

NATIONAL UNIVERSITY OF LIFE AND ENVIRONMENTAL SCIENCES
OF UKRAINE

Faculty of Veterinary Medicine
Department of Animal and Food Hygiene
named after Professor A.K. Skorokhodko



"APPROVED"

Prof. of the Faculty of Veterinary Medicine,
Mykola TSVILICHOVSKY

"APPROVED"

at the meeting of the Department of Veterinary Hygiene
named after Professor A.K. Skorokhodko
Protocol No 13 of May 30, 2024
Head of department Viacheslav SOLOMON

"REVIEWED"

Guarantor of EP "Veterinary medicine"
Nataliia HRUSHANSKA

CURRICULUM OF ACADEMIC DISCIPLINE

FOOD HYGIENE

Specialty 211 – "Veterinary Medicine"

educational program "Veterinary Medicine"

Faculty of Veterinary Medicine

Developers: PhD in biol sciences, Associate prof. M.A. Galaburda
(position, scientific degree, academic rank)

Kyiv – 2024 p.

Description of discipline «Food Hygiene»

Discipline, field of studying, specialty, education and qualification level	
Field of knowledge	21 Veterinary
Training direction	211 – «Veterinary Medicine»
Speciality	
Educational and qualification level	Master
Characteristics of discipline	
Type	Normative
General quantity of hours	150
Quantity of credits ECTS	5
Quantity of modules	4
Course work	+
Form of control	Semester test, exam
Indicators of discipline for full-time and correspondence forms of training	
	full-time form
Year of training	4, 5
Semester	8, 9
Lectures	60 hours
Practical lessons	
Laboratory lessons	75 hours
Independent work	35 hours
Individual tasks	-
The number of weekly hours for full-time studying student: auditorium 8 semester 9 semester independent work of the student	 4 hours 5 hours

1. Aim, objectives, competencies and program learning outcomes of the discipline

Aim of the program is the acquisition of theoretical and practical knowledge on the food quality and safety, practical skills in conducting testings of the products and to prepare students for independent practical work.

Objectives - Based on the job description of a veterinarian every student should have the following basic knowledge:

- ensure production of safe products only benign for the population and raw materials for industry;
- ruled out poisoning people diseases common to humans and animals (antropozoonozamy), through food and industrial raw materials of animal origin;
- prevent the spread of bacterial, viral, parasitic diseases of farm animals through meat, meat products and waste products of slaughter;

- assist in the improvement of livestock by detecting diseases in animals are slaughtered in slaughterhouses and meat processing enterprises of all forms of ownership.

Acquisition of competencies:

integral competence (IC):

the ability to solve complex tasks and problems in the field of veterinary medicine, which involves conducting research and/or implementing innovations and is characterized by the uncertainty of conditions and requirements.

general competences (GC):

GC 3. knowledge and understanding of the subject field and profession.

GC 7. Ability to conduct research at the appropriate level.

GC 9. Ability to make informed decisions.

professional (special) competences (SC):

SC 4. The ability to conduct clinical research with the aim of formulating conclusions about the condition of animals or establishing a diagnosis.

SC 7. Ability to organize and conduct laboratory and special diagnostic studies and analyze their results.

SC 8. Ability to plan, organize and implement measures for the treatment of animals of various classes and species suffering from non-contagious, infectious and invasive diseases.

SC 12. Ability to develop and implement measures aimed at protecting the population from diseases common to animals and humans.

SC 13. The ability to develop strategies for the prevention of diseases of various etiologies.

SC 19. Ability to carry out educational activities among industry workers and the population.

SC 20. Ability to organize, implement and control document flow during professional activity.

Program learning outcomes (PLO)

PLO 9. Develop measures aimed at protecting the population from diseases common to animals and humans.

PLO 12. Know the rules and legislative regulations regarding the supervision and control of production, storage, transportation and sale of products of animal and plant origin.

PLO 14. To understand the essence of the processes of production, storage and processing of biological raw materials.

