

HYGIENE OF MILK RAW MATERIALS AND DRINKING MILK

SYLLABUS OF THE EDUCATIONAL COMPONENT



specialty	211 veterinary medicine	compulsory nature of the discipline	selective
educational program	veterinary medicine	faculty	veterinary medicine
educational level	Master's degree	department	department of sanitation, hygiene, and forensic veterinary medicine

LECTURER

Degtyarov Mykola Oleksandrovych

Higher education – specialty in veterinary medicine
Academic degree – candidate of veterinary sciences in the specialty 16.00.06 – animal hygiene and veterinary sanitation
Academic title – associate professor
Work experience – 42 years
Indicators of professional activity related to the course:

- Author of scientific publications on the department's topics
- Developer of methodological materials
- Participant in scientific and methodological conferences

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The following are involved in teaching the discipline: associate professor, candidate of veterinary sciences, Zhylina V.M.;
associate professor, candidate of veterinary sciences, Tsyvirko I.L.

GENERAL INFORMATION ABOUT THE EDUCATIONAL COMPONENT

Objective	To form a comprehensive understanding of the subject and scientifically justify the process of hazard identification, hazard characterization, impact assessment, and risk characterization in the production of raw milk and its processing at enterprises.
Format	lectures, seminar sessions, independent work, individual assignments.
Details of learning outcomes and forms of their assessment	• Ability to conduct research at the appropriate level, apply knowledge in practical situations, use tools and special devices for performing specific manipulations during the execution of professional tasks (GC2, GC3, GC6, SC2, SC4, SC19, PRN7) / individual practical sessions. • Ability to conduct organoleptic and laboratory testing of food products (GC1, GC2, SC1, SC2, SC8, SC11, SC19, PRN7, PRN8) / individual practical sessions. • Understand and clarify the specifics of conducting bacteriological studies to form conclusions about the safety of products (GC2, GC3, SC1, SC2, SC8, SC11, SC19, PRN7, PRN8) / individual practical sessions. • Ability for abstract thinking, analysis, synthesis, searching, and processing information from various sources. (GC1, PRN7) / individual practical sessions.
Volume and forms of assessment	3 ECTS credits (90 hours): 12 hours of lectures, 20 hours of laboratory and practical sessions; hours of independent work, current assessment (2 chapters); final assessment – differentiated credit.
Teacher's requirements	Timely completion of tasks, active participation
Conditions for crediting	According to the curriculum

COMPLEMENTS THE STANDARD OF EDUCATION AND THE EDUCATIONAL PROGRAM

Competencies	GC1. Ability for abstract thinking, analysis, and synthesis. GC3. Knowledge and understanding of the subject area and profession. GC8. Ability to work in an international context and understand the structure of interaction between the state veterinary service and international partners. GC10. Commitment to environmental preservation. SC2. Ability to work with national and international regulations, scientific papers, methodological developments, recommendations, instructions, etc. SC5. Ability to research food products and feeds using organoleptic and instrumental methods to determine their safety and quality. SC7. Ability to plan and carry out control, as well as monitor the production, storage, processing, and sale of food products, feeds, feed additives, premixes, by-products, veterinary drugs, and veterinary medicines, and evaluate their safety and quality. SC9. Ability to conduct state audits at controlled facilities for the production, processing, and circulation of food products, feeds, feed additives, premixes, veterinary drugs, by-products in accordance with the food safety management system (HACCP/ISO 22000), and monitor the critical control points (CCPs) during production.	Program learning outcomes	PLO1. Apply methods of analysis, synthesis, and modern learning in the field of veterinary hygiene, sanitation, and expertise. PLO2. Understand the structure of professional activity and use research methods in the field of veterinary hygiene, sanitation, and expertise. PLO5. Conduct selection, preservation, packaging, and shipping of samples of animal, plant, and biotechnological origin for the study of food products, feeds, feed additives, premixes, etc., using organoleptic and laboratory methods to determine their safety and quality in accordance with regulatory acts, using the necessary reagents, instruments, and equipment. PLO7. Apply knowledge and practical skills regarding the basics of organizing veterinary affairs, office management, veterinary deontology, and psychology. PLO10. Evaluate and control the implementation of state audits at controlled facilities for the production and circulation of food products, feeds, feed additives, premixes, veterinary drugs, by-products, etc., in the case of applying food safety management systems (HACCP/ISO 22000) or procedures based on HACCP, and control the monitoring system for each CCP during production, monitoring of veterinary and immunobiological drugs, contaminants in food products
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SC13. Ability to carry out veterinary and sanitary control over the production and circulation of feeds, feed additives, premixes, etc., at controlled facilities, apply methods of their research, and perform sanitary evaluations.

SC19. Ability to address general veterinary prevention issues at enterprises involved in animal product production and processing, including veterinary and sanitary assessment of animal housing systems and methods, feed safety, technological equipment, animal care and feeding methods, and ensuring proper sanitary conditions of livestock facilities.

and feeds.

PLO11. Participate in planning the production and financial activities of controlled facilities under market conditions, as well as control compliance with hygiene requirements during the production of safe food products, feeds, and feed additives, guided by current regulations of Ukraine, the requirements of the Codex Alimentarius, the "hygiene package" of the EU, and other international regulations.

