/5%	By the end of the 6 weeks
	Computer testing (multiple choice) "General epizootology 1" in	10/10%	By the end of 6 weeks
	Focus group with mutual evaluation on understanding the principles of production, use and action of biologicals	5/5%	In the 7th lesson
	Assessment of the ability to prepare and immunize animals / poultry (based on vivarium) and draw up an act.	5/5%	By the end of the 9th week

	Development of the plan of anti-epizootic measures on liquidation of an infectious disease and the project of the decision of DNPK (the order of the chairman of the district state administration) concerning its realization	10/10%	By the end of the 11th week
	Solving problems to calculate the needs of disinfectants for disinfection and drawing up a disinfection report	5/5%	By the end of the 13th week
	Testing the ability to navigate the range of rodenticides and insecticides when choosing products for rodent control and disinsection. Debate	5/5%	By the end of the 15th week
	Computer testing (multiple choice) "General epizootology 2" in Moodle	10/10%	By the end of the 15th week
	Performing the tasks	30/30%	By the end of the 15th week
	Total in 7-th semester	100/100%	
8-th semester			
1	Simulation exercise "Anthrax. Diagnosis, quarantine"	10/10%	In the 2nd lesson
2	Simulation exercise "Elimination of tuberculosis"	10/10%	In the 3 lesson
3	Simulation exercise "The case of rabies. Diagnosis and elimination "	10/10%	In the 7th lesson
4	Simulation exercise "Elimination of an outbreak of transboundary disease (FMD)"	10/10%	In the 8th lesson
5	Plan of anti-epizootic measures to eliminate the disease (by options)	20/20%	By the end of the 15th week
6	Computer testing (multiple choice) "Common diseases" in Moodle	20/20%	By the end of the 15th week
7	Individual task (list of topical vaccines against the disease by task)	20/20%	By the end of the 15th week
	Total in 8-th semester	100/100%	
9-th semester			
1	Simulation exercise "Elimination of an outbreak of transboundary disease Infectious nodular dermatitis"	30/30%	In the 2 lesson
2	Plan of anti-epizootic measures to eliminate the disease (by options)	30/30%	By the end of the 13th week
3	Computer testing (multiple choice) "Diseases of ruminants" in Moodle	10/10%	By the end of the 15th week
5	Individual task (analisis of the scientific article on a given topic in Google spreadsheets)	30/30%	By the end of the 15th week
	Total in 9-th semester	100/100%	
10 -th semester			
1	Simulation exercise "Measures to heal the herd from INAN"	10/10%	In the 3 lesson
2	Computer testing (multiple choice) "Equine diseases" in Moodle	10/10%	By the end of the 5th week
3	Simulation exercise "Outbreaks of ASF. Diagnosis and elimination "	10/10%	In the 6th lesson
4	Computer testing (multiple choice) "Swine diseases" in Moodle	10/10%	By the end of the 12th week
5	Computer testing (multiple choice) "diseases of youths" in Moodle	10/10%	By the end of the 15th week
6	Plan of anti-epizootic measures to eliminate the disease (by options)	20/20%	By the end of the 15th week
7	Individual task (analisis of the scientific article on a given topic in Google spreadsheets)	30/30%	By the end of the 15th week
	Total in 10-th semester	100/100%	
11-th semester			

1	Simulation exercise "At the reception. Diagnosis of infectious diseases of dogs, cats and fur animals "	10/10%	By the end of the 6th week
2	Simulation exercise "Call to the bird yard"	10/10%	By the end of the 11th week
3	Debate on the scheme of cultivation in the apiary or fish farm	10/10%	In the 12-14th lesson
4	Computer testing (multiple choice) "diseases of carnivorous, poultry, bee and fish" in Moodle	10/10%	By the end of the 15th week
5	Individual task (analisis of the scientific article on a given topic in Google spreadsheets)	30/30%	By the end of the 15th week
6	Exam	30/30%	В сесію
	Total in 11-th semester	100/100%	

