

Ministry of Education and Science of Ukraine Sumy National Agrarian
University Faculty of Veterinary Medicine
Department of Veterinary and Sanitary Inspection, Microbiology, Hygiene and
Pathological Anatomy

Syllabus of the educational component

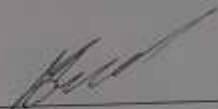
Forensic Veterinary Medicine

Implemented within the educational program "Veterinary Medicine"

in specialty 211 "Veterinary Medicine"

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

Author



(signature)

Yuliya BAYDEVLYATOVA

(surname, initials)

Ph.D., associate

(academic degree and title, position)

Considered, approved
and approved at the
meeting of the
department of
Veterinary and Sanitary
Inspection,
Microbiology, Hygiene
and Pathological
Anatomy

protocol from 09.06.2025 № 16

The head
departments




Roman PETROV

Approved by:


Guarantor of the Academic program




Dean of the Faculty

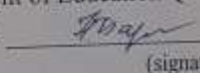
 Lyudmila NAGORNA

Work program review (attached) provided:

 Svitlana NAZARENKO

 V. RISO VANIG

Methodist of the Department of Education Quality,
licensing and accreditation



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(N. Baranik)

(Full name)

Registered in the electronic database: date: 01.07. 2025

Syllabus review data:

Academic year in which changes are made	The number of the application 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. MODULE OVERVIEW

1.	Title	Forensic veterinary medicine			
2.	Faculty/Department	Department of Veterinary and Sanitary Inspection, Microbiology, Hygiene and Pathological Anatomy			
3.	Type (obligatory or optional)	Obligatory			
4.	Program(s) to which module is attached	Veterinary medicine / 211 Veterinary medicine			
5.	Level of the National Qualifications Framework	-			
6.	Semester and duration of module	NRC of Ukraine - level 7, QF-EHEA - second cycle, EQF-LLL - level 7			
7.	ECTS credits number	11, 12 semester, 30 weeks			
8.	Total workload and time allotment	4.0			
9.	The total number of hours and their distribution Language of instruction	Contact work (classes)			Individual work
		Lectures	Practical / seminar	Laboratory	
		11 semester	14	16	30
		12 semester	16	14	30
10.	Module leader	English			
11.	Module leader contact	Yuliya BAYDEVLYATOVA			
11.1	information				
12.	Module description	Study of the basic methods for determining osteometric parameters, species-specific features of the structure of internal organs and organoleptic indicators according to laboratory tests for species identification of animals and products obtained from them; mastering the morphological structure of muscles and their changes depending on the influence of various factors on them; mastering the basics of differential pathoanatomical diagnostics of animal diseases of various etiologies and their use in forensic veterinary practice; mastering the stages of conducting forensic veterinary examination for injuries, poisonings and toxicoses, technological violations, and evaluating the professional actions of a doctor.			
13.	Module aim	training of highly qualified specialists who are able to solve issues of comparative morphology, special pathomorphology and forensic veterinary medicine in production conditions			
14.	Module Dependencies (prerequisites, co-requisites, incompatible modules)	1. The educational component is based on the knowledge gained in the study of normal anatomy, histology, cytology, embryology, normal and pathological physiology, pathological anatomy. 2. The educational component is the basis for the study of veterinary and sanitary expertise and veterinary legislation, veterinary forensics			
15.	The policy of academic integrity	During the study of the OK, any manifestations of academic dishonesty are not allowed. If a violation of academic integrity is detected (cheating, academic plagiarism, using gadgets while completing final assignments), the completed assignment is canceled and not credited, the applicant is sent to re-perform the set of assignments. In the event of violations, the response is in accordance with the regulatory documentation on the academic integrity of participants in the educational process at Sumy NAU			
16.	Key words	Pathomorphology, pathological histology, forensic veterinary medicine			

