

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
SUMY NATIONAL AGRARIAN UNIVERSITY
FACULTY OF VETERINARY MEDICINE
DEPARTMENT OF EPIZOOTOLOGY AND PARASITOLOGY**

Workprogram (syllabus) of the educational component

Bioecological zooparasitology

selective

(required / optional)

Implemented with in the educational program

"Veterinary medicine"

(name)

in specialty 211 "Veterinary Medicine"

(code, name)

at the second (master's) level of higher education

Amounts - 2022

Developers: Risovaniy VI, Ph.D., Art. teacher

(signature)(surname, initials) (academicdegreeandtitle, position)

Negreba .Yu.V., Art. teacher

(signature)(surname, initials) (academicdegreeandtitle, position)

Considered, approved and approved at the meeting of the Department of Epizootology and Parasitology (nameofthedepartment)	Minutes of <u>15</u> June 2022 № <u>15</u>	
	The head Departments	<u>Kasianenko OI</u> (signature) (surname, initials)

Agreed:

Guarantor of the educational program

[Signature]

(signature)

(Full name)

Dean of the faculty where the educational program

is implemented

[Signature]

Nechiporenko OL

Work program review (attached) provided:

[Signature] Ukrainyaga O.D.

[Signature] Nazarenko S.M.
(Full name)

Methodist of the Department of Education Quality,

licensing and accreditation

[Signature]

(N. Baranik)

(signature)

(Full name)

Registered in the electronic database: date:

29.06.

2022

Information on viewing the work program (syllabus):

Academy year in which changes are made	The number of the appendix to the work program with a description of the changes	The changes have been reviewed and approved		
		Date and number of the minutes of the meeting of the department	Head of Department	Guarantor of the educational program

1. GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENT

1.	Name OK	Bioecological zooparasitology			
2.	Faculty / department	Faculty of Veterinary Medicine / Department of Epizootology and Parasitology			
3.	Status OK	Selective			
4.	Program / Specialty (programs), the component of which is OK for (to be filled in for mandatory OK)				
5.	OK can be suggested for (to be filled in for selective OK)	211 Veterinary medicine			
6.	NRC level	Level 7			
7.	Semester and duration of study	9 semester, 15 weeks			
8.	Number of ECTS credits	3.0			
9.	The total amount is 90 hours and their distribution	Contact work (classes)			Individual work
		Lectures	Practical / seminar	Laboratory	
		-	-	16	74
10.	Language of instruction	English			
11.	Teacher / Coordinator of the educational component	Candidate of Veterinary Sciences, Art. teacher Risovaniy VI St. teacher Negreba Yu.V.			
11.	Contact Information	Risovaniy V.I. - corp. 3, office 62, tel. : 0963007430; viber 0974706536 rvisu@ukr.net ; Negreba Yu.V. - corp. 3, office 62, tel. : 0989498577; viber 0662967712 Yla7578@ukr.net ;			
12.	General description of the educational component	The educational component studies the main parasitic diseases of animals, methods of lifelong and postmortem diagnosis of parasitosis of animals, treatment of animals with diseases, as well as prevention and control of diseases of parasitic etiology.			
13.	The purpose of the educational component	The purpose of teaching the discipline is to teach students to study the objects of the environment, to study the parasitological situation and to conduct bioecological methods of prevention of parasitosis in farms of various forms of ownership.			
14.	Prerequisites for studying OK, the relationship with other educational components of OP	OK is important in the training of a veterinary specialist. The educational component is based on the study of OK: ecology, physiology, zoology and anatomy of animals, parasitology and invasive diseases, parasitosis of animals, etc.			
15.	The policy of academic integrity	No manifestations of academic dishonesty are allowed during the study of OK. Systems are tools for counteracting violations of academic integrity Plagiarism check algorithm . In case of violations, the response is in accordance with the regulations on the academic integrity of participants in the educational process in Sumy NAU (https://snau.edu.ua/viddil-			

		zabezpechennya-yakosti-osviti/zabezpechennya-yakosti-osviti/akademichna-dobrochesnist/). If a violationofacademicintegrityisdetected, thecompletedtaskisnotcreditedandissentforre-execution.
16.	Course link in Moodle	https://cdn.snau.edu.ua/moodle/course/view.php?id=1543