PLO20. Ensure the objectivity and reliability of conducting veterinary and sanitary assessments of systems and methods of animal housing, care, feeding, watering, and operation, as well as maintaining proper sanitary conditions of livestock facilities, storage of feeds and feed additives, and the operation of technological equipment.

STRUCTURE OF THE EDUCATIONAL COMPONENT

Chapter 1. HYGIENE OF MILK AND DAIRY PRODUCTS IN THE CONCEPT OF VETERINARY SANITATION

Lecture 1	Classification, nutritional and energy value of milk and dairy products	Laboratory-practical session 1 (LPS 1)	Research of raw milk for specific quality indicators	Self-Study Work	Writing essays and public presentations: veterinary and hygienic requirements for the acceptance and processing of milk and dairy products
Lecture 2	Hygienic requirements and risk analysis in milk and dairy products production and circulation	LPS 2	Milk sample testing for grade classification		
Lecture 3	Defects in raw milk: causes and preventive measures	LPS 3	Methods for detecting abnormal raw milk		
		LPS 4	Veterinary-hygienic measures on farms and dairy processing plants for preventing infectious diseases and foodborne infections in humans through milk		

Chapter 2. COMPREHENSIVE ASSESSMENT OF MILK AND DAIRY PRODUCT SAFETY

Lecture 4	Hygienic requirements for raw milk during the production of drinking milk	LPS 5	Inspection of milk obtained from genetically modified animals		Preparing multimedia presentations and reports with speeches: means and methods of milk and dairy product adulteration
Lecture 5	Comprehensive assessment of milk and dairy product safety	LPS 6	Inspection of drinking milk, fermented dairy products, cheeses, butter, milk canned products, ice cream, and milk-based products		
Lecture 6	Hygiene of milk and dairy products circulation	LPS 7	Detection of milk and dairy product adulteration, methods of		

			identification, and development of counteraction systems		
		LPS 8	Characteristics of radioactive elements in milk and their transfer to dairy products.		
		LPS 9	Microbiological control of milk raw materials and drinking milk at dairy processing plants		
		LPS 10	Detection of nitrates and nitrites in raw cow's milk		

PRIMARY LITERATURE AND ELECTRONIC RESOURCES

Literature	1. Гігієна молока і молочних продуктів. Частина 2. Гігієна молочних продуктів: Підручник / [І.В. Яценко, Н.М. Богатко, Н.В. Букалова, Т.І. Фотіна, І.А., Бібен, О.М. Бергілевич, В.Я. Бінкевич, Ю.Р. Гачак, С.А. Ткачук, В.В. Кам'янський, М.М. Бондаревський, Н.М. Зажарська, І.Л. Цивірко, О.І. Касяненко]. Харків: Діса плюс, 2016. 424 с. 2. Гігієна молока і молочних продуктів. Частина 1. Гігієна молока: Підручник / [І.В. Яценко, Н.М. Богатко, Н.В. Букалова, Т.І. Фотіна, І.А. Бібен, О.М. Бергілевич, В.Я. Бінкевич, Ю.Р. Гачак, С.А. Ткачук, В.В. Кам'янський, М.М. Бондаревський, Н.М. Зажарська, І.Л. Цивірко, О.І. Касяненко]. Харків: Діса плюс, 2016. 416 с.	1. Про аквакультуру: Закон України від 18.09.2012 № 5293-VI. URL: https://zakon.rada.gov.ua/laws/show/5293-17#Text. 2. Про ветеринарну медицину: Закон України від 25.06.1992 № 2498-XII. URL: https://zakon.rada.gov.ua/laws/show/2498-12#Text. 3. Про захист прав споживачів: Закон України № 1023-XII. URL: https://zakon.rada.gov.ua/laws/show/1023-12#Text. 4. Про молоко та молочні продукти: Закон України від 24.06.2004 № 1870-IV. URL: https://zakon.rada.gov.ua/laws/show/1870-15#Text. 5. Про основні принципи та вимоги до безпечності та якості харчових продуктів: Закон України від 23.12.1997 № 771/97-ВР. URL: https://zakon.rada.gov.ua/laws/show/771/97-%D0%B2%D1%80#Text. 6. Правила ветеринарно-санітарної експертизи молока і молочних продуктів та вимоги щодо їх реалізації: наказ Державного департаменту ветеринарної медицини Міністерства аграрної політики України від 20.04.2004, № 49. URL: https://zakon.rada.gov.ua/laws/show/z0579-04#Text.
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EVALUATION SYSTEM

	SYSTEM	POINTS	ACTIVITY THAT IS ASSESSED
Final assessment (different credit, exam)Final evaluation	100 ECTS points (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)

NORMS OF ACADEMIC ETHICS AND INTEGRITY

All participants in the educational process (including students) must adhere to the code of academic integrity and the requirements stipulated in the regulation "On Academic Integrity of Participants in the Educational Process of SBTU": to demonstrate discipline, good manners, respect each other's dignity, show kindness, honesty, and responsibility.