2. LEARNING OUTCOMES BY EDUCATIONAL COMPONENT AND THEIR RELATIONSHIP WITH PROGRAM LEARNING OUTCOMES

Learning outcomes for OK: After studying the educational component, the student is expected to be able to...»	Program learning outcomes, the achievement of which is aimed at OK (indicate the number according to the numbering given in the OP)1								How is RND assessed?
	PLOs 1	PLOs 2	PLOs 3	PLOs 4	PLOs 6	PLOs 7	PLOs 9	PLOs 10	
DRN 1 apply the components of the procedural and organizational foundations of forensic veterinary examination;	+	+	+	+	+	+	+	+	Survey on theoretical questions, completion of tasks in laboratory and practical classes, testing, completion of tasks for independent work
DRN 2. identify animals by osteometric parameters and muscle structure;	+	+	+	+	+	+	+	+	Survey on theoretical questions, completion of tasks in laboratory and practical classes, testing, completion of tasks for independent work
DRN 3 to identify animals by the structure of internal organs, organoleptic indicators and laboratory tests;	+	+	+	+	+	+	+	+	Survey on theoretical questions, completion of tasks in laboratory and practical classes, testing, completion of tasks for independent work
DRN 4. conduct forensic veterinary examination in the conduct of cases in industrial poultry farming, pig farming, and cattle breeding;	+	+	+	+	+	+	+	+	Survey on theoretical questions, completion of tasks in laboratory and practical classes, testing, completion of tasks for independent work
DRN 5. conduct SVE in case of illness and death of animals due to violation of the conditions of their feeding, maintenance and exploitation;	+		+			+			Survey on theoretical questions, completion of tasks in laboratory and practical classes, testing, completion of tasks for independent work
DRN 6 to determine the level of incorrect and incompetent actions of a doctor in clinical work;	+	+							Survey on theoretical questions, completion of tasks in laboratory and practical classes, testing, completion of tasks for independent work
DRN 7. apply knowledge of thanatology when conducting SBE.				+			+		Survey on theoretical questions, completion of tasks in laboratory and practical classes, testing, completion of tasks for independent work
DRN 8. apply training components on the procedure for collecting, selecting materials of various nature that constitute material evidence, their packaging, preparation and sending	+						+	+	Survey on theoretical questions, completion of tasks in laboratory and practical classes, testing, completion of tasks for independent work

DRN 9 apply methods of SBE of living animals; mastering methods of SBE in the selection and examination of samples of biological objects: blood, skin, hair;				+					Survey on theoretical questions, completion of tasks in laboratory and practical classes, testing, completion of tasks for independent work
DRN10 apply methods of differential pathoanatomical diagnosis in animal organopathology;	+			+					Survey on theoretical questions, completion of tasks in laboratory and practical classes, testing, completion of tasks for independent work
GDR 11 apply SBE methods for assessing adverse impacts on animal health and welfare;			+						Survey on theoretical questions, completion of tasks in laboratory and practical classes, testing, completion of tasks for independent work
DRN 12 apply SBE methods for animal poisoning and toxicosis;			+						Survey on theoretical questions, completion of tasks in laboratory and practical classes, testing, completion of tasks for independent work
DRN 13 apply SVE methods in forensic veterinary traumatology.			+		+				Survey on theoretical questions, completion of tasks in laboratory and practical classes, testing, completion of tasks for independent work

2. CONTENT OF THE EDUCATIONAL COMPONENT (COURSE PROGRAM)

Topics	Distribution of hours			Learning resources	
	Directed study		Self- directed study		
	Leur es	Practic a ls ¹	Lab s		
11 semester					
Topic 1. Rights and obligations of a forensic expert. Algorithm for conducting a forensic veterinary examination. Forensic veterinary documentation.	4		2	6	1,2,8,11
Topic 2. Judicial liability of veterinary specialists.	2		2	6	1,2,8,11
Topic 3. Species identification of animals by osteometric parameters.			2	6	1,7,10,11