3. CONTENT OF THE EDUCATIONAL COMPONENT (PROGRAM OF THE COURSE)

Topic. List of issues to be addressed within the topic	Distribution within the total time budget				Recommended Books from the list in paragraph 6
	Classroomwork			CPC	
	Luke	PZ	Lab.		
I semester					
<p>Topic 1. Occupational safety when performing parasitological research. Rules for taking material for parasitological research. Transportation and storage of parasitological material Rules of care for animals affected by pathogens of invasive diseases.</p>		2	<p>Occupational safety when performing parasitological research. Safety precautions when working with invasive material and animals affected by pathogens of invasive diseases. Basic rules of selection, storage, labeling of invasive material.</p>	8	
<p>Topic 2. Biological and ecological bases of parasitism. Ecological and biological features of protozoa, helminths, mites and insects. Animals - as a source of pathogens of invasive diseases for other animals and humans, as well as carriers of parasites. Environment and ways of its pollution. Biological pollution of the environment by oocysts, eggs and larvae of parasites.</p>		2	<p>Biological and ecological bases of parasitism. Features of biological development of protozoa, nematodes, cestodes, trematodes, acanthocephalus, pathogens of arachnoses. Ways of biological pollution of the environment by oocysts, eggs and larvae of parasites.</p>	10	1,3,4,5,6,7,10,11,12,13
<p>Topic 3. Ways of isolation of eggs and larvae of zooparasites from the body of definitive hosts and ways of their infection. Isolation of oocysts, eggs and larvae of zooparasites from the body of the definitive host into the environment depending on the stage of development of invasive pathogens and their localization. Features of biological pollution of the environment by oocysts, eggs and larvae of zooparasites. Factors of infection of animals and humans with pathogens of anthroponoses. Ways of infecting animals and humans with pathogens of</p>		2	<p>Ways of isolation of eggs and larvae of zooparasites from the body of definitive hosts and ways of their infection. Epizootological, epidemiological and clinical examination of animals and humans for parasitosis. Factors influencing the contamination of environmental objects by oocysts, eggs and larvae of zooparasites. Shelf life of pathogens of invasive diseases in the environment</p>	10	1,2,3,4,5,6,7,8,10,11,

nvasive diseases.					
Topic 4. Parasitological studies of animals. Methods of parasitological research, factors influencing their effectiveness. Equipment and materials for parasitological research. Rational terms of parasitological researches of animals.		2	Parasitological studies of animals. Study of factors affecting efficiency parasitological research. Veterinary - sanitary assessment of livestock premises and farm areas.	8	1,2,3,4,5,8,9,10,11,12,13
Topic 5. Ecological and biological features of trematodes, cestodes Biology of trematodes, cestodes, their fertility. Biological pollution of the environment by eggs of trematodes, cestodes. Disinvasion of environmental objects. Ecological prevention of helminthiasis of animals.		2	Ecological and biological features of trematodes, cestodes Ecological and biological features of fasciol, dicrocoelium, paramphist, opisthorchiasis, prostagonimus. Ecological and biological features of porcine and bovine tapeworms, echinococci, dipilidia, diphyllobotria.	10	3,4,5,6,7,8,9,, 12,13
Topic 6. Ecological and biological features of nematodes and acanthocephalus. Biology of nematodes and acanthocephalus, their fertility. Biological pollution of the environment by nematode and acanthocephalus eggs. Ecological prevention of helminthiasis of animals.		2	Ecological and biological features of nematodes and acanthocephalus. Ecological and biological features of ascaridate, strongylate, trichurate, filariate. Ecological and biological features of macrocanthorinchus, polymorphus and phyllocolus.	8	1,2,3,4,5,6,11,12,13
Topic 7. Ecological and biological features of mites, insects and protozoa. Biological features of mites, insects and protozoa. Biological contamination of the environment with mite eggs and protozoan oocysts.		2	Ecological and biological features of mites, insects and protozoa. Ecological and biological features of parasites of farm animals: acariform mites, gnats, bloodsuckers, malphages. Ecological and biological features of babesia and eimeria, toxoplasma, trichomonads and balantidia.	10	1,2,3,4,5,6,7,10,11,
Topic 8. Ways of isolation of oocysts, eggs and larvae of parasites from the host organism. Ways of infection of animals and humans with pathogens.		2	Ways of isolation of oocysts, eggs and larvae of parasites from the host organism. Ways of infection of animals and humans with pathogens.	10	1,3,4,5,6,7,8,9,, 12,13