2. Programme and structure of the discipline«Food Hygiene» for:

- full-time form of study;

Name of subject	Number of hours						
	weeks	total	including				
			Lect	Pract	Lab	Ind	S/w
1	2	3	4	5	6	7	8
<i>Module 1. Introduction. The basic technology, hygiene and veterinary and sanitary examination of milk and dairy products</i>							
Introduction. General information about “Veterinary hygiene with the basics of technology and standardization of products of animal origin”			2				
The main provisions of the laws of Ukraine "On Veterinary Medicine" and "On safety and quality of food"							2

Organoleptic and laboratory methods for determining the quality of milk.					2		
The chemical composition and technological properties of milk.			2				
Laboratory tests of milk quality parameters.					2		
Requirements for milk according to National Standard ДСТУ 3662-18					2		
Veterinary and sanitary examination and health assessment of milk in case of deasises and poisoning animals.			2				
Methods of milk fat content determination.					2		
Veterinary requirements for import to Ukraine of milk and dairy products.							2
Sanitary conditions for obtaining high-quality milk at farms.			2				
Determination of acidity and dry matter in milk.					2		
The impact of inhibitors on the quality of milk.							2
Veterinary control of milk quality and dairy products in food markets.			2				
Determination of milk proteins and ketones. Milk temperature treatment determination					2		
EU requirements for milk and dairy products.							2
Methods of microbiological investigation of milk.					2		
The main sources of microbial contamination of milk.							2
Determining the total bacterial count in cup.							2
Methods of determining the quality of dairy products and cheeses.					2		
Fundamentals of standardization, quality management and certification.							2
Methods of butter testing.					2		
Colloquium					2		
Total			10		20		14
Module 2. Veterinary-sanitary examination of products of animal and vegetable origin							
Veterinary and sanitary examination of honey and other bee products..			2				
Laboratory methods for determining the quality of honey.					4		
Additional methods for determining quality and safety of bee products.							2
Veterinary hygiene and examination of fish and other aquatic organisms.			2				
Methods for determining the freshness of the fish.					2		
Veterinary requirements for import to							2

Ukraine of food fish and other seafood.						
Veterinary hygiene and examination of poultry eggs.			1		2	
Veterinary hygiene and examination of some egg products.						2
Veterinary hygiene and examination of plant food					2	
Determination of nitrates in foods of plant origin						2
Colloquium					2	
Total			5		10	8
Module 3. Animal slaughter, transportation, technology slaughtering and primary processing. Hygiene and control of slaughter products						
Slaughter animals, transportation and identification of fatness categories			4			
Requirements for the transport of slaughter animals and supporting documents					2	
Veterinary requirements for import of slaughtered animals to Ukraine						1
Premices for processing of slaughtered animals and veterinary and sanitary demands. Acceptance of slaughtered animals.			4			
Research lymph nodes and carcasses of slaughtered animals					4	
Liarage requierments						1
The basic technology and hygiene of slaughtered animals and poultry processing			2			
Veterinary-sanitary examination of animal fats					4	
Study regulations on the organization of Veterinary food control						2
Organization and Methods veterinary expertize after slaughter and carcasses of slaughtered animals			2			
Methods and techniques of research animal carcasses after slaughter.					2	
Veterinary-sanitary examination of offal						2
Colloquium					2	
Total			12		12	6
Module 4. MEAT COMPOSITION AND CHARACTERISTICS						
The morphology, chemical composition and characteristics of meat of different animal species			2			
Determining the species origin of meat					4	
Changes in the meat after slaughter			2			
Definition of meat freshness					2	
Definition of rabbits and poultry meat freshness						2
The basic technology of hygiene and preserving of meat and meat products			4			
Veterinary-sanitary examination of					2	

sausages and canned meat						
Technology of making sausages, meat, canned products						2
Colloquium					2	
Total			8		8	4
Module 5. Veterinary control of slaughter products in cases of poisoning, toxicosis are intoxication						
Meat post mortem examination of in cases of infectious diseases			4			
Methods for determining the meat from diseased and dead animals					4	
Regulations on organization veterinary control						2
Veterinary-sanitary examination of products of slaughter animals with invasive disease			2			
Veterinary hygiene and exam of animals slaughter products for trichinosis					4	
Veterinary-sanitary examination of rabbits and poultry meat at invasion						1
Veterinary-sanitary examination of products of slaughter animals with non-communicable diseases or poisonings			2			
Veterinary hygiene and exam of animals slaughter products for cysticercosis					2	
The method of meat and meat products decontamination						3
Food borne diseases and its prevention			2			
Methods for determination of toxic substances in meat					2	
Veterinary hygiene and exam of game			2			2
Colloquium					2	
Total			14		14	10
Course work						
Totally hours	120		45		60	45

