Ministry of Education and Science of Ukraine
Sumy National Agrarian University
Faculty of Veterinary Medicine
Department of Epizootology and Parasitology

Work program (syllabus) of the educational component
Veterinary technologies for the prevention of parasitic diseases of animals

obligatory

Implemented within the educational program
"Veterinary medicine"
(name)
in specialty 211 "Veterinary Medicine"
(code, name)

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

Amounts - 2021

Developer: _____ Risovanyi V.I. , Ph.D. , Art. Teache
(signature) (surname, initials) (academic degree and title, position)

Considered, approved and approved at the meeting of the Department	Minutes of " 18 " June 2021 № 22		
of Epizootology and Parasitology (name of the department)	Head of Department	_(signature)_	**Kasyanenko O.I.**

Agreed:

Guarantor of the educational program _____ Ulko L.G.
(signature)

Dean of the faculty where the educational program is implemented

_____ Nechiporenko OL
(signature)

Work program review (attached) provided: _____ Shkromada O.1.
(Full name)

_____ prof. _____
(Full name)

Methodist of the Department of Education Quality ,
licensing and accreditation _____ (N. Baranik)
(signature) (full name)

Registered in the electronic database, date: _____ 14.07. _____ 2021 p.

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Information on viewing the work program (syllabus):

Academic 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
2021-2022	-	-	-	-

1. GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENT

1.	Name OK	Veterinary technologies for the prevention of parasitic diseases of animals
2.	Faculty / department	Faculty of Veterinary Medicine / Department of Epizootology and Parasitology
3.	Status OK	Basic
4.	Program / Specialty (programs), the component of which is OK for (to be filled in for mandatory OK)	211 Veterinary medicine
5.	OK can be suggested for (to be filled in for selective OK)	
6.	NRC level	Level 7
7.	Semester and duration of study	1 semester, 18 weeks
8.	Number of ECTS credits	4.0

9.	The total number of hours and their distribution	Contact work (classes)			Individual work
		Lectures	Practical / seminar	Laboratory	
		6	-	8	106

10.	Language of instruction	Ukrainian
11.	Teacher / Coordinator of the educational component	Candidate of Veterinary Sciences, Risovany VI
11.1	Contact Information	Corp. 3, office 62, Tel: 0963007430; viber 0974706536 rvisu@ukr.net
12.	General description of the educational component	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, bioecological zooparasitology, parasitosis of animals, etc.
13.	The purpose of the educational component	**The purpose** 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	The educational component is based on the study of OK: Veterinary technologies for the prevention of parasitic diseases of animals Parasitology and invasive diseases
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 integrityPlagiarism 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 violation of academic integrity is detected, the completed task is not credited and is sent for re-execution.
16.	Course link in Moodle	https://cdn.snau.edu.ua/moodle/course/view.php?id= 4063

2. LEARNING RESULTS FOR THE EDUCATIONAL COMPONENT AND THEIR RELATIONSHIP WITH THE SOFTWARE LEARNING RESULTS

OK learning outcomes: After studying the educational component, the student is expected to be able to… »	Program learning outcomes to be achieved by the OK (number according to the numbering given in the OP)										As estimated by the DRN
	PRN 1. To diagnose animal diseases.	PRN 2. To diagnose animal diseases.	PRN 3. To diagnose animal diseases.	PRN 4. To diagnose animal diseases.	PRN 6. To diagnose animal diseases.	PRN 7. To diagnose animal diseases.	PRN 8. Apply tools and hardware.	PRN 9 Analyze research results.	PRN 10. Implement medical measures.	PRN 11. Develop prevention strategies.	
DRN 1. Have veterinary technologies for the prevention of helminthiasis in animals	+	+	+	+		+	+	+	+		− survey of theoretical issues, − performing tasks in laboratory classes, − testing, performing tasks of independent work
DRN 2. Have veterinary technologies for the prevention of animal diseases caused by ectoparasites		+	+	+	+			+	+	+	− survey of theoretical issues, − performing tasks in laboratory classes, − testing, performing tasks of independent work
DRN 3. Have veterinary technologies for the prevention of protozoal diseases of animals.		+		+	+	+	+	+		+	− survey of theoretical issues, − performing tasks in laboratory classes, − testing, performing tasks of independent work