nism. Features of biological pollution of the environment by invasive elements of zooparasites. Ways of infection of animals and humans with pathogens of invasive diseases. Sources, ways of distribution and factors of environmental pollution by pathogens of invasive diseases			ns of invasive diseases: alimentary, water, sexual, contact - household, transplacental, blood transfusion and contaminant.		
Total		16		74	

4. METHODS OF TEACHING AND TEACHING

DRN	Teaching methods (work to be carried out by the teacher during classes, consultations)	Number of hours	Teaching methods (what types of educational activities the student must perform independently)	Number of hours
DRN 1. Identify sick animals, diagnose, treat and develop a set of preventive measures for animal helminthiasis.	Methods of teaching by source of knowledge: <i>Verbal:</i> story, explanation, conversation (heuristic and reproductive), lecture, instruction. <i>Visual:</i> demonstration, illustration, observation. Active methods: (use of technical means of training, use of training and control tests) Interactive methods of presentation: (use of multimedia technologies, spreadsheets).	10	Methods of teaching by source of knowledge: <i>Verbal:</i> work with the book (reading, translation, writing, taking notes, making tables, graphs, reference notes), <i>Visual:</i> observations. Teaching methods by the nature of the logic of cognition (analytical, methods of synthesis, inductive method, <i>deductive method</i> , <i>translational method</i>). Active methods (brainstorming, crossword puzzles, debates, round tables, binary classes, business and role-playing games, group research). Interactive learning technologies (use of multimedia technologies, dialog training, student cooperation (cooperation))	30
DRN 2. Identify sick animal	Methods of teaching by source of knowledge: <i>Verbal:</i> story, explanation, conversation	8	Methods of teaching by source of knowledge: <i>Verbal:</i> work with the book (reading, translation, writing,	20

s, diagnose, treat and develop a set of preventive measures for ectoparasitosis of animals.	(heuristic and reproductive), lecture, instruction. <i>Visual:</i> demonstration, illustration, observation. Active methods: (use of technical means of training, use of training and control tests) Interactive methods of presentation: (use of multimedia technologies, spreadsheets).		taking notes, making tables, graphs, reference notes), Visual: observations. Teaching methods by the nature of the logic of cognition (analytical, methods of synthesis, inductive method, <i>deductive method, translational method</i>). Active methods (brainstorming, crossword puzzles, debates, round tables, binary classes, business and role-playing games, group research). Interactive learning technologies (use of multimedia technologies, dialogue training, cooperation of students (cooperation)).	
DRN 3 Identify sick animals, diagnose, treat and develop a set of preventive measures for animal protozoa.	Methods of teaching by source of knowledge: <i>Verbal:</i> story, explanation, conversation (heuristic and reproductive), lecture, instruction. <i>Visual:</i> demonstration, illustration, observation. Active methods: (use of technical means of training, use of training and control tests) Interactive methods of presentation: (use of multimedia technologies, spreadsheets).	4	Methods of teaching by source of knowledge: <i>Verbal:</i> work with the book (reading, translation, writing, taking notes, making tables, graphs, reference notes), Visual: observations. Teaching methods by the nature of the logic of cognition (analytical, methods of synthesis, inductive method, <i>deductive method, translational method</i>). Active methods (brainstorming, crossword puzzles, debates, round tables, binary classes, business and role-playing games, group research). Interactive learning technologies (use of multimedia technologies, dialogue training, student cooperation (cooperation)).	10

5. EVALUATION BY EDUCATIONAL COMPONENT

5.1. Diagnostic evaluation (indicated if necessary)

Computer testing for knowledge of pathogens of invasive diseases, methods of their indication, as well as pathogenesis, clinical and pathological signs of major parasitic diseases and other issues on which the study of OK is based. The grade is not issued.

