

SYLLABUS OF THE EDUCATIONAL COMPONENT



HYGIENE AND EXAMINATION OF FOOD

Specialty	211 – Veterinary Medicine	Course commitment	Mandatory
Educational Program	Veterinary Medicine	Faculty	Faculty of Veterinary Medicine
Education Level	Master's Degree	Department	Sanitation, Hygiene and Forensic Veterinary Medicine

LECTURERS

Alla Mykolaivna Petrenko



Higher education Specialty of Veterinary Medicine

Degree - Candidate of Veterinary Sciences 16.00.06 Animal Hygiene and Veterinary Sanitation

Academic Status - Associate Professor of the Department of Sanitation, Hygiene and Forensic Veterinary Medicine

Work Experience - 20 years

Professional Activity Indicators Related to the Course:

- Author of more than 3 methodological developments;
- Co-author of publications included in the Web of Science scientometric database;
- Co-author of 2 thematic publications listed in Ukraine's professional editions;
- Participant in scientific and methodological conferences.

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Remote Support

Moodle:

<http://moodle.btu.kharkiv.ua/course/view.php?id=1941>

GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENT (DISCIPLINE))

Objective	providing applicants with thorough knowledge of the methods and methods of determination, management system and state control of the safety and quality of food products, by-products of animal origin during production, processing and circulation.
Format	lectures, laboratory and practical classes, independent work, individual tasks, interactive online classes
Specific training results and forms of their control	<ul style="list-style-type: none"> Understanding the essence of the processes of production, storage, and processing of animal and plant-based products (GC2, GC 8, GC 9, SC12, SC 15, SC 19, SC 20, PLO 9, PLO 12, PLO14) / Individual practical assignments. Ability to organize supervision and control over the production, storage, transportation, and sale of animal and plant-based products (GC2, GC 8, GC 9, SC12, SC 15, SC 19, SC 20, PLO 9, PLO 12, PLO14) / Exam. Ability to make informed decisions and conduct educational activities among industry workers and the population (GC9, PLO12) / Individual assignments on regulatory framework analysis.
Scope and forms of control	14 ECTS credits (390 hours): 56 hours of lectures, 92 hours of laboratory and practical activities (LPA), 30 hours of training practice, conducted with a separation from training sessions; 212 hours of independent work, current control (6 tests), final assessment – exam.
Lecturer Requirements	Timely completion of assignments, active participation, teamwork
Enrollment Requirements	The basic disciplines for the successful assimilation of the program material of the discipline are the anatomy of domestic animals; veterinary hygiene, sanitation and animal welfare; veterinary microbiology; veterinary virology.

COMPLIANCE OF COMPONENTS (EDUCATIONAL DISCIPLINE) EDUCATIONAL PROGRAM

Competencies (GC)	GC2. Ability to apply knowledge in practical situations GC 8. The ability to learn and master modern knowledge GC9. Ability to make informed decisions SC 12. The ability to develop and implement measures aimed at protecting the population from diseases common to animals and humans. SC 15. The ability to organize supervision and control of production, storage, transportation and sale of products of animal and vegetable origin. SC 19. The ability to carry out educational activities among industry and population workers. SC 20. The ability to organize, carry out and control workflow 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 the production, storage, transportation, and sale of products of animal and plant origin. PLO 14. Understand the essence of the processes of manufacturing, storing, and processing biological raw materials.
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STRUCTURE OF THE EDUCATIONAL COMPONENT

Section 1 Hygiene and examination of milk				
Lecture 1	Introductory. The importance of discipline in the training of a doctor of veterinary medicine. Objects of food examination.	LPC 1	Occupational safety during laboratory work. Selection, preservation, and preparation of average milk samples for laboratory testing.	Independent work
		LPC 3	Determination of organoleptic indicators of milk. Detection of milk defects. Determination of	
		Processing lecture material Preparation for laboratory classes The history of the formation and development of food hygiene during the independent Ukraine (abstract) Elaboration of the Law of Ukraine "On Basic		

