MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
Sumy National Agrarian University

Department of anatomy, normal and pathological physiology of animals

Syllabus TRAINING COURSE

for the academic year 2023-2024
Code: PP**:27 - Information technologies in veterinary medicine**
Specialties: 211 Veterinary Medicine

Sumy 2023

ıe work program on "**Information technologies in veterinary medicine**" for students
211 specialty "Veterinary Medicine"

Developers: doctor of philosophy, associate Kalashnyk A.M.

The work program endorsed by the department of anatomy, normal and pathological physiology of animals.
Minutes from "_15 _" _ MAY 2023 № 10

Head of the Department of Anatomy _____ (M.D. Kambur)
(Signature) (surname and initials)

Agreed:

Guarantor of the educational program _____ . Р. Петров
(signature) (surname)

Dean of the faculty where the educational program is implemented _____ Nechyporenko O.L.
(signature) (surname)

Review of the work program (attached) provided:
Doctor of Veterinary Science, Professor Shkromada O.I.

Ph.D., Associate Professor Plyuta L.V.

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

Registered in the electronic database: date: 21.06. 2023.

Information on viewing the work program (syllabus):

e academic year in which e changes are made	The number of the annex to the work program with a description of the changes	The changes were reviewed and approved		
		Date and number of the protocol of the meeting of the department	Head of Department	Guarantor of the educational program
-	-	-	-	-
2024-2025	Додаток 1,2,3	№7 від 04.01.2024		

1. GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENT

1.	Title	Information technologies in veterinary medicine			
2.	Faculty/Department	Veterinary medicine / Anatomy, normal and pathological physiology			
3.	Type (compulsory or optional)	compulsory			
4.	Program(s) to which module is attached	211- Veterinary medicine			
5.	Level of the National Qualifications Framework	second (master's)			
6.	Semester and duration of module	XII semester 1-18 week			
7.	ECTS credits number	3 credits			
8.	Total workload and time allotment	Directed study			Self-directed study
		Lectures	Practical	Labs 6	84
9.	Language of instruction	English			
10.	Module leader	Kalashnik Olexander, PhD., associate professor			
11.1	Module leader contact information	kalashnikan@ukr.net			
11.	Module description	OP on "Information technologies in veterinary medicine", as an integral component in the fields of training, retraining and advanced training of veterinary specialists, practicing veterinary doctors, taking into account the goals of the university and the requests of employers in the labor market, regarding training, scientific research and deepening of students' knowledge , scientists and teachers, specialists of the Competent body of the country (the State Production and Consumer Service of Ukraine, its territorial bodies, as well as enterprises, institutions and organizations belonging to the sphere of its management), departmental and practicing veterinarians in the fields of animal husbandry and trade, etc., as well as a mission to create , systematization, storage and distribution of modern scientific knowledge to improve the quality of people's lives, training European and world-level specialists, intellectual and personal development of citizens.			
12.	Module aim	The purpose of the educational component of the OC on "Information technologies in veterinary medicine" is to study modern programs for recording animal productivity, planning preventive veterinary measures and treatment of animals, a set of methods, production and software-technological means, combined into a technological chain that ensures the creation, collection, storage, processing, reproduction and access to data, with the possibility of their analysis and evaluation by means of computer technology, as well as the principles of their operation and methods of data management, to reduce the complexity of the processes of using information resources regarding the state of health of animals, their movement, zoosanitary state of controlled objects, risk assessment of phenomena, events and processes, in the areas of animal control, food products, fodder, animal by-products, veterinary medicine and animal welfare, international, national and local veterinary legislation, etc.			
13.	Module Dependencies (prerequisites, co-requisites, incompatible modules)	It is based on the structural logical scheme of OP 21 "Veterinary medicine", which made it possible to learn the materials from "Animal Physiology","Obstetrics", "Gynecology", "Therapy"			
14.	The policy of academic integrity	Mastering OK with academic integrity, plagiarism is prohibited. In case of violation of these requirements, a retest is offered. Study OK.			

