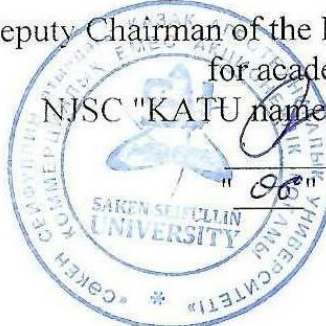


Ministry of Agriculture of the Republic of Kazakhstan

S.Seifullin Kazakh Agrotechnical Research University

Considered
at a meeting of the
Academic Council
of the University
Protocol No. 16
from "24" 05 2021

APPROVED
Deputy Chairman of the Management Board
for academic affairs - rector
NJSC "KATU named after S. Seifullin"
Abdyrov A.M.
" 06" 09 2021



EDUCATIONAL PROGRAM

**“Sanitary and environmental safety of livestock products”
(name of program)**

Code and classification of field of education: 8D09-Veterinary
Code and classification of areas of training: 8D091-Veterinary
International Standard Classification of Education code: 8D0841
Qualification: Doctor of Philosophy (Philosophy)
(according to Appendix 4 of the State Educational Standard)
Duration of training: 3 years
Full-time form of education

Author team:


Full name - degree, title, position, place of work

1. Abdrakhmanov Sarsenbay Kadyrovych, PhD, professor, dean of the faculty, S. Seifullin KATIU
2. Maikanov Balgabay Sadepovich, Ph.D., professor, S. Seifullin KATIU.
3. Dzhakupov Isatai Tusupovich, PhD, professor, S. Seifullin KATIU.
4. Terlikbaev Askar Aidarkhanovich, Ph.D., associate professor, S. Seifullin KATIU
5. Adilbekov Zhanat Shabanbayevich, PhD, associate professor, S. Seifullin KATIU
6. Mustafina Raikhan Khusainovna, PhD, Senior Lecturer, S. Seifullin KATIU
7. Shaken Nurushevich Turmagambetov, director, "InvestPromArea" LLP
8. Abdulkhalikov Sembai Bagdatshauli, director, RSE Republican anti-epizootic detachment of of the KVKN of the Ministry of Agriculture of the Republic of Kazakhstan
9. Sarsebekov Lukman Tuleuuli, Production Director of LLP " Tselinaya Delicatessen Factory " Karibaev Talgat Bolatovich, Head of the Laboratory of Diagnostics of Infectious Diseases, RSE on PCV "National Reference Center in Veterinary Medicine" KVKN of the Ministry of Agriculture of the Republic of Kazakhstan
10. Koishibayeva Meiramgul Sailauovna, student of the 4th year, S. Seifullin KATIU
11. Tulesh Salamat, 3rd year student, S. Seifullin KATIU


The team of authors was approved by order of JSC S. Seifullin "KATIU" No. 6 dated "07" 02 2023 7.

Educational program "Sanitary and environmental safety of livestock products" reviewed at a meeting of the department of "Veterinary Sanitation", protocol No. dated " " 2023, approved by the Council of the Faculty of "Veterinary Medicine and Livestock Technology" protocol No. 09 dated "4" May 2023.

Dean of the Faculty of Veterinary Medicine and Livestock Technology Candidate of Veterinary Sciences, Associate Professor,

 - Abdrakhmanov S.K.

Head of the Department of Veterinary Sanitation Candidate of Veterinary Sciences, Associate Professor

 - Adilbekov Zh.Sh.

Content

№	Component name	Pages
1.	Educational program passport	4
2.	General characteristics of the educational program	5
3.	Competency model (portrait) of a graduate	6
4	Structure of the educational program	9
5	Appendix 1. Academic calendar	10
6	Appendix 2. Working curriculum	12
7	The relationship between the achievability of the formed learning outcomes in the educational program and academic disciplines	13

1. Educational program passport

1.1 Purpose of the educational program:

The main goal of the educational program is for doctoral students to master the issues of ensuring the quality and safety of food products. In this regard, the content of the educational program is aimed at obtaining knowledge and practical skills for carrying out veterinary and sanitary examination of the quality and safety of livestock products in the conditions of the Customs Union and the World Trade Organization, as well as in accordance with the requirements and recommendations of international veterinary organizations (OIE, FAO, WHO and etc.).

