MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
SUMY NATIONAL AGRARIAN UNIVERSITY

Epizootiology and Parasitology Department
Faculty of Veterinary Medicine

MODULE SYLLABUS

Swine Infectious Diseases

(optional)

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.Зон)

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

Registered in electronic data base 25.06. 2024

1. MODULE OVERVIEW

<table>
<tr><td>1.</td><td>Title</td><td colspan="4">Swine Infectious Diseases</td></tr>
<tr><td>2.</td><td>Faculty/Department</td><td colspan="4">Epizootiology and Parasitology</td></tr>
<tr><td>3.</td><td>Type (compulsory or optional)</td><td colspan="4">optional</td></tr>
<tr><td>4.</td><td>Program(s) to which module is attached</td><td colspan="4">211 "Veterinary Medicine"</td></tr>
<tr><td>6.</td><td>Level of the National Qualifications Framework</td><td colspan="4">7-th</td></tr>
<tr><td>7.</td><td>Semester and duration of module</td><td colspan="4">9 semester
15 weeks</td></tr>
<tr><td>8.</td><td>ECTS credits number</td><td colspan="4">5 ECTS (150 hours)</td></tr>
<tr><td rowspan="2">9.</td><td rowspan="2">Total workload and time allotment</td><td colspan="3">Directed study</td><td rowspan="2">Self-directed study</td></tr>
<tr><td>Lectures</td><td>Practicals</td><td>Labs</td></tr>
<tr><td></td><td></td><td>-</td><td>-</td><td>4</td><td>146</td></tr>
<tr><td>10.</td><td>Language of instruction</td><td colspan="4">English</td></tr>
<tr><td>11.</td><td>Module leader</td><td colspan="4">Halyna Rebenko, Phd, Associate professor</td></tr>
<tr><td>12.</td><td>Module leader contact information</td><td colspan="4">rebenkogi@ukr.net
+380958895465</td></tr>
<tr><td>13.</td><td>Module description</td><td colspan="4">“Swine infectious diseases” forms a system of special theoretical knowledge about the objective laws of the processes of the emergence, development, spread and extinction of infectious swine diseases and to give the concept of the reliable diagnostic techniques and effective control procedures for it.</td></tr>
<tr><td>14.</td><td>Module aim</td><td colspan="4">The main task is understanding of the epizootic process and developing skills to recognize the disease and then develop rational measures for the prevention, management and elimination of porcine diseases.</td></tr>
<tr><td>15.</td><td>Module Dependencies (prerequisites, co-requisites, incompatible modules)</td><td colspan="4">The educational component is based on the following: Veterinary microbiology and immunology, Veterinary virology, Veterinary hygiene and sanitation, Pathological physiology, Pathological anatomy, Epizootology.</td></tr>
<tr><td>16.</td><td>The policy of academic integrity</td><td colspan="4">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.</td></tr>
<tr><td>17</td><td>Link in Moodle</td><td colspan="4">https://cdn.snau.edu.ua/moodle/course/view.php?id=4010</td></tr>
</table>

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:	Professional competencies, the achievement of which is aimed at EC				**How assessed**
	Ability to organize, conduct and analyze laboratory and special diagnostic tests	Ability to plan, organize and implement measures for the treatment of animals suffering from… infectious… diseases	Ability to develop prevention strategies	Ability to protect the environment from contamination by livestock waste and veterinary production	
MLO 1. To identify sick and suspicious animals with infectious disease, sources of infectious agents, factors and mechanisms of their transmission	+		+	+	Case studies and situation analysis
MLO 2. To recognize the risks of introduction of infectious diseases of pigs and implement measures to protect farms and pig farmers	+		+	+	Group tasks with self- and mutual assessment
MLO 3. To establish a preliminary diagnosis in infected pigs and form a set of materials for its laboratory confirmation.	+			+	Analysis of photo illustrations, videos, preparation of accompanying documents
MLO 4. To plan, organize and conduct activities aimed at eliminating infectious diseases in piggery	+	+	+		Simulation exercises, drawing up action plans
MLO 5. To find up-to-date information on communicable diseases, their prevention, control, including rapid response mechanisms, strategies for preventive and health measures in accordance with international and domestic standards		+	+		Evaluation of presentations. Analysis of scientific articles in a given topics