5.2.2. Grading criteria

Summative assessment method	Unsatisfactory	Satisfactory	Good	Excellent
Assessment of the ability to plan the location and arrangement of veterinary passages, barriers, isolators for infected animals or other objects of protection of the farm from the introduction of infectious agents	0-2	3	4	5
	The requirements are not oriented	Requirements are not met all or with errors	Requirements are taken into account, the plan of arrangement and arrangement is substantiated	Requirements are considered, the plan of arrangement and arrangement is grounded
Assessment of the ability to prepare and conduct an allergic diagnostic test for tuberculin, record the reaction to it (based on vivarium) and complete the act.	0-2	3	4	5
	Does not guided in the procedure.	The sequence of the procedure is followed with gross errors	The procedure is correctly performed on the object.	The procedure is explained in detail and correctly performed on a living object.
Assessment of the ability to prepare and select material for laboratory tests, compile an accompanying document and describe the nature of one of the serological reactions	0-2	3	4	5
	Does not guided in the procedure.	The sequence of the procedure is followed with gross errors	The procedure is correctly performed on the object.	The procedure is explained in detail and correctly performed on a living object.
Testing the ability to analyze the data obtained during the epidemiological examination, to form assumptions about possible causes and draw up an act.	0-2	3	4	5
	Task requirements not met	Most requirements are met, but some components are missing or insufficiently met	All task requirements are met	Task requirements are met, while creativity and thoughtfulness are demonstrated
Focus group with mutual evaluation on understanding the principles of production, use and action of biologicals	0-2	3	4	5
	Does not orient	Is able to divide biological products into groups according to purpose	Is able to divide biological products into groups and subgroups according to the principle of action and purpose	Is able to assess the correctness of the division of biological products into subgroups and justify the identified errors
Assessment of the ability to prepare and immunize animals / poultry (based on vivarium) and draw up an act.	0-2	3	4	5
	Does not guided in the procedure.	The sequence of the procedure is followed with gross errors	The procedure is correctly performed on the object.	The procedure is explained in detail and correctly performed on a living object.
Development of the plan of anti-epizootic measures on liquidation of an infectious	0-4	5-7	8-9	10
	Task requirements	Most requirements are met,	All task requirements are met	Task requirements are met, while

disease and the project of the decision of DNPK (the order of the chairman of the district state administration) concerning its realizati	not met	but some components are missing or insufficiently met		creativity and thoughtfulness are demonstrated
Solving problems to calculate the needs of disinfectants for disinfection and drawing up a disinfection report	0-2	3	4	5
	The problem is solved incorrectly	The problem is generally solved, but with gross errors	The calculation was carried out correctly, the act was drawn up	The requirements of the task are met, while demonstrating creativity and thoughtfulness
Test the ability to navigate the range of rodenticides and insecticides when choosing products for rodent control and disinsection (focus groups)	0-2	3	4	5
	Task requirements not met	Most requirements are met, but some components are missing or insufficiently met	All task requirements are met	Task requirements are met, while creativity and thoughtfulness are demonstrated
Simulation exercise on topics with the distribution of points on the basis of mutual evaluation	0-4	5-7	8-9	10
	Role not completed	The role is generally fulfilled, with hints and corrections	The role is fulfilled, knowledge of the instruction on struggle against illness is shown, uncertainty is shown	The role is performed with creativity, demonstrated knowledge of instructions for combating the disease, the ability to communicate, argue and show determination in defending their position
Plan of anti-epizootic measures to eliminate the disease (by options)	0-4 (×2, ×3)	5-7 (×2, ×3)	8-9 (×2, ×3)	10 (×2, ×3)
	Task requirements not met	Most requirements are met, but some components are missing or insufficiently met	All task requirements are met	Task requirements are met, while creativity and thoughtfulness are demonstrated
Analisis of the scientific article on a given topic in Google Spreadsheets	0-3	4-7	8-12	13-15
	Task requirements not met	An article was found. There were some attempts to analyze it, but some components are missing or not disclosed	The article is selected according to the task, analyzed, the requirements of the task are met with some inaccuracies. The questions are formulated to the facts, not to the substance.	The article was selected according to the task, thoroughly analyzed, conclusions were drawn, own attitude to information was formulated and the interesting questions were asked.