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

Topic. List of issues to be addressed within the topic	Distribution within the general budget of time				Recommended Books from the list in paragraph 6
	Classroom work			CPC	
	Luke	PZ	Lab.		
1 semester					
Topic 1. Veterinary technologies for the prevention of animal trematodes. Epizootological data. Development cycles. Pathogenesis. Clinical signs. Treatment. Control measures.	2		Tremutodoses of animals. Characteristics of pathogens. Morphological features. Diagnosis of diseases. Veterinary technologies for the prevention of animal trematodes.	18	1,2,3,4,5,6,7,8,11,12,13
Topic 2. Veterinary technologies for the prevention of cestodes in animals. Epizootological data. Development cycles. Pathogenesis. Clinical signs. Treatment. Control measures.		2	Cestodes of animals. Characteristics of pathogens. Morphological features. Diagnosis of diseases. Veterinary technologies for the prevention of cestodes in animals.	18	1,2,3,4,8,9,10,11,12,13
Topic 3. Veterinary technologies for the prevention of nematodes in animals. Epizootological data. Development cycles. Pathogenesis. Clinical signs. Treatment. Control measures.	2	2	Animal nematodes. Characteristics of pathogens. Morphological features. Diagnosis of diseases. Veterinary technologies for the prevention of nematodes in animals.	18	1,2,3,4,5,6,7,, 12,13
Topic 4. Veterinary technologies for the prevention of animal entomoses. Epizootological data. Development cycles. Pathogenesis. Clinical signs. Control measures.	2		Entomoses of animals. Characteristics of pathogens. Morphological features. Diagnosis of diseases. Veterinary technologies for the prevention of animal entomoses..	18	1,2,3,4,5,6,9,10,, 12,13
Topic 5. Veterinary technologies for the prevention of animal acarosis. Epizootological data. Development cycles. Pathogenesis. Clinical signs. Treatment. Control measures.		2	Acarosis of animals. Characteristics of pathogens. Morphological features. Diagnosis of diseases. Veterinary technologies for the prevention of animal acarosis.	18	1,2,3,4,5,6,7,10,11,12,13
Topic 6. Veterinary technologies for the prevention of animal protozoa. Epizootological data. Development cycles. Pathogenesis. Clinical signs. Treatment. Prevention and control measures.		2	Protozoa of animals. Characteristics of pathogens. Morphological features. Diagnosis of diseases. Veterinary technologies for the prevention of animal protozoa.	16	5,6,7,9,10,11,12,13

Total		6 8		106

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. Have veterinary technologies for the prevention of helminthiasis in animals	**Methods of teaching by source of knowledge:** *Verbal:* story, explanation, conversation (heuristic and reproductive), lecture, instruction. *Visual:* demonstration, illustration, observation. **Active methods:** (use of technical means of training, use of training and control tests) **Interactive teaching methods:** (use of multimedia technologies, spreadsheets.	8	**Methods of teaching by source of knowledge:** *Verbal*: 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, deductive method, translational method). **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)	54
DRN 2. Have veterinary technologies for the prevention of animal diseases caused by ectoparasites	**Methods of teaching by source of knowledge:** *Verbal:* story, explanation, conversation (heuristic and reproductive), lecture, instruction. *Visual:* demonstration, illustration, observation. **Active methods:** (use of technical means of training, use of training and control tests) **Interactive teaching methods:** (use of multimedia technologies, spreadsheets.	4	**Methods of teaching by source of knowledge:** *Verbal*: 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, deductive method, translational method). **Active methods (**brainstorming, crossword puzzles, debates, round tables, binary classes, business and role-playing games, group research).	36

| DRN 3

Have veterinary prevention technologies protozoan diseases of animals | **Methods of teaching by source of knowledge:**
Verbal: story, explanation, conversation (heuristic and reproductive), lecture, instruction.
Visual: demonstration, illustration, observation.
Active methods: (use of technical means of training, use of training and control tests)
Interactive teaching methods: (use of multimedia technologies, spreadsheets. | 2 | **Interactive learning technologies** (use of multimedia technologies, dialogue training, cooperation of students (cooperation).