3. MODULE INDICATIVE CONTENT

Topics	Distribution of hours				Learning resources
	Directed study			Self-directed study	
	Lec	Pract	Labs		
Topic 1. **Introduction.** Detection of pig health problems. Requirements for overalls and research equipment. The sequence of actions during the examination.				10	Terrestrial Animal Health Code (2017) (http://www.oie.int/standard-setting/terrestrial-code/)
Topic 2 **Prevention of pathogens.** Biosafety: prohibitions, regulations for the passage of personnel, visitors, animals, feed, etc.				10	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/)
Topic 3 **Sampling for laboratory confirmation of the diagnosis.** Autopsy. Rules for sampling, packaging and delivery of samples of material for research.				14	Manual of Diagnostic Tests and Vaccines for Terrestrial Animals 2018 (http://www.oie.int/standard-setting/terrestrial-manual/access-online/)
Topic 4 **Infectious diseases of pigs, accompanied by lesions of the skin and mucous membranes.** Foot-and-mouth disease, Swinepox, Vesicular stomatitis, Swine vesicular exanthema, Swine vesicular disease, Erysipelas, Porcine Dermatitis and Nephropathy Syndrome (circovirus infection of pigs), Trichophytia, Ergotism.			2	16	http://lrd.spc.int/ext/Disease_Manual_Final/a030__swine_vesicular_disease.html
Topic 6. **Infectious diseases of pigs with damage of the respiratory tract.** Enzootic pneumonia (Mycoplasmosis), Pasteurellosis, Bordetellosis (including Infectious Atrophic Rhinitis), Actinobacillus pleuropneumonia, Hemophilic polyserositis (Glesser's disease), Swine influenza, Reproductive and respiratory syndrome, Coronaviral infection				16	http://lrd.spc.int/ext/Disease_Manual_Final/swine_influenza.html http://lrd.spc.int/ext/Disease_Manual_Final/enzootic_pneumonia_of_pigs.html
Topic 7. **Infectious diseases of pigs, accompanied by lesions of the digestive tract**. Escherichia coli infections (colienteritis, colienterotoxemia), Clostridiosis, Proliferative enteropathy (Lawsoniosis), Salmonellosis, Swine Dysentery, Spirochetal colitis, Yersiniosis, Transmissible gastroenteritis, Epidemic diarrhea of pigs (coronavirus), Rota- and reoviral infections of pigs				16	http://lrd.spc.int/ext/Disease_Manual_Final/b254__transmissible_gastroenteritis.html
Topic 8. **Infectious diseases of pigs, accompanied by reproductive disorders.** Brucellosis, Leptospirosis, MMA syndrome, Porcine Parvovirus, Chlamydia, Aujesky's disease Porcine Reproductive and Respiratory Syndrome				16	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
Topic 9. **Infectious diseases of pigs, accompanied by disorders of the nervous system** Teschen's disease (enzootic enteroviral encephalomyelitis of pigs), Aujeszky's disease (pseudorabies), Classical swine fever, Viral encephalomyocarditis, Tetanus, Botulism, Streptococcosis (type 1,2, 14), Aflatoxicosis.				16	http://lrd.spc.int/ext/Disease_Manual_Final/b256__enterovirus_encephalomyelitis.html http://lrd.spc.int/ext/Disease_Manual_Final/a130__classical_swine_fever_hog_cholera.html http://lrd.spc.int/ext/Disease_Manual_Final/b052__aujeszkys_disease.html

Topic 10. **Infectious diseases of pigs, accompanied by disorders of the musculoskeletal system.** Streptococcal arthritis, viral diseases with vesicular syndrome, Mycoplasmosis, Hemophilosis as a cause of lameness.				10	
Topic 11. **Infectious diseases of pigs, accompanied by multiorgan disorders.** African swine fever, Classical swine fever, Porcine circovirus disease (postweaning multisystemic wasting syndrome), Cytomegalovirus infection of pigs, Tuberculosis, Eperitrozoonosis,				10	http://lrd.spc.int/ext/Disease_Manual_Final/a120__african_swine_fever.html
Topic 12. **Prevention of infectious diseases of pigs.** General prevention: pre-commissioning and technological disinfection, disinsection, deratization. Precautionary medication. Specific prevention.			2	10	MSD Veterinary Manual (https://www.msdvetmanual.com/generalized-conditions)
Topic 13. **Getting healthy young**. Schemes of treatment of saws and piglets.				10	https://en.wikivet.net/Learning_Resources
Topic 14. **Disposal of contaminated objects**. Disinfection. Waste disposal.				6	MSD Veterinary Manual (https://www.msdvetmanual.com/generalized-conditions)
Total			4	146	