Topic 4. Fundamentals of forensic veterinary myology. Species identification of animals by muscle structure.	2		2	6	1,10,11,16
Topic 5. SBE in industrial poultry, pig and cattle breeding.	2		2	6	1,2,11,22,23,24
Topic 6. SVE in case of illness and death of animals as a result of violations of feeding, housing and exploitation conditions, and cruel treatment of animals.	4		6	6	1,2,11
Per semester	14		16	30	
12 semester					
Topic 7. Evaluation of the actions of veterinary specialists regarding the correction of pathological conditions and thanatological studies. Application of knowledge of thanatology when conducting SVE.	2		2	4	1,8
Topic 8. Forensic veterinary examination for organopathology	2		8	4	1,2,3,4,5,6,9,11,12,13
Topic 9. Master the methods of SBE in blood testing.	2		2	4	1,2,15,26
Topic 10. Master the methods of SBE in the study of the skin of various animal species.	2		2	4	1,11,14,21,22,23,24
Topic 11. Master the methods of SBE in the study of hair of various animal species.	2		2	4	1,11,14,21
Topic 12. Application of pathoanatomical and pathohistological methods of studying animal tissues and organs in the practice of forensic veterinary medicine.	2		0	2	2,6,12,13
Topic 13. Fundamentals of forensic veterinary examination of poisonings and toxicoses of animals.	2		0	4	1,4,11,10
Topic 14. Fundamentals of forensic veterinary traumatology. Classification of animal injuries. SVE for injuries with blunt, sharp instruments and firearms.	2		4	4	1,2,3,11
Per semester	16		14	30	
Total	30		30	60	

4. TEACHING AND LEARNING METHODS

DRN	Teaching methods (work to be carried out by the teacher during classes, consultations)	Teaching methods (what types of educational activities the student must perform independently)
DRN 1	Survey of students with clarification of key issues of the subject, answers to students' questions, acquisition of practical skills, methods of performing laboratory work. Interactive discussion of the topic in the form of a discussion, which includes information presented in diagrams and pictures, description of the histopreparation,	Independent processing of materials for the topic. Memorization of theoretical material, observation. On the basis of the studied and processed material, the preparation of a synopsis of independent work; registration of independent work with a histological

	demonstration of individual morphological structures in the provided histopreparations and photographs. Solving situational problems that have a clinical direction and are based on knowledge and the ability to interpret morpho-functional relationships in the animal body	preparation in the form of a protocol. Acquaintance with the information of official sites on the subject of the lesson or a separate question.
DRN 2	Survey of students with clarification of key issues of the subject, answers to students' questions, acquisition of practical skills, methods of performing laboratory work. Interactive discussion of the topic in the form of a discussion, which includes information presented in diagrams and pictures, description of the histopreparation, demonstration of individual morphological structures in the provided histopreparations and photographs. Solving situational problems that have a clinical direction and are based on knowledge and the ability to interpret morpho-functional relationships in the animal body	Independent processing of materials for the topic. Memorization of theoretical material, observation. On the basis of the studied and processed material, the preparation of a synopsis of independent work; registration of independent work with a histological preparation in the form of a protocol. Acquaintance with the information of official sites on the subject of the lesson or a separate question.
DRN 3	Survey of students with clarification of key issues of the subject, answers to students' questions, acquisition of practical skills, methods of performing laboratory work. Interactive discussion of the topic in the form of a discussion, which includes information presented in diagrams and pictures, description of the histopreparation, demonstration of individual morphological structures in the provided histopreparations and photographs. Solving situational problems that have a clinical direction and are based on knowledge and the ability to interpret morpho-functional relationships in the animal body	Independent processing of materials for the topic. Memorization of theoretical material, observation. On the basis of the studied and processed material, the preparation of a synopsis of independent work; registration of independent work with a histological preparation in the form of a protocol. Acquaintance with the information of official sites on the subject of the lesson or a separate question.
DRN 4	Survey of students with clarification of key issues of the subject, answers to students' questions, acquisition of practical skills, methods of performing laboratory work. Interactive discussion of the topic in the form of a discussion, which includes information presented in diagrams and pictures, description of the histopreparation, demonstration of individual morphological structures in the provided histopreparations and photographs. Solving situational problems that have a clinical direction and are based on knowledge and the ability to interpret morpho-functional relationships in the animal body	Independent processing of materials for the topic. Memorization of theoretical material, observation. On the basis of the studied and processed material, the preparation of a synopsis of independent work; registration of independent work with a histological preparation in the form of a protocol. Acquaintance with the information of official sites on the subject of the lesson or a separate question.
DRN 5	Survey of students with clarification of key issues of the subject, answers to students' questions, acquisition of practical skills, methods of performing laboratory work. Interactive discussion of the topic in the form of a discussion, which includes information presented in diagrams and pictures, description of the histopreparation, demonstration of individual morphological structures in the provided histopreparations and photographs. Solving situational problems that	Independent processing of materials for the topic. Memorization of theoretical material, observation. On the basis of the studied and processed material, the preparation of a synopsis of independent work; registration of independent work with a histological preparation in the form of a protocol. Acquaintance with the information of official sites on the subject of the lesson