Lecture 2	Chemical composition, physical properties and species characteristics of milk of productive animals.	LPC 4	physical and chemical indicators of milk (density, freezing point, acidity). Determination of the content of individual milk components (CP, SZMZ, mass fraction of lactose, protein, fat)		Principles and Requirements for Food Safety and Quality" (individual tasks for the analysis of the regulatory framework)
		LPC 5	Determination of purity, general bacterial contamination of milk and efficiency of its heat treatment		Determination of total bacterial contamination in raw cow's milk, conclusion of geometric mean value (abstract)
Lecture 3	Veterinary and sanitary control and hygiene of receipt, storage, harvesting, transportation and processing of milk.	LPC 6	Determination of abnormal milk impurities in the collected milk. Veterinary and sanitary control of milk naturalness.		Counting somatic cells in the udder secret of individual cows and in collected raw milk of cows by microscopic method. Determination of geometric mean (abstract)
Section 2 Hygiene and examination of dairy products					
Lecture 4	Hygiene and expertise of fermented milk products	LPC 7	Inspection of drinking milk	Independent work	Elaboration of lecture material Preparation for laboratory classes Veterinary requirements for imports of dairy products to Ukraine (abstract)
		LPC8	Inspection of fermented milk drinks, sour cream, and fermented milk cheese.		
		LPC 9	Inspection of cheese.		
Lecture 5	Hygiene and expertise of cheese, butter	LPC 10	Inspection of butter and spreads.		Features of packaging and marking for dairy products (abstract)
		LPC 11	Inspection of condensed milk products.		Technology and hygiene of fermented dairy products production (abstract)
Lecture 6	Hygiene and expertise of canned milk	LPC 12	Inspection of dry milk products.		Technology and hygiene of production of dairy products with high fat content (abstract)
		LPC 13	Veterinary and sanitary control of milk and milk products in agri-food markets.		
		LPC 14	Veterinary and sanitary control and safety criteria for raw milk.		
Lecture 7	Veterinary and sanitary examination and sanitary evaluation of milk in diseases and poisoning of animals.	LPC 15	Laboratory control work “Hygiene and examination of milk and milk products”		
Section 3 Hygiene of primary processing of slaughter animals, meat and meat products					
Lecture 8	Slaughter animals. Organization and methods after slaughter veterinary examination of carcasses and organs of slaughter animals	LPC16	Requirements for the transportation of slaughter animals and the procedure for completing accompanying documents	Independent work	Elaboration of lecture material Preparation for laboratory classes Veterinary requirements for import of slaughter animals to Ukraine (abstract)
		LPC 17	Examination of lymph nodes in carcasses and organs of slaughter animals		Study of regulatory documents on the organization of veterinary and sanitary examination (individual tasks for the analysis of the regulatory framework)
Lecture 9	Morphology, chemical composition and commodity science of meat of various species of animals. Changes in meat after slaughter of animals	LPC 18	Determination of the species of meat		Fundamentals of technology and hygiene of processing of slaughter animals and poultry (abstract)
		LPC 19	Determination of meat freshness		Veterinary and sanitary examination of animal fats (abstract)
Lecture 10	Basics of canning technology and hygiene of meat and meat products	LPC 20	Hygiene requirements and examination of sausages		Determination of fresh meat of rabbits and
		LPC 21	Hygiene requirements and examination of canned meat		