2. LEARNING RESULTS UNDER THE EDUCATIONAL COMPONENT AND THEIR RELATIONSHIP WITH PROGRAM LEARNING OUTCOMES

MLOs: On successful completion of the module the learner will be able to:	**PLOs**				**How assessed**
	PLOs 1	PLOs 3	PLOs 4	PLOs 15	
MLOs 1.					
Competent use of features of veterinary data and their classification; modern tools for processing data using computer equipment; the state and prospects of the development of information technologies in the field of veterinary medicine; purpose and main characteristics of technical devices built on the basis of modern computer technologies to meet the information needs of the industry; range and features of specialized software used to solve the professional needs of personnel	x	x	x	x	1. Surveys at laboratory-practical classes, calling out tasks
MLOs 2.					
Know the theoretical foundations of information technologies; modern programs for recording animal productivity and using them in modern veterinary practice of animal husbandry;control programs and use of veterinary drugs, biologically active substances.	x	x	x	x	1. Surveys at laboratory-practical classes, calling out tasks
MLOs 3.					
Install modern information technology programs for automating data processing and organizing information exchange; fill the database to solve the veterinary needs of farms.	x	x	x	x	1. Surveys at laboratory-practical classes, calling out tasks
MLOs 4.					
Analyze the state of farms and be able to apply knowledge during practical activities.	x	x	x	x	1. Surveys at laboratory-practical classes, calling out tasks
MLOs 5.					
Use modern information technologies to automate data processing and organize information exchange; practical application of computer technologies to solve the information needs of the industry.	x	x	x	x	1. 1. Surveys in laboratory-practical classes, writing a notebook 2. Computer survey and analysis of students' knowledge (attestation) 3. Multiple choice test (credit)

3.MODULE INDICATIVE CONTENT

Topics	Distribution of hours				Learning resources
	Directed study			Self-directed study	
	Lecture	Pr	Lab		
10 semester: (hours)					
Topic 1. Modern information technologies in veterinary medicine			**2**	**40**	**1, 2, 3, 4, 17,**
1. Introduction. Introduction to information technologies. Information technologies in veterinary medicine. Modern programs.			2	20	
2. Acquaintance of students with modern herd management programs				10	
3. Acquaintance of students with the Uniform Agri program.				10	
Topic 2. Use of modern programs in veterinary medicine.			**4**	**44**	**1, 2, 3, 4, 6, 7, 10, 13, 14,**
1. Methods of entering personal information on cattle with the Uniform Agri program.			2	14	
2. The method of entering personal information on cattle with the program. The method of entering personal information on breeding bulls with the Uniform Agri program.				10	
3. Analysis of the received data with the Uniform Agri program.			2	5	
4. Planning veterinary preventive measures				5	
5. Acquaintance of students with modern management programs of private veterinary clinics for the treatment of small animals. Data entry. Use of programs in work with clients.				10	
Total	**0**		**6**	**84**	

4. TEACHING AND LEARNING METHODS

MLOs	Teaching methods (directed study)	Hours	Learning methods (self-directed study)	Hours
- Know the laws of keeping and feeding animals at different stages of their development. - To be able to practically apply the acquired knowledge. - To know the effectiveness and significance of information programs regarding the management of a commodity dairy farm. - To be able to use programs for managing a productive herd. - To know the qualitative differences of physiological and productive functions in animals in different environmental conditions. - To be able to use the acquired knowledge for the selection of theoretical and practical tasks in production - Be able to identify disease, respond to disease reports, and respond to outbreaks. Be able to apply mathematical biomodeling of events, processes, phenomena, which provides a veterinary specialist with an understanding of the fundamental principles of mathematics in biology and applied aspects of bioinformatics, including biostatistics, development of research protocols and tools for epizootological data collection, analysis of indicators using special software for processing primary and experimental statistical data, assessment of the results of monitoring indicators, components of risk analysis, research on outbreaks of communicable diseases, the basis of making balanced management decisions and skills of critical assessment of media publications.	In the process of providing material on Information technologies in veterinary medicine, the following work will be carried out at the lectures: - presentation of lecture material according to the plan; - discussion of lecture material; - suggestions of literature on each lecture topic; - use of Moodle, Zoom during the lecture - consultation of students in the process of mastering the OK in information technologies in veterinary medicine - methodical design of all types of students' works; - control of the educational process individually by each student (modules, assessments, exams)	Every 2 weeks for 2 hours	B during the lectures and the LLP, the student must independently perform: - - assimilation of information input methods; - independent work during practical work - fixation of research results; - analysis of research results; - drawing up conclusions from the received data; - fixation of lecture material - mandatory preparation for the medical examination, assimilation of the lecture material for conducting the medical examination.	Every 2 weeks for 2 hours

Додаток 3

5.ASSESSMENT

5.1. Diagnostic assessment (specified as necessary)

5.2.Summative assessment

5.2.1.Intended learning outcomes methods:

№	Summative assessment methods	Grades	Deadline
1.	Surveys in laboratory-practical classes, design of a notebook	55/55%	3, 8, 12,15 weeks
2.	Drafting of essays	15/15%	15 week
3.	Multiple choice test (credit)	15/15%	18 week