	have a clinical direction and are based on knowledge and the ability to interpret morpho-functional relationships in the animal body	or a separate question.
DRN 6	Survey of students with clarification of key issues of the subject, answers to students' questions, acquisition of practical skills, methods of performing laboratory work. Interactive discussion of the topic in the form of a discussion, which includes information presented in diagrams and pictures, description of the histopreparation, demonstration of individual morphological structures in the provided histopreparations and photographs. Solving situational problems that have a clinical direction and are based on knowledge and the ability to interpret morpho-functional relationships in the animal body	Independent processing of materials for the topic. Memorization of theoretical material, observation. On the basis of the studied and processed material, the preparation of a synopsis of independent work; registration of independent work with a histological preparation in the form of a protocol. Acquaintance with the information of official sites on the subject of the lesson or a separate question.
DRN 7	Survey of students with clarification of key issues of the subject, answers to students' questions, acquisition of practical skills, methods of performing laboratory work. Interactive discussion of the topic in the form of a discussion, which includes information presented in diagrams and pictures, description of the histopreparation, demonstration of individual morphological structures in the provided histopreparations and photographs. Solving situational problems that have a clinical direction and are based on knowledge and the ability to interpret morpho-functional relationships in the animal body	Independent processing of materials for the topic. Memorization of theoretical material, observation. On the basis of the studied and processed material, the preparation of a synopsis of independent work; registration of independent work with a histological preparation in the form of a protocol. Acquaintance with the information of official sites on the subject of the lesson or a separate question.
DRN 8	Survey of students with clarification of key issues of the subject, answers to students' questions, acquisition of practical skills, methods of performing laboratory work. Interactive discussion of the topic in the form of a discussion, which includes information presented in diagrams and pictures, description of the histopreparation, demonstration of individual morphological structures in the provided histopreparations and photographs. Solving situational problems that have a clinical direction and are based on knowledge and the ability to interpret morpho-functional relationships in the animal body	Independent processing of materials for the topic. Memorization of theoretical material, observation. On the basis of the studied and processed material, the preparation of a synopsis of independent work; registration of independent work with a histological preparation in the form of a protocol. Acquaintance with the information of official sites on the subject of the lesson or a separate question.
DRN 9	Survey of students with clarification of key issues of the subject, answers to students' questions, acquisition of practical skills, methods of performing laboratory work. Interactive discussion of the topic in the form of a discussion, which includes information presented in diagrams and pictures, description of the histopreparation, demonstration of individual morphological structures in the provided histopreparations and photographs. Solving situational problems that have a clinical direction and are based on knowledge and the ability to interpret morpho-functional relationships in the animal body	Independent processing of materials for the topic. Memorization of theoretical material, observation. On the basis of the studied and processed material, the preparation of a synopsis of independent work; registration of independent work with a histological preparation in the form of a protocol. Acquaintance with the information of official sites on the subject of the lesson or a separate question.