					poultry (abstract) Sausage production technology (abstract) Technology of production of meat products (abstract) Technology of production of meat products, canned food (abstract)
Section 4 Veterinary and sanitary evaluation of animal slaughter products in case of detection of animal diseases					
Lecture 11	Veterinary and sanitary evaluation of animal slaughter products in case of detection of infectious animal diseases	LPC 22	Methods for determining meat obtained from sick and dead animals	Independent work	Elaboration of lecture material Preparation for laboratory classes Post-slaughter inspection and sanitary assessment of poultry slaughter products for diseases and poisoning (abstract) Post-slaughter inspection and sanitary assessment of rabbit slaughter products for diseases and poisoning (abstract)Post-slaughter inspection and sanitary evaluation of slaughter products of hunting animals for diseases and poisoning (abstract) Methods of disinfection of meat and meat products (abstract)
		LPC 23	Methods for determining meat obtained from sick and dead animals		
Lecture 12	Veterinary and sanitary evaluation of animal slaughter products in case of detection of invasive animal diseases	LPC 24	Veterinary and sanitary examination of animal slaughter products for trichinosis		
		LPC 25	Veterinary and sanitary examination of slaughtered animal products for cysticercosis		
Lecture 13	Veterinary and sanitary evaluation of animal slaughter products in case of detection of non-contagious animal diseases	LPC 26	Methods for determining maximum levels of certain contaminants in meat		
		LPC 27	Methods for determining residues of veterinary drugs in meat		
Lecture 14	Food toxicoinfections and toxicoses and their prevention	LPC 28	Methods for determining meat obtained from animals suffering from foodborne toxic infections and toxicosis.		
		LPC 29	Laboratory test “Hygiene and examination of meat and meat products”		
		LPC 30	Laboratory test “Veterinary and sanitary assessment of slaughtered animals in case of animal diseases”		
Section 5 Hygiene and examination of food animal hydrobionts, food eggs, apiproductions and plant foods					
Lecture 15	General characteristics of animal food hydrobionts and principles organization and conduct of their veterinary and sanitary expertise	LPC 31	Inspection of fresh, chilled, frozen, and frozen fish.	Independent work	Elaboration of lecture material Preparation for laboratory classes Elaboration of the Law of Ukraine "On Fisheries, Industrial Fisheries and Protection of Aquatic Biological Resources" (individual tasks for the analysis of the regulatory framework) Veterinary requirements for import to Ukraine of fish products intended for human consumption (abstract) Inspection and sanitary assessment of poisonous fish and in case of poisoning (abstract) Hygiene and expertise of fish caviar (abstract) Hygiene and examination of food quail eggs (abstract) Veterinary and sanitary examination of egg products (abstract) Veterinary and sanitary examination of
		LPC 32	Inspection of salted, smoked, dried, and dried fish		
Lecture 16	Veterinary and sanitary examination of animal food hydrobionts for infectious diseases	LPC 33	Inspection of canned and preserved fish.		
		LPC 34	Sanitary assessment of freshwater and marine fish for diseases (invasive, infectious, poisoning).		
Lecture 17	Veterinary and sanitary examination of fish for parasitic diseases	LPC 35	Inspection of edible eggs.		
		LPC 36	Inspection of honey and other bee products.		
Lecture 18	Veterinary and sanitary examination of animal food hydrobionts for poisoning and radiation damage	LPC 37	Inspection of plant food products.		
		LPC 38	Laboratory control work “Hygiene and examination of edible aquatic animals, edible eggs, bee products, and plant food products.”		
Lecture 19	Veterinary and sanitary examination of food eggs				
Lecture 20	Hygiene and examination of honey				
Lecture 21	Hygiene and expertise of plant foods				

					beekeeping products (wax, propolis, bee pollen, royal jelly) (abstract) Characteristic signs of edible and poisonous mushrooms (abstract) General characteristics of the most common diseases and damages of plant foods (abstract) Veterinary and sanitary expertise and food hygiene in the markets (abstract)
Section 6 Systems of food safety management and state control					
Lecture 22	Food safety management system based on hazards and critical control points	LPC 39	Sanitary and phytosanitary measures. Food labeling.	Independent work	Processing lecture material Preparation for laboratory classes
Lecture 23	Biological, chemical and physical hazards	LPC 40	Prerequisite programs (PRPs). Development and implementation.		Good food production practices (abstract) HACCP system audit (abstract)
Lecture 24	Analysis of hazards and critical control points	LPC 41	Principles and application of the HACCP system at pig processing facilities.		Elaboration of the Law of Ukraine "On State Control over Compliance with Legislation on Food, Feed, By-Products of Animal Origin, Animal Health and Welfare" (individual tasks for the analysis of the regulatory framework)
Lecture 25	Ensuring control of products requiring special permission	LPC 42	Control of microbiological criteria for food products. Control of contaminants in food products, maximum permissible levels.		Elaboration of the WTO Agreement "On the application of sanitary and phytosanitary measures" (individual tasks for the analysis of the regulatory framework)
Lecture 26	Traceability in food production	LPC 43	Traceability in the food chain and crisis management.		Implementation of state control at the border (abstract)
Lecture 27	International standardization and certification	LPC 44	State control of controlled cargo at the state border of Ukraine and in transport.		Implementation of state control in exporting countries (abstract)
Lecture 28	Risk-oriented control system of food safety throughout the food chain	LPC 45	Risk-based control of food products.		
		LPC46	Laboratory control work "Food safety management and state control systems."		
CORE LITERATURE AND METHODOLOGICAL MATERIALS					