3. Topics of laboratory (practical, seminar) classes

No	Topic title	Hours
1	<i>Module 1. Introduction. The basic technology, hygiene and veterinary and sanitary examination of milk and diary products</i>	
2	Organoleptic and laboratory methods for determining the quality of milk.	2
3	Laboratory tests of milk quality parameters.	2
4	Requirements for milk according to National Standard ДСТУ 3662-18	2
5	Methods of milk fat content determination.	2
6	Determination of acidity and dry matter in milk.	2
7	Determination of milk proteins and ketones. Milk temperature treatment determination	2
8	Methods of microbiological investigation of milk.	2

9	Methods of determining the quality of dairy products and cheeses.	2
10	Methods of butter testing.	2
	<i>Module 2. Veterinary-sanitary examination of products of animal and vegetable origin</i>	
11	Laboratory methods for determining the quality of honey.	4
12	Methods for determining the freshness of the fish.	2
13	Veterinary hygiene and examination of poultry eggs.	2
14	Veterinary hygiene and examination of plant food	2
	<i>Module 3. Animal slaughter, transportation, technology slaughtering and primary processing. Hygiene and control of slaughter products</i>	
15	Requirements for the transport of slaughter animals and supporting documents	2
16	Research lymph nodes and carcasses of slaughtered animals	4
17	Veterinary-sanitary examination of animal fats	4
18	Methods and techniques of research animal carcasses after slaughter.	2
	<i>Module 4. Meat composition and characteristics</i>	
19	Determining the species origin of meat	4
20	Definition of meat freshness	2
21	Veterinary-sanitary examination of sausages and canned meat	2
	<i>Module 5. Veterinary control of slaughter products in cases of poisoning, toxicosis are intoxication</i>	
22	Methods for determining the meat from diseased and dead animals	4
23	Veterinary hygiene and exam of animals slaughter products for trichinosis	4
24	Veterinary hygiene and exam of animals slaughter products for cysticercosis	2
25	Methods for determination of toxic substances in meat	2

4. Topics for self-study

No s/n	Topic title	Hours
1	<i>Module 1. Introduction. The basic technology, hygiene and veterinary and sanitary examination of milk and dairy products</i>	
2	The main provisions of the laws of Ukraine "On Veterinary Medicine" and "On safety and quality of food"	2
3	Veterinary requirements for import to Ukraine of milk and dairy products.	2
4	The impact of inhibitors on the quality of milk.	2
5	EU requirements for milk and dairy products.	2
6	The main sources of microbial contamination of milk.	2
7	Determining the total bacterial count in cup.	2
8	Fundamentals of standardization, quality management and certification.	2

	<i>Module 2. Veterinary-sanitary examination of products of animal and vegetable origin</i>	
9	Additional methods for determining quality and safety of bee products.	2
10	Veterinary requirements for import to Ukraine of food fish and other seafood.	2
11	Veterinary hygiene and examination of some egg products.	2
12	Determination of nitrates in foods of plant origin	2
	<i>Module 3. Animal slaughter, transportation, technology slaughtering and primary processing. Hygiene and control of slaughter products</i>	
13	Veterinary requirements for import of slaughtered animals to Ukraine	1
14	Liarage requierments	1
15	Study regulations on the organization of Veterinary food control	2
16	Veterinary-sanitary examination of offal	2
	<i>Module 4. Meat composition and characteristics</i>	
17	Definition of rabbits and poultry meat freshness	2
18	Technology of making sausages, meat, canned products	2
	<i>Module 5. Veterinary control of slaughter products in cases of poisoning, toxicosis are intoxication</i>	
19	Regulations on organization veterinary control	2
20	Veterinary-sanitary examination of rabbits and poultry meat at invasion	1
21	The method of meat and meat products decontamination	3

5. Means of diagnosing learning outcomes:

- exam
- test
- module tests;
- defense of laboratory works;

6. Teaching methods:

- verbal method (lecture, discussion)
- practical method (laboratory classes);
- work with educational and methodological literature (note-taking, thesis, annotation);
- video method (remote, multimedia, web-based, etc.);
- independent work (completion of tasks);
- individual research work of higher education students.