DRN 10	Survey of students with clarification of key issues of the subject, answers to students' questions, acquisition of practical skills, methods of performing laboratory work. Interactive discussion of the topic in the form of a discussion, which includes information presented in diagrams and pictures, description of the histopreparation, demonstration of individual morphological structures in the provided histopreparations and photographs. Solving situational problems that have a clinical direction and are based on knowledge and the ability to interpret morpho-functional relationships in the animal body	Independent processing of materials for the topic. Memorization of theoretical material, observation. On the basis of the studied and processed material, the preparation of a synopsis of independent work; registration of independent work with a histological preparation in the form of a protocol. Acquaintance with the information of official sites on the subject of the lesson or a separate question.
DRN 10	Survey of students with clarification of key issues of the subject, answers to students' questions, acquisition of practical skills, methods of performing laboratory work. Interactive discussion of the topic in the form of a discussion, which includes information presented in diagrams and pictures, description of the histopreparation, demonstration of individual morphological structures in the provided histopreparations and photographs. Solving situational problems that have a clinical direction and are based on knowledge and the ability to interpret morpho-functional relationships in the animal body	Independent processing of materials for the topic. Memorization of theoretical material, observation. On the basis of the studied and processed material, the preparation of a synopsis of independent work; registration of independent work with a histological preparation in the form of a protocol. Acquaintance with the information of official sites on the subject of the lesson or a separate question.
DRN 11	Survey of students with clarification of key issues of the subject, answers to students' questions, acquisition of practical skills, methods of performing laboratory work. Interactive discussion of the topic in the form of a discussion, which includes information presented in diagrams and pictures, description of the histopreparation, demonstration of individual morphological structures in the provided histopreparations and photographs. Solving situational problems that have a clinical direction and are based on knowledge and the ability to interpret morpho-functional relationships in the animal body	Independent processing of materials for the topic. Memorization of theoretical material, observation. On the basis of the studied and processed material, the preparation of a synopsis of independent work; registration of independent work with a histological preparation in the form of a protocol. Acquaintance with the information of official sites on the subject of the lesson or a separate question.
DRN 12	Survey of students with clarification of key issues of the subject, answers to students' questions, acquisition of practical skills, methods of performing laboratory work. Interactive discussion of the topic in the form of a discussion, which includes information presented in diagrams and pictures, description of the histopreparation, demonstration of individual morphological structures in the provided histopreparations and photographs. Solving situational problems that have a clinical direction and are based on knowledge and the ability to interpret morpho-functional relationships in the animal body	Independent processing of materials for the topic. Memorization of theoretical material, observation. On the basis of the studied and processed material, the preparation of a synopsis of independent work; registration of independent work with a histological preparation in the form of a protocol. Acquaintance with the information of official sites on the subject of the lesson or a separate question.
DRN 13	Survey of students with clarification of key issues of the subject, answers to students' questions, acquisition of practical skills, methods of	Independent processing of materials for the topic. Memorization of theoretical material, observation. On the basis of

	<p>performing laboratory work. Interactive discussion of the topic in the form of a discussion, which includes information presented in diagrams and pictures, description of the histopreparation, demonstration of individual morphological structures in the provided histopreparations and photographs. Solving situational problems that have a clinical direction and are based on knowledge and the ability to interpret morpho-functional relationships in the animal body</p>	<p>the studied and processed material, the preparation of a synopsis of independent work; registration of independent work with a histological preparation in the form of a protocol. Acquaintance with the information of official sites on the subject of the lesson or a separate question.</p>
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5. ASSESSMENT

5.1. Diagnostic assessment

5.2. Summative assessment

5.2.1. Intended learning outcomes methods:

№	Methods of summative evaluation	Points / Weight in the overall score	Date of compilation
1.	Oral control (participation in a discussion on the topic of the lecture)	30 points / 30%	Weekly
2.	Written control (performance of tasks on independent work)	20 points / 20%	According to the schedule
3.	Laboratory-practical control (performance of tasks on laboratory works)	20 points / 20%	According to the schedule of the hospital
4.	Exam	30 points / 30%	15 week