1. Atlas of veterinary and sanitary inspection of animal slaughter products / [I.V. Yatsenko, N.M. Bohatko, I.A. Biben, L.V. Busol, V.Ia. Binkevych, N.M. Zazharska, N.P. Holovko, V.M. Kyrychenko]. Kharkiv: RVV Kharkiv State Veterinary Academy, 2015. 384 p.
2. Hygiene of milk and dairy products. Part 2. Hygiene of dairy products: Textbook / [I.V. Yatsenko, N.M. Bohatko, N.V. Bukalova, T.I. Fotina, I.A., Biben, O.M. Berhilevych, V.Ia. Binkevych, Yu.R. Hachak, S.A. Tkachuk, V.V. Kamianskyi, M.M. Bondarevskyi, N.M. Zazharska, I.L. Tsyvirko, O.I. Kasianenko]. Kharkiv: Disa plus, 2016. 424 p.
3. Hygiene of milk and dairy products. Part 1. Milk hygiene: Textbook / [I.V. Yatsenko, N.M. Bohatko, N.V. Bukalova, T.I. Fotina, I.A. Biben, O.M. Berhilevych, V.Ia. Binkevych, Yu.R. Hachak, S.A. Tkachuk, V.V. Kamianskyi, M.M. Bondarevskyi, N.M. Zazharska, I.L. Tsyvirko, O.I. Kasianenko]. Kharkiv: Disa plus, 2016. 416 p.
4. Hygiene of plant foods: Textbook / I.V. Yatsenko, N.M. Bohatko, I.A. Biben, M.M. Bondarevskyi, V.V. Kamianskyi, V.Ia. Binkevych, S.A. Tkachuk, T.I. Fotina, N.V. Bukalova, N.M. Zazharska. Kharkiv: RVV KhDZVA, 2015. 427 p.
5. Yatsenko I.V., Bohatko N.M., Bukalova N.V., Fotina T.I., Biben I.A., Binkevych V.Ia., Trush A.M., Petrov R.V. Hygiene and examination of food animal hydrobionts and their products. Part 1. Hygiene and expertise of fishery products: Textbook. Kharkiv: "Disa Plus," 2017. 680 p.
6. Yatsenko I.V., Bohatko N.M., Bukalova N.V., Fotina T.I., Biben I.A., Binkevych V.Ia., Trush A.M., Petrov R.V. Hygiene and examination of food animal hydrobionts and their products. Part 2. Hygiene and examination of aquatic mammals, invertebrate hydrobionts, fish products: Textbook. Kharkiv: "Disa Plus," 2017. 648 p.