The main objectives of the educational doctoral program in the specialty 8D091-Veterinary Medicine are:

- teach doctoral students modern methods of practical organization and conduct of work on veterinary and sanitary examination of food products;
- to familiarize doctoral students with the main groups of foreign substances contained in food products that can cause harm to the body of animals and humans;
- teach methods for determining the main foreign substances contained in food products;
- provide an individual educational trajectory in accordance with the specialization chosen by doctoral students;
- to develop in students the ability to self-improvement and mastering new knowledge;

1.2. Learning outcomes

LO1. The ability to analyze and synthesize scientific data on food safety and correctly evaluate modern theoretical concepts and directions of food safety, apply writing techniques, draw up a plan and create an essay, work with scientific texts.

LO2. Use modern methods and methods of scientific research in veterinary medicine, analyze and interpret the results.

LO3. Own the basic concepts and norms of sanitary-ecological assessment of the quality and safety of food of animal and vegetable origin under technogenic and biogenic environmental factors, research methods and methods for obtaining sanitary-ecological "clean" food products (milk, meat, eggs, honey, fish and etc.).

LO4. To know the influence of the geographical environment on the health and productivity of animals and the spread of animal diseases. Apply the methods of veterinary geography in the assessment of natural-territorial complexes (natural-climatic, socio-economic), which determine the prerequisites, the nature of the spread and characteristics of the course of diseases in specific territories of the republic.

LO5. Conduct risk analysis, identify critical control points, be able to implement a quality management system and food safety for meat, milk and fish processing enterprises, at transportation, storage and sale facilities.

2. General characteristics of the educational program

The educational program in the specialty "8D09102 – Sanitary and environmental safety of livestock products" was developed in accordance with the National Qualifications Framework and professional standards, agreed with the

Dublin descriptors and the European Qualifications Framework, based on the State Compulsory Standard for Postgraduate Education, Master's Degree, approved by the Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 31, 2018 No. 604, registered with the Ministry of Justice of the Republic of Kazakhstan on November 1, 2018 No. 17669.

The educational program is designed on the basis of a modular system of studying disciplines and contains 9 modules that form special and professional competencies.

The total number of credits for this educational program is 180 credits, of which: the total number of credits for theoretical training is 25 credits, including practical training (all types of internships) – 20 credits, research and development work – 123 credits, final certification – 12 credits.

2.1 Relevance:

Doctoral studies are a form of training highly qualified scientific and scientific-pedagogical personnel in higher educational institutions and scientific organizations. Training personnel with a high level of scientific and pedagogical competence is one of the most pressing problems in the modern education system. Doctoral studies, being the final stage of a three-level system of personnel training - bachelor's, master's, doctoral, ensures the integration of domestic scientists into the global scientific community.

2.2 Uniqueness:

The educational program is based on the principles of: - a competency-based approach to education, ensuring variability and different levels of offered educational programs and educational services; - coordination and mutual adaptation of curricula and programs; - logical completeness of education at each level of training; - ensuring satisfaction of student requests depending on abilities; - connections between theory and practice; - orientation of educational programs towards learning outcomes.

3. Competency model (portrait) of a graduate

3.1 Areas of professional activity

- laboratories of veterinary and sanitary examination;
- food safety laboratories;
- own control laboratories;
- environmental organizations;
- forensic centers for districts and regions;
- National Center of Expertise;
- in organizations of secondary, higher and additional vocational education in technical and agricultural areas, research, design organizations and in production;
- research activities in the field of education and production in the field of promotion of workers in accordance with specialization.

3.2 Types of professional activities

- enterprises for the production, processing, storage, sale of food products and feed of animal and plant origin;

- laboratories for veterinary and sanitary examination of markets and food safety;
- state customs service institutions and checkpoints;
- raw materials and finished products of animal and plant origin, beekeeping and fish farming products;
- research institutes, public and private veterinary organizations;
- secondary and higher vocational educational institutions;
- research and design organizations in the educational sector.
- forensic examination

3.3 General educational competencies (with State Educational Standards)

The subjects of professional activity of the Doctor of Philosophy (PhD) are:

- all types of farm animals, birds, fish, bees and their products, crop products, equipment and instruments for conducting veterinary and sanitary examination of product quality, biological products, chemical reagents, biological active substances, feed, feed additives, pastures and water sources.

3.4 Basic competencies (with State Educational Standards)

Typical tasks of the professional activity of a Doctor of Philosophy (PhD) specialty 8D138 – Veterinary Medicine are aimed at solving the following questions.