5.2.2. Grading criteria

Component ¹	Unsatisfactorily	Satisfactorily	Okay	Perfectly ²
	<15 points	15-20 points	21-26 points	27-30 points
Thematic survey. Oral control	The student can play only individual fragments of the course.	The student has certain knowledge provided in the program of the discipline, has the basic provisions studied at a level that is defined as the minimum allowable	The student in general is well versed in the material, knows the basic provisions of the material, makes an analysis of possible situations based on them and is able to apply in solving typical practical problems, but admits some inaccuracies	The student demonstrates complete and solid knowledge of the educational material in the amount that corresponds to the program of the discipline, correctly and reasonably makes the necessary decisions in various non-standard situations.
	<7 points	8-13 points	14-19 points	20 points
Laboratory-practical control (performance of tasks on laboratory works) Solution of situational tasks	The student is not prepared to solve problems, the answer is incomplete, some components are missing or insufficient to disclose	Most requirements are met, but some components are missing or insufficiently disclosed, there is no analysis of other approaches to the issue Using the basic theoretical provisions, the student has difficulty performing the task. Tasks are significantly formalized: there is a	The student has mastered the basic material, and understands the solution of problems, has suggestions on the direction of their solutions. All the requirements of the task are met, but in violation of the methods	The task is performed methodically correctly and qualitatively. The student is able to implement the theoretical provisions of the discipline in practice When performing tasks, he showed the ability to solve tasks

¹ Indicate the component of summative assessment

² Indicate the distribution of points and the criteria that determine the level of evaluation

		correspondence of the algorithm, but there is no deep understanding of the work		independently
	<i><7 points</i>	<i>8-13 points</i>	<i>14-19 points</i>	<i>20 points</i>
Written control (performance of tasks on independent work). Protection of the abstract from independent work	The student does not have a complete understanding of the material on the discipline. The student is not prepared to independently solve problems that outline the purpose and objectives of the discipline	Despite the fact that the student completed the program of the discipline, he worked passively, his answers during the registration of works are mostly incorrect, unfounded	Knows the characteristics of the main provisions that are crucial in performance of registration of tasks and explanation of the accepted decisions, within the discipline studied. Errors in the answers are not systemic.	When performing tasks, he showed the ability to solve tasks independently. The synopsis is designed flawlessly, logically arranged material with an understanding of the relationships of the processes disclosed on this topic.
Exam	<i><15 points</i>	<i>15-20 points</i>	<i>21-26 points</i>	<i>27-30 points</i>
	The issues of the exam ticket are not disclosed	2 questions are solved	3 questions are solved	Three issues are revealed and the own solution of the problem is offered

6. EDUCATIONAL RESOURCES (LITERATURE)

Basic

1. Zon G.A. Fundamentals of forensic veterinary medicine: textbook. Sumy: VVP "Mriya-1", 2016. 624p.
2. Zon G.A. Forensic veterinary examination: textbook Sumy: VVP "Mriya-1", 2012. ed. second. 258 p.
3. Forensic veterinary traumatology/ G.A. Zon, L.B. Ivanovskaya. Sumy: VVP "Mriya-1", 2015. 82p.
4. Fundamentals of forensic veterinary examination of poisoning and toxicosis of animals: textbook / G.A. Zon, L.B. Ivanovskaya. Sumy: VVP "Mriya-1", LLC, 2012.124p.
5. Zon G.A., Ivanovska L.B., Skrypka M.V. Differential pathoanatomical diagnostics of infectious diseases of animals. Sumy: VVP "Mriya" LLC, ed.2, 2016. 206 p.
6. Zon G.A., Ivanovska L.B. Pathoanatomical dissection of animal corpses: a textbook. Sumy: VVP "Mriya" LLC, third edition, 2018.336 p.
7. Kostyuk V.K. Atlas of anatomy of domestic animals. Osteology: a textbook. K.: Agrarian education, 2001. 78 p.
- 8 Organizational and procedural foundations of forensic veterinary examination in Ukraine: A textbook for undergraduates...Yatsenko I.V., Yakubchak O.M., Bilyk, Kamyansky V.V.. Kharkiv, Kyiv, 2009. 108p.
9. Pathological anatomy of animals / Edited by P.P. Urbanovich and M.K. Pototsky K.: Vetinform, 2008. 896 p.
10. Practice of forensic veterinary examination: A textbook. Yatsenko I.V. Trush A.M., Bondarevsky M.M. Kamyansky V.V.. Kharkiv: Stylizdat, 2013. 256p.