Methods of teaching by source of knowledge:
Verbal: 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, deductive method, translational method).
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) | 16 |

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

№	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.	Assessment of the ability to prepare and deworm animals / poultry (based on vivarium) and draw up an act.	5/5%	By the end of 3 weeks
3.	Solving problems to calculate the needs of funds for disinvasion and drawing up a report on the work performed	5/5%	By the end of 6 weeks
4.	Decisions on the ability to navigate in the range of anthelmintics, insecticides and disinfectants. Debate	10/10%	In the 7th lesson
5.	Simulation exercise "Veterinary technologies for the prevention of helminthiasis in animals»	10/10%	By the end of the 8th week
6.	Simulation exercise "Veterinary technologies for the prevention of arachnosis of animals»	10/10%	In the 9th lesson

7.	Simulation exercise "Veterinary technologies for the prevention of animal entomoses»	10/10%	In the 10th lesson
8.	Simulation exercise "Veterinary technologies for the prevention of animal protozoa»	10/10%	In the 12th lesson
9.	Plan of antiparasitic measures to eliminate the disease (by options)		By the end of the 15th week
10	Multiple choice testing	35/35%	According to the schedule
	Together	100/100%	

5.2.2. Evaluation criteria

Component	Unsatisfactorily	Satisfactorily	Okay	Perfectly
Assessment of the ability to prepare and select material for laboratory tests, to compile an accompanying document	0-2 *The procedure is not oriented*	3 *The sequence of the procedure is not followed exactly, the document is made with gross errors*	4 *The procedure is correctly performed on the object, the document is made with inaccuracies*	5 *The procedure is explained in detail and correctly performed on site, the documents are compiled without errors*
Assessment of the ability to prepare and carry out deworming of animals / poultry (based on vivarium) and draw up an act.	0-2 *The procedure is not oriented*	3 *The sequence of the procedure is followed with gross errors*	4 *The procedure is performed correctly on the object*	5 *The procedure is explained in detail and correctly performed on a living object*
Solving problems to calculate the needs of funds for disinvasion and drawing up a report on the work performed	0-2 *The problem is solved incorrectly*	3 *The problem is generally solved, but with gross errors*	4 *The calculation was carried out correctly, the act was drawn up*	5 *The requirements of the task are met, while demonstrating creativity and thoughtfulness*
Testing the ability to navigate the range of anthelmintics, insecticides and disinfectants	0-2 *Task requirements not met*	3 *Most of the requirements are met, but some components are missing or insufficiently disclosed*	4 *All requirements of the task with insignificant inaccuracies are fulfilled*	5 *The requirements of the task are met, while demonstrating creativity and thoughtfulness*
Simulation exerciseon topics with the distribution of points on the basis of mutual evaluation	0-4 *Role not completed*	5-7 *The role is generally fulfilled, with hints and corrections*	8-9 *The role is fulfilled, knowledge of the instruction on struggle against illness is shown, uncertainty is shown*	10 *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 antiparasitic measures to eliminate the disease (by options)	0-4 *Task requirements not met*	5-7 *Most of the requirements are met, but some components are missing or insufficiently disclosed*	8-9 *All requirements of the task with insignificant inaccuracies are fulfilled*	10 *The requirements of the task are met, while demonstrating creativity and thoughtfulness*

5.3.Formative assessment:

To assess current progress in learning and understanding areas for further improvement

№	Elements of formative assessment	Date
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-test 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, Rysovany VI, Negreba Yu.V. Lazorenko LM, Textbook for laboratory - practical classes and independent work of students in parasitology and invasive animal diseases. Sumy NAU. Sumy, 2020. - 140 p.

2. Drawn VI, Negreba YV, Lazorenko LM, Parasitology and invasive animal diseases. 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. Nevyadomskaya K..General parasitology. K .: "Scientific thought". - Kyiv, 2006. - 483 p.

5. Galat VF, Berezovsky AV, Prus MP, Soroka NM Parasitology and invasive diseases of animals: Textbook; for ed .. V.F. Galata K .: Higher Education, 2003.– 464 p.

6. Galat VF, Berezovsky AV, Prus MP, Soroka NM Parasitology and invasive animal diseases. Workshop: Teaching. manual. K .: Higher education, 2004. - 238 p.

7. Dakhno IS, Galat VF, Berezovsky AV, Prus MP, Soroka NM Atlas of animal helminths. 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, Mazanny 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 MPInvasive diseases of pigs: Educational. Kyiv .: NAU, 2006. 94 p.
12. Galat VF, Berezovsky AV, Soroka NM Prus MPInvasive diseases of horses: A textbook. Kyiv .: NAU, 2008. 154 p.
13. Boch J., Supperer R. Veterinary medicine parasitological. Berlin and Hamburg .: VerlagPaul Parey, 2002. 906 p

6.3. Software

- Computers with software for practical work
- Microsoft Power Point - data visualization Microsoft Power BI - analytics and data visualization
- Multimedia projector, whiteboard and screen;
- Moodle distance learning and control system