5.2. Summative assessment

5.2.1. To assess the expected learning outcomes provided

No	Methods of summative evaluation	Points / Weight in the overall score	Date of compilation
5th semester			
1.	Assessment of the ability to prepare and select material for laboratory tests, to compile an accompanying document	5/5%	By the end of 2 weeks

2.	Assessmentoftheabilitytoprepareanddewormanimals / poultry (basedonvivarium) anddrawupanact.	5/5%	Bytheendof 3 weeks
3.	Thedecisionofproblemsoncalculationofneedsmeansfor carryingoutdisinvasionanddrawingupoftheactofthecarried-outworks	5/5%	Bytheendof 6 weeks
4.	Decisionsontheabilitytonavigateintherangeofanthelmintics, insecticidesanddisinfectants. Debate	10/10%	Inthe 7th lesson
5.	Simulationexercise "Veterinarytechnologiesforthe preventionofhelminthiasisofanimals"	10/10%	Bytheendofthe 8th week
6.	Simulationexercise "Veterinarytechnologiesforthe preventionofanimalarachnosis"	10/10%	Inthe 9th lesson
7.	Simulationexercise "Veterinarytechnologiesforthe preventionofanimalentomoses"	10/10%	Inthe 10th lesson
8.	Simulationexercise "Veterinarytechnologiesforthe preventionofanimalprotozoa"	10/10%	Inthe 12th lesson
9.	Planofantiparasiticmeasurestoeliminatethedisease (byoptions)		Bytheendofthe 15th week
10	Multiplechoicetesting	35/35%	Accordingtotheschedule
	Together	100/100%	

5.2.2. Evaluationcriteria

Component	Unsatisfactorily	Satisfactorily	Fine	Perfectly
Assessmentoftheabilitytoprepareandselectmaterialfor laboratorytests, tocompileanaccompanyingdocument	0-2	3	4	5
	<i>Theprocedureis notoriented</i>	<i>Thesequenceofthe procedureis notfollowedexactly, thedocumentismadewith gross errors</i>	<i>Theprocedureis correctlyperformedontheobject, thedocumentismadewithin accuracies</i>	<i>Theprocedureis explainedindetailandcorrectlyperformedonsite, thedocumentsarecompiledwitho uterrors</i>
Assessmentoftheabilitytoprepareanddewormanimals / poultry (basedonvivarium) anddrawupanact.	0-2	3	4	5
	<i>Theprocedureis notoriented</i>	<i>Thesequenceofthe procedureis followedwithgross errors</i>	<i>Theprocedureis performedcorrectlyontheobject</i>	<i>Theprocedureis explainedindetailandcorrectlyperformedon a livingobject</i>
Thedecisionofproblemsoncalculationofneedsmeansfor carryingoutdisinvasionanddrawingupoftheactofthecarried-outworks	0-2	3	4	5
	<i>Theproblemis solvedincorrectly</i>	<i>Theproblemis generallysolved, butwithgross errors</i>	<i>Thecalculationwascarriedoutcorrectly, theactwasdrawnup</i>	<i>The requirementsofthetaskare met, whiledemonstratingcreativityand thoughtfulness</i>
Testyourabilitytonavigateintherangeofanthelmintics, insecticidesanddisinfectants	0-2	3	4	5
	<i>Taskrequirementsnotmet</i>	<i>Mostoftherequirementsare met,</i>	<i>Allrequirementsofthetaskwithinsignificantinaccuraciesarefulfilled</i>	<i>The requirementsofthetaskare met,</i>