In the field of expert supervision activities:

- assessment of the quality and safety of products of animal and plant origin;
- veterinary and sanitary control over the production, transportation, and sale of products and raw materials of animal origin;
- prevention of diseases transmitted through products and raw materials of animal origin;
- protection of the territory of the Republic of Kazakhstan from the introduction of infectious diseases through imported products and raw materials;

In the field of production and technological activities:

- organization and control over compliance with the technology of production, processing, storage, transportation and sale of products of animal and plant origin; organization and control over the production and use of medicines, biological preparations and feed additives; control over the procurement and preparation of feed for feeding;

In the field of organizational and management activities:

- control over compliance with veterinary legislation on the territory of the Republic of Kazakhstan;
- control of biological pollution of the environment;
- training and monitoring compliance by veterinary personnel and other workers in livestock, poultry and fish farming with safety regulations when working with animals, birds and fish;

- control over compliance with veterinary and sanitary rules in the production and sale of fish, poultry, animal and plant products, biologically active substances and additives;

- management of a professional team carrying out expert supervision activities, assessing the economic efficiency of veterinary and sanitary measures.

In the field of control activities:

- control over quality, compliance with standards and compliance with the rules of veterinary and sanitary examination and hygiene, technology at meat and dairy industry enterprises, slaughterhouses, slaughterhouses, mini-factories, workshops and other enterprises producing livestock products;

In the field of educational activities:

- pedagogical work in secondary vocational educational institutions in the specialty profile, training and retraining of veterinary specialists carrying out expert supervision activities.

In the field of research activities:

- conducting scientific research and experiments in research and production institutions in the veterinary, biological, environmental and food fields.

In the field of project activities:

- participation in the preparation and examination of design estimates for the construction of food, meat and dairy (meat processing plants, slaughterhouses, cold storage facilities, dairy plants, mini-factories for the production of sausages, canned food, cheese dairies, etc.) industry, retail chains, laboratories and veterinary and sanitary market expertise.

3.5 Professional competencies (with State Educational Standards)

Graduates of the Doctoral program in specialty 8D138 – Veterinary Sanitation can work in the following fields and areas:

- at enterprises for the production, processing, storage, sale of food products and feed of animal and plant origin;
- in laboratories for veterinary and sanitary examination of markets;
- in food safety laboratories;
- in institutions of the state veterinary service, at veterinary posts on the border and transport, at checkpoints;
- at enterprises for the production and control of biological preparations and biologically active substances;
- in research institutes, in public and private veterinary organizations;
- enterprises and organizations conducting training and retraining of veterinary specialists;
- research and design organizations in the field of veterinary medicine;
- research organizations;
- in educational organizations specializing in food safety (institutes, universities)

Structure of the doctoral educational program in the scientific and pedagogical direction

№ II/II	Name of cycles of disciplines and activities	Total labor intensity	
		in academic hours	in academic credits
1	2	3	4
1.	Educational component	1350	45
1.1	Cycle of basic disciplines (BD)		
1)	University component	600	20
	Sanitary and environmental safety of livestock products	150	5
	Veterinary aspects in the HACCP system	150	5
	Scientific Research Methods	150	5
	Academic writing	150	5
2)	Component of choice	150	5
	Veterinary and sanitary examination of national products	150	5
3)	Research practice	300	10
	Pedagogical practice	300	10
2	Research work	3690	123
1)	Research work of a doctoral student, including internship and completion of a doctoral dissertation	3690	123
3	Additional types of training		
4	Final examination	360	12
1)	Writing and defending a doctoral dissertation	360	12
	Total	5400	180

Appendix 1. Academic calendar

Approve
 Chairman of the Academic Council
 NJSC "Seifullin KATIUS"
 Tireuov K.M.
 « 29 » 05 2023 y.