Methodological support

ELECTRONIC RESOURCES

1. On Aquaculture: Law of Ukraine dated 18.09.2012 No. 5293-VI. URL: <https://zakon.rada.gov.ua/laws/show/5293-17#Text>.
2. On beekeeping: Law of Ukraine dated 22.02.2000 No. 1492-III. URL: <https://zakon.rada.gov.ua/laws/show/1492-14#Text>.
3. On Veterinary Medicine: Law of Ukraine dated 25.06.1992 No. 2498-XII. URL: <https://zakon.rada.gov.ua/laws/show/2498-12#Text>.
4. On withdrawal from circulation, processing, recycling, destruction or further use of low-quality and dangerous products: Law of Ukraine dated 14.01.2000 No. 1393-XIV. URL: <https://zakon.rada.gov.ua/laws/show/1393-14#Text>.
5. On state control over compliance with legislation on food, feed, animal by-products, animal health and welfare: Law of Ukraine dated 18.05.2017 No. 2042-VIII. URL: <https://zakon.rada.gov.ua/laws/show/2042-19#Text>
6. On Consumer Protection: Law of Ukraine No. 1023-XII. URL: <https://zakon.rada.gov.ua/laws/show/1023-12#Text>.
7. On identification and registration of animals: Law of Ukraine dated 04.06.2009 No. 1445-VI. URL: <https://zakon.rada.gov.ua/laws/show/1445-17#Text>.
8. On milk and dairy products: Law of Ukraine dated 24.06.2004 No. 1870-IV. URL: <https://zakon.rada.gov.ua/laws/show/1870-15#Text>.
9. On hunting economy and hunting: Law of Ukraine dated 22.02.2000 No. 1478-III. URL: <https://zakon.rada.gov.ua/laws/show/1478-14#Text>.
10. On the basic principles and requirements for food safety and quality: Law of Ukraine dated 23.12.1997 No. 771/97-VR. URL: <https://zakon.rada.gov.ua/laws/show/771/97-%D0%B2%D1%80#Text>.
11. On fish, other aquatic living resources and food products from them: Law of Ukraine dated 06.02.2003 No. 486-IV. URL: <https://zakon.rada.gov.ua/laws/show/486-15#Text>.
12. Procedure for issuing veterinary documents: Resolution of the Cabinet of Ministers of Ukraine dated 21.11.2013 No. 857. URL: <https://zakon.rada.gov.ua/laws/show/857-2013-%D0%BF#Text>.
13. Veterinary and sanitary rules for slaughterhouses, slaughter and sanitary points of farms and yard slaughter of animals: Order of the State Department of Veterinary Medicine of the Ministry of Agrarian Policy of Ukraine dated January 14, 2004 No. 4. URL: <https://zakon.rada.gov.ua/laws/show/z0121-04#Text>.
14. Instructions for use of the mark of fitness and veterinary stamps: Order of the State Committee of Veterinary Medicine of Ukraine dated 02.02.2010, No. 46. URL: <https://zakon.rada.gov.ua/laws/show/z0278-10#Text>.
15. Instructions for the diagnosis, prevention and elimination of animal trichinosis: Order of the State Department of Veterinary Medicine of the Ministry of Agrarian Policy of Ukraine dated 03.08.2007, No. 79. URL: <https://zakon.rada.gov.ua/laws/show/z0951-07#Text>.
16. Rules of veterinary and sanitary examination of milk and dairy products and requirements for their implementation: Order of the State Department of Veterinary Medicine of the Ministry of Agrarian Policy of Ukraine dated 20.04.2004, No. 49. URL: <https://zakon.rada.gov.ua/laws/show/z0579-04#Text>.
17. Rules of pre-slaughter veterinary inspection of animals and veterinary and sanitary examination of meat and meat products: Order of the State Department of Veterinary Medicine of the Ministry of Agrarian Policy of Ukraine dated 07.06.2002, No. 28. URL: <https://zakon.rada.gov.ua/laws/show/z0524-02#Text>.
18. Rules of veterinary and sanitary examination of poultry eggs: Order of the Chief State Inspector of Veterinary Medicine dated 07.09.01, No. 70. URL: <https://zakon.rada.gov.ua/laws/show/z0850-01#Text>

EVALUATION SYSTEM

SYSTEM	POINTS	ACTIVITY TO BE EVALUATED
Final assessment (different credit, exam)	100 points ECTS (standard) up to 100	40 % - Final testing 60 % - student's current work during the semester
Final assessment (non-differential credit)	100 points ECTS (standard) up to 100	100 % - average grade for sections
Rating of section	100 points total up to 30	30 % - answers to test questions
	up to 30	30 % - the result of mastering the block of independent work
	up to 40	40 % - student activity in class (oral answers)

STANDARDS OF ACADEMIC ETHICS AND INTEGRITY

All participants in the educational process (including students) must adhere to the code of academic integrity and the requirements set out in the Regulation “On Academic Integrity of Participants in the Educational Process of BSTU”: to be disciplined, well-mannered, respect each other's dignity, show goodwill, honesty, and responsibility.