7. Assessment methods.

- exam
- test
- oral or written questioning;
- module testing;
- defense of laboratory and practical work;

- presentations and speeches at scientific events

8. Distribution of points received by higher education students.

The assessment of students' knowledge and skills is conducted by means of a 100-point scale and is converted into national grades according to Table 1 of the current *Exam and Credit Regulations at NULES of Ukraine*.

Student's rating, points	National grading of exams and credits	
	exams	credits
90-100	excellent	pass
74-89	good	
60-73	satisfactorily	
0-59	unsatisfactorily	fail

To determine a student's rating in the discipline **RDIS** (up to 100 points), the received assessment rating **RA** (up to 30 points) is added to the academic performance rating **RAP** (up to 70 points): **RDIS = RAP + RA**.

9. Teaching and learning aids

- e-learning course of the discipline (<https://elearn.nubip.edu.ua/course/view.php?id=1881>);
- lectures and presentations (in electronic form);
- textbooks, manuals, tutorials;
- guidelines for studying a discipline by full-time students.

10. Recommended sources of information

1. Veterinary and sanitary examination of meat and meat products - / Vlasenko VV, KravtsivRJ. , Yakubchak OM, Kasyanchuk VV, Kozak MV, Gavrilyuk MD–Vinnytsia: Edelweiss and K, 2009 - 528 p. / 33 d.a.
2. Guidelines on veterinary and sanitary examination with the basics of technology and standardization of meat and meat products Yakubchak OM, Kozak MV, Vlasenko VV, Oliynyk LV, Zagrebelny VO ., Taran TV, Adamenko LV, Galaburda MA, Bilyk RI
3. The procedure for sampling and identification of samples for veterinary and sanitary control of food and feed Yakubchak OM, Mezhenkaya NA, Tkachuk SA, Bilyk RI
4. Microbiology of milk and dairy products with the basics of veterinary examination. Edited by Kasyanchuk VV
5. Special biochemistry: a textbook for students of higher educational institutions [Edited by the corresponding member of NAAS SD Melnychuk.] Authors: SD Melnychuk, C.B. Khizhnyak, VI Tsvilikhovsky, Grishchenko, VA Tomchuk, EA Derkach, N.M. Melnykova, L.G. Kalachnyuk, G.I. Kalachnyuk, O.M. Tupytska, VA - Kyiv, 2014. - 371 p.
6. Methodical instructions for classes in the discipline "Special Biochemistry" for students of EQL "Master" Part 2: "Pathology of the cellular apparatus. Biochemical

ways of influence of exogenous factors on a cell ”/ S.D. Мельничук, С.В. Khizhnyak, VI Tsvilikhovsky, NM Melnykova, Є.А. Corncrake. - Kyiv, 2014. - 129 p.

7. The course of lectures and guidelines for the implementation of the lab. works on the discipline "Special Biochemistry", Part 3: "Fundamentals of methodological approaches to molecular diagnostics" / S.D. Melnychuk, L.G. Kalachnyuk, G.I. Kalachnyuk. - Kyiv, 2014. - 196 p.

8. Methodical instructions for laboratory classes in the discipline "Modern methods and devices of biochemical research" for the training of experts-analysts in the specialization "Laboratory Affairs" EQL "Master" / S.D. Мельничук, С.В. Khizhnyak, VI Tsvilikhovsky - Kyiv, 2014. - 122 p.

9. Bohm R., Pleva V. / Microscopy of meat and raw materials of animal origin. Translated from Czech. Second edition. Publishing house "Food industry", M. : - 1964 - 335p.

10. Kotsyumbas IY, Kotsyumbas GI, Shchebentovska OM / Examination of semi-finished meat and meat and vegetable cut by microstructural method (methodical recommendations). Afisha Publishing House, Lviv - 2011 - 80p.

11. National standard of Ukraine. Meat. Methods of histological determination of freshness and degree of ripening. DSTU 7353: 2013. Official publication, Ministry of Economic Development of Ukraine - Kyiv: - 2014 - 15p.