4. TEACHING AND LEARNING METHODS

MLOs	Teaching methods (directed study)	Hours	Learning methods (self-directed study)	Hours
MLO 1. To identify sick and suspicious animals with infectious disease, sources of infectious agents, factors and mechanisms of their transmission	Explanation of possible situations with the risk of infecting animals.		To study the main signs of the diseases` presence in animals, ways of transmission and factors	
MLO 2. To recognize the risks of introduction of infectious diseases of pigs and implement measures to protect farms and pig farmers	Consideration of cases with emphasis on precautionary measures and measures to eliminate zoonoses.		Study the main signs of zoonoses, ways of transmission and factors, as well as measures to prevent or eliminate the disease in case of occurrence.	
MLO 3. To establish a preliminary diagnosis in infected pigs and form a set of materials for its laboratory confirmation.	Demonstration of available equipment and devices, as well as videos of their use during diagnostic works		Learn the types of samples, devices, equipment, their purpose and features of application	
MLO 4. To plan, organize and conduct activities aimed at eliminating infectious diseases in piggery	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	
MLO 5. To find up-to-date information on communicable diseases, their prevention, control, including rapid response mechanisms, strategies for preventive and health measures in accordance with international and domestic standards	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	

5. ASSESSMENT

5.1. Diagnostic assessment

5.2. Summative assessment

5.2.1. Intended learning outcomes methods:

No	Summative assessment methods	Grades	Deadline
10-th semester			
1	Assessment of the ability to protect the farm from the introduction of infectious agents	10/10%	By the end of the 2 weeks
2	Assessment of the ability to get samples for laboratory tests and compile an accompanying document	10/10%	By the end of the 5th week
3	Testing the ability to analyze the data obtained during the epidemiological examination, to form assumptions about possible causes and draw up an act.	10/10%	By the end of the 6 weeks
4	Computer testing (multiple choice)	20/20%	By the end of 6 weeks
5	Simulation exercise "Elimination of an outbreak of transboundary disease Outbreaks of ASF "	30/30%	In the 11 lesson
6	Performing the tasks	20/20%	By the end of the 15th week
	Total in 10-th semester	100/100%	

5.2.2. Grading criteria

Summative assessment method	Unsatisfactory	Satisfactory	Good	Excellent
Assessment of the ability to protect the farm from the introduction of infectious agents	0-4	5-7	8-9	10
	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 get samples for laboratory tests and compile an accompanying document	0-4	5-7	8-9	10
	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.	0-4	5-7	8-9	10
	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
Development of the plan of anti-epizootic measures on liquidation of an infectious disease (accordingly the task)	0-4	5-7	8-9	10
	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	0-5	5-12	13-22	23-30
	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

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	Evaluation of the activity and effectiveness of applicants' participation in role-playing in simulation exercises. Comments and tips.	Each time in the simulation exercises
3	Oral review and correction of plans for anti-epizootic measures to eliminate the disease (by options)	According to the schedule by topics

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

6. LEARNING RESOURCES

6.1. Key resources

1. S. McOrist, 2014. Pig Disease Identification and Diagnosis Guide. 283 p.
2. Diseases of swine / edited by Barbara E. Straw ... [et al.].— 9th ed. 2006, 1173 p.
3. D.U. Pfeiffer Veterinary Epidemiology - An Introduction, 2002
4. Veterinary epidemiology- 3rd ed. Michael Thrusfield, 2007
5. Václav Kouba Epizootiology: Principles and Methods, 2008
6. Veterinary infection prevention and control. (2012) Linda Caveney, Barbara Jones, with Kimberly Ellis.
   Veterinary Medicine: A textbook of the diseases of cattle, horses, sheep, pigs and goats - two-volume set, 11th (2017) Peter D. and Kenneth W
7. Veterinary Clinical Epidemiology- 3rd ed. Ronald D. Smith., 2005
8. Aurora Villarroel Practical clinical epidemiology for the veterinarian, 2015
9. 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

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

https://www.pig333.com/health/

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/