5.3. Formative assessment

Formative exercises are designed to enable students to develop particular aspects of their learning, prior to summative assessments. Formative exercises are designed to help students use feedback and self-reflection to manage and develop their learning so that they can see how to improve their work.

No	Formative Assessment elements	Date
	Autumn semester	
1.	Feedback aimed at supporting the student in understanding the correctness of the documentation	Each time you check the completed acts and accompanying
2.	Self-check for knowledge of the sequence of actions when performing procedures (diagnostic, preventive, veterinary and sanitary) based on the results of the analysis of performed blitz tasks	Blitz control at the beginning of 2,3,4,7,8,10, 14 and 15 classes (in the 6th semester)
3	Evaluation of the activity and effectiveness of applicants' participation in focus groups and role-playing in simulation exercises. Comments and tips.	Each time in the form of focus groups or simulation exercises

4	Feedback with comments and recommendations on how to solve problems	11th week
5	Oral review and correction of plans for anti-epizootic measures to eliminate the disease (by options)	According to the schedule by topics
6	Commenting and checking students` comments to the article analyses in Google Spreadsheets	13-15th week

Self-assessment can be used both an element of formative and summative assessment.

6. LEARNING RESOURCES

6.1. Key resources

1. D.U. Pfeiffer Veterinary Epidemiology - An Introduction, 2002
2. Veterinary epidemiology- 3rd ed. Michael Thrusfield, 2007
3. Václav Kouba Epizootiology: Principles and Methods, 2008
4. Veterinary infection prevention and control. (2012) Linda Caveney, Barbara Jones, with Kimberly Ellis.
5. Veterinary Medicine: A textbook of the diseases of cattle, horses, sheep, pigs and goats - two-volume set, 11th (2017) Peter D. and Kenneth W
6. Veterinary Clinical Epidemiology- 3rd ed. Ronald D. Smith., 2005
7. Aurora Villarroel Practical clinical epidemiology for the veterinarian, 2015
8. Veterinary microbiology and microbial disease – 2nd ed. P.J. Quinn, B.K. Markey, F.C. Leonard, E.S. FitzPatrick, S. Fanning, P.J. Hartigan, 2011
9. Barbara E. Straw ... [et al.]. Diseases of swine — 9th ed, 2006
10. Infectious diseases of dogs and cats – 4-th ed, edited by Creig E.Green, 2013
11. Veterinary Vaccines and Diagnostics (Volume 41) Ronald D. Schultz, 1999
12. B. Austin, D. A. Austin Bacterial Fish Pathogens. Diseases of Farmed and Wild Fish– 4th Edition, 2007

6.2. Guidelines

6.3. Additional resources

MSD Veterinary Manual (https://www.msdvetmanual.com/generalized-conditions)
Terrestrial Animal Health Code (2017) (http://www.oie.int/standard-setting/terrestrial-code/)
Manual of Diagnostic Tests and Vaccines for Terrestrial Animals 2018 (http://www.oie.int/standard-setting/terrestrial-manual/access-online/)
AHP Disease Manual http://lrd.spc.int/ext/Disease_Manual_Final
https://en.wikivet.net/Learning_Resources

6.4. Computer Applications and soft

https://five.epicollect.net/project/asfld/data
https://www.goconqr.com/p/987892-veterinary-epidemiology-final-exam--bacteria-flash_card_decks
https://kahoot.it/
https://www.mentimeter.com/app
https://docs.google.com/spreadsheets