Methodological support

11. Moodle for the discipline of comparative morphology, special pathomorphology and forensic veterinary medicine. Sumy. SNAU, 2021.
12. Pathological anatomy: part 1. General pathological anatomy. Methodical instructions for conducting laboratory classes and independent work / G.A. Zon, L.B. Ivanovska. Sumy, 2014. 64 p.
13. Pathological anatomy: part 2. General pathological anatomy. Methodical instructions for conducting laboratory classes and independent work / G.A. Zon, L.B. Ivanovska, V.V. Sorokova Sumy, 2014. 64 p.
14. Educational and methodological manual for conducting laboratory and practical classes on the topic: Forensic veterinary examination of physical evidence: histological identification of animal hair" for the specialty 211- "veterinary medicine" OKR "master", Compiled by Zon G.A., Ivanovska L.B. SNAU, Sumy, 2015. 62p.
15. Methodological recommendations for conducting independent work for 1st year students and masters of the specialty 211-"veterinary medicine" OKR "master". Compiled by Zon G.A., Ivanovska L.B. Topic: "Tissues of the internal environment. Blood of different species of animals", SNAU, Sumy, 2015.-27p.
16. Methodological instructions for conducting independent work of students of the specialty 211 "Veterinary medicine". Compiled by V.V. Garkava. Topic: "Muscle tissues", SNAU, Sumy, 2016. 32p.
17. Methodological instructions for conducting independent work of students of the specialty 211 "Veterinary medicine". Topic: "Respiratory organs of animals" Compiled by: E.V. Vashchyk, V.V. Garkava. SNAU, Sumy, 2014. -24p.
18. Methodological instructions for conducting laboratory classes for students of the

specialty 211 - "Veterinary medicine". Topic: "Cardiovascular system of animals" Compiled by V.V. Garkava. SNAU, Sumy, 2013. 25p.

19. Methodological instructions for conducting independent work of students "Tissues of the internal environment. Blood of different species of animals" for the specialty 211 - "Veterinary medicine". Compiled by: V.V. Garkava. SNAU, Sumy, 2016. 27p.

20. Methodological instructions for conducting independent work of students of the specialty 211 - "Veterinary medicine". Topic: "Organs of urination" Compiled by: V.V. Garkava, E.V. Vashchyk SNAU, Sumy, 2014. 28p.

Supporting literature

21. Morphological features of the skin and hair of different species of animals and humans in the aspect of forensic veterinary examination: manual/G.I. Kotsyumbas, I.Ya. Kotsyumbas, O.M. Shchebentovska, R.S. Dankovich, O.O. Zaitsev, L.: T3OV VF "Afisha", 2010.136p.

22. Pathological and anatomical diagnostics of poultry diseases: a manual/L.B. Ivanovska, G.A. Zon - Sumy: VVP "Mriya-1", 2017. 156p.

23. Handbook of pathological and anatomical terms. Borysevich B.V., Skrypka M.V., Lisova V.V. - Poltava, 2005. 124 p.

Information resources (software)

24. http://vetpathology.lviv.ua/biblioteka_students.html

25 http://vetpathology.lviv.ua/biblioteka_students.html

26. http://www.vetkzn.ru/literatura/veterinarnye_uchebniki/
<https://vet.snau.edu.ua/kafedri/kafedra-ekonomiki/metodichna-robota/>