		<i>but some components are missed or insufficiently disclosed</i>		<i>while demonstrating creativity and thoughtfulness</i>
Simulation exercise on topics with the distribution of points on the basis of mutual evaluation	0-4	5-7	8-9	10
	<i>Role not completed</i>	<i>The role is generally fulfilled, with hints and corrections</i>	<i>The role is fulfilled, knowledge of the instruction struggle against illness is shown, uncertainty is shown</i>	<i>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,</i>
Plan of antiparasitic measures to eliminate the disease (by options)	0-4	5-7	8-9	10
	<i>Task requirements not met</i>	<i>Most of the requirements are met, but some components are missed or insufficiently disclosed</i>	<i>All requirements of the task within significant inaccuracies are fulfilled</i>	<i>The requirements of the task are met, while demonstrating creativity and thoughtfulness</i>

5.3. Formative assessment:

To assess current learning progress and understand areas for further improvement

No	Element of formative assessment	Date
1	Feedback, which aims to support 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 classes
3	Evaluating 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	13th week
5	Oral review and correction of plans for antiparasitic measures to eliminate the disease (by options)	According to the schedule by topics

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

6. LEARNING RESOURCES (LITERATURE)

6.1. The main sources

Methodical support

1. Kasyanenko OI, Risovany VI, Negreba YV "Bioecological zooparasitology" Guidelines for laboratory - practical and independent classes. Sumy NAU. Amounts 2022 -24s.
2. Kasyanenko OI, Rysovany VI, Negreba YV Lazorenko LM, Textbook for laboratory - practical classes and independent work of students in parasitology and invasive animal diseases. Sumy NAU. Sumy, 2020. - 140 p.
3. Drawn VI, Negreba YV, Lazorenko LM, Parasitology and invasive diseases of animals. Workbook for laboratory-practical and independent classes Part 1 Veterinary helminthology. For students majoring in 211 "Veterinary Medicine" and 212 "Veterinary Hygiene, Sanitation and Expertise" full-time .87 p.

Recommended Books

Basic

3. Secretary KV Fundamentals of ecological zooparasitology. Lviv, 2007. - 358 p.
4. Nevyadomska K. General parasitology. K.: "Scientific thought". - Kyiv, 2006. - 483 p.
5. Galat VF, Berezovsky AV, Prus MP, Soroka NM Parasitology and Invasive Diseases: Textbook; foreword .. V.F. Galata K.: Higher Education, 2003. - 464 p.
6. Galat VF, Berezovsky AV, Prus MP, Soroka NM Parasitology and invasive diseases. Workshop: Teaching. manual. K.: Higher education, 2004. - 238 p.
7. Dakhno IS, Galat VF, Berezovsky AV, Prus MP, Soroka NM Atlas of helminth animals. K.: Vetinform, - 2001. - 118 p.
8. Dakhno IS, Dakhno YI Ecological helminthology: Textbook. manual. Sumy: Kozatsky Val, 2010. - 220 p.
9. Prikhodko YO, Ponomar SL, Mazanyy OV, Nikiforova OV, Antipov AA, Goncharenko VP Parasitology and invasive diseases of animals Workshop (for independent work). Bila Tserkva.: Belotserkivdruk LLC. 2011. 312p.

6.2. Additional sources

10. Verbytsky PI, Dostoevsky. P.I. Handbook of Veterinary Medicine. Kyiv.: Urozhay, 2004. 1280 p.
11. Galat VF, Berezovsky AV, Soroka NM Prus MP Invasive diseases of pigs: Educational. Kyiv.: NAU, 2006. 94 p.
12. Galat VF, Berezovsky AV, Soroka NM Prus MP Invasive diseases of horses: A textbook. Kyiv.: NAU, 2008. 154 p.

13. Boch J., Supperer R. Veterinary design parasitological. Berlin and Hamburg .: Verlag Paul Parey, 2002. 906 p

6.3. Software

- Computers with software to perform practical work
- Microsoft PowerPoint - data visualization Microsoft Power BI - analytics and data visualization
- Multimedia projector, marker board and screen;
- Moodle distance learning and control system