5.2.2. Grading criteria

Component	Unsatisfactory	Satisfactory	Good	Excellent
Survey on laboratory-	<37 points	38-44 points	45-54 points	55 points
	Notebooks	Notebook	Notebook	Notebook laboratory- of practical classes is designed impeccably, Available conclusions, And their analysis, The student understands Put on solution problems, able Develop and
Design essays	<8 points	9-11 points	12-14 points	15 points
	Task unfulfilled	Essay issued without understanding of the interrelationship of these problem solving, no able to critically evaluate Information from sources literature	The essay is at a good level conducted analysis, synthesis, generalization and critical evaluation of data from literary sources given in essay capable of critically evaluating information from sources of literature	Abstract decorated flawlessly, logically located material with an understanding of interrelationships in the process of disclosure surrendered demonstrates highly developed ability to critical academic Literature and others Sources of information
Oral survey	<7 points	8-9 points	10-14 points	15 points
	Task unfulfilled	Computer poll	The computer survey was	Computer poll done

		performed without understanding interconnection submitted for resolution tasks, no able to critically evaluate information from sources literature	performed at a good level conducted analysis, synthesis, generalization and critical evaluation of data from literature sources capable of critically evaluating information from sources of literature	flawlessly, logically situated material understanding the interrelationships of the processes disclosed on this topic, demonstrates highly developed ability to critical academic literature and others source information
Multiple choice test (credit)	<7 points	8-12 points	13-14 points	15 points
	Task unfulfilled	Task performed on 50%	Task performed on 75%	Task performed on 100%

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.

№	**Formative Assessment elements**	**Date**
1	Survey on laboratory-practical classes, Layout of the notebook	According to the schedule of classes
2	Drafting of essays	During the week before the end of the educational process
3	Computer survey and analysis of students' knowledge (attestation)	The last week of classes
4	Assessment, multiple-choice exam	According to the exam schedule

6. EDUCATIONAL RESOURCES (LITERATURE)

6.3. Main sources

6.3.1 Textbooks and manuals

1. Medical informatics in modules: practicum / I.E. Bulak, L.P. Voytenko, M.R. Mruga, etc.; under the editorship I.E. Bulak. -K.: Medicine, 2012. -208 p.
2. Computer modeling in pharmacy: Education. manual for honey University of the IV R.A. Recommended by the Ministry of Health / Bulah I.E. etc. — K., 2016. — 208 p. F A 1.1-26-295 Rules of Procedure of the National Academy of Sciences of Ukraine Edition 02 Date of introduction 04/27/2020 Page 11 of 11
3. I.E. Bulak, Yu.E. Lyakh, V.P. Martsenyuk, I.I. Haimzon. Medical informatics. Textbook for students of the 2nd year of medical specialties. Ternopil, TDMU, "Ukrmedknyga" 2008.-316p.
4. Information technologies in pharmacy: textbook. / I.E. Bulah, L.P. Voytenko, L.O. Kuhar, M.R. Mruga, I.M. Shilo; Under the editorship Bulakh I.E. - K.: Medicine, 2008. - 224 p.

6.3.2 Methodological support

5. METHODOLOGICAL INSTRUCTIONS for practical-laboratory and diploma works on studying the course "Information technologies in veterinary medicine" and tasks for self-control "Information technologies in veterinary medicine part 1"/ [O. M. Kalashnik.]. – Sumy, 2017 – 26 p.

6. METHODOLOGICAL INSTRUCTIONS for practical-laboratory and diploma works regarding the study of the course "Information technologies in veterinary medicine" and the task for self-control "Information technologies in veterinary medicine part 2" / [O. M. Kalashnik.]. – Sumy, 2017 – 24 p.

7. METHODOLOGICAL INSTRUCTIONS for practical-laboratory and diploma works on the study of the course "Information technologies in veterinary medicine" and the task for self-control "Information technologies in veterinary medicine part 3""/ [O. M. Kalashnik.]. – Sumy, 2018 – 24 p.

6.3.3 Other sources

6. 4 Additional sources

8. Medical informatics: textbook / I.E. Bulakh, Yu.E. Lyakh, V.P. Martsenyuk, I.I. Haimzon. - K.: VSY "Medicine", 2012. - 424 p.
9. Handbook of Medical Informatics. Editors: J.H. van Bemmel, M.A. Musen. – http://www.mieur.nl/mihandbook; http://www.mihandbook.stanford.edu.
10. Medical Informatics = Medical informatics: textbook / I.E. Bulah, Yu.E. Lyakh, V.P. Martsenyuk, I.Y. Haimzon. - K.: VSY "Medicine", 2012. - 368 p.
11. Information technologies in psychology and medicine: textbook / I.E. Bulakh, I.I. Haimzon. - K.: VSV "Medicine", 2011. - 216 p.
12. Informatics and information technologies: workshop for org. work of students for practice. and laboratory. classes / Yu. Yu. Bilak, V. O. Laver, Yu. V. Andrashko, I. M. Lyakh; Ministry of Education and Science of Ukraine, State Higher Secondary School "Uzhhor". national University of
13. Information systems. [Electronic resource]. – Access mode: http://www.islu.ru/k_inform/infsystekst.html.