ACADEMIC CALENDAR for 2023-2024 academic year by levels of training (DOCTORAL)

1	Presentation week, registration for disciplines	1 course August 28 - 31
2	I semester	September 1 - December 15
3	<i>Constitution day</i>	<i>August 30</i>
4	Knowledge Day	September 1
5	<i>Republic Day</i>	<i>October 25</i>
6	<i>Independence Day</i>	<i>December 16</i>
7	Exam session	December 18 - 29
8	Passing FX	December 18 -29
9	<i>New Year's Holiday</i>	<i>January 1, 2</i>
10	Holidays	January 1-26
11	II semester	January 29 to May 10
12	<i>International Women's Day</i>	<i>March 8</i>
13	<i>Holiday Nauryz</i>	<i>March 21,22,23</i>
14	<i>Holiday of unity of the people of Kazakhstan</i>	<i>May 1</i>
15	<i>Defender of the Fatherland Day</i>	<i>May 7</i>
16	<i>Victory Day</i>	<i>May 9</i>
17	Exam session	from May 13 to May 24
18	Passing FX	May 13 - 31
19	Registration for the summer semester	May 27 - 31
20	Final examination	until June 30
21	Summer semester	from June 3 to July 12
22	Holidays	from May 27 to August 31
23	<i>Capital Day</i>	<i>July 6</i>
	Practice*	

Approved by the Academic Council of NJSC «S. Seifullin KATIUS»,
 protocol № 16, 29.05. 2023 y.

Note: If it coincides with a weekend or a holiday, the lesson begins on the next working day.

* Types and terms of professional practice are determined by the working Curriculum of Educational Programs.

Appendix 2. Working curriculum

The Ministry of Agriculture of the Republic of Kazakhstan
S.Seifullin Kazakh Agrotechnical Research University

Considered at the meeting
of Academic Council
of the University
Protocol № _____
“ ” 20__ y.

APPROVED
The member of the board
is the vice-rector for academic affairs
“KATRU”
Abisheva R.D.
“ ” 20__ y.

WORKING CURRICULUM

For the modular education program “Sanitary ecological safety of animal production”

In specialty D138 – Veterinary science

Course years 2023-2026

Degree : Doctoral studies by specialization (scientific & pedagogical direction)

Form of education: Full-time (PhD 3 years) semester

Entry year : 25-05-2023

Module code	Discipline cycle component	Code of subject	Subject name	Academic credits	Control in the academic period							Volume of hours							Distribution of credits per academic period					
					Exams	Differentiated test (practical)	Differentiated test (course paper)	Practice/SRW	Total	In-class learning	including			Self-study work of PhD	Self-study work of PhD	1 course		2 course		3 course				
											Lectures	Practice	Lab practice			1	2	3	4	5	6			
																						Number of weeks in the academic period		
15	15	15	15	15	15																			
General modules																								
1	BS CS	PP 7200	Pedagogical training	5						150.0								5.0						
2	BS CS	IP 8200	Research practice	5						150.0								5.0						
3	BS CS	IP 8203	Research practice	5						150.0								5.0						
4	BS CS	PP 9203	Pedagogical training	5						150.0											5.0			
Modules of specialty/education program																								
5	BS UC	MNI 7204	Methods of scientific researches	5	1					150.0	45.0	1/15	2/30		2/30	5/75	5.0							
6	BS UC	AP 7204	Academic writing	5	1					150.0	45.0	1/15	2/30		2/30	5/75	5.0							
7	BS UC	SEBZhP 7204	The sanitary and environmental safety of animal products	5	1					150.0	45.0	1/15	2/30		2/30	5/75	5.0							
8	BS UC	VASH 7205	Veterinary aspects in the HACCP system	5	1					150.0	45.0	1/15	2/30		2/30	5/75	5.0							
Modules of choice																								
9	AS ES	VSENPKSHKMP	Veterinary-sanitary examination of national products (kumys, shubat, kazy, meat products)	5	1					150.0	45.0	1/15		2/30	2/30	5/75	5.0							
10	RW CS	NIRDVVDD 7500	PhD student's research work, incl. doctoral thesis	5						150.0							5.0							
11	RW CS	NIRDVVDD 7500	PhD student's research work, incl. doctoral thesis	25						750.0							25.0							
12	RW CS	NIRDVVDD 8500	PhD student's research work, incl. doctoral thesis	25						750.0								25.0						
13	RW CS	NIRDVVDD 8500	PhD student's research work, incl. doctoral thesis	25						750.0									25.0					
14	RW CS	NIRDVVDD 9500	PhD student's research work, incl. doctoral thesis	25						750.0										25.0				
15	RW CS	NIRDVVDD 9500	PhD student's research work, incl. doctoral thesis	18						540.0											18.0			
Total of theoretical course				25	5	0	0	0	0	5040	225	75	120	30	150	375								
AC	Additional courses			143												4290.0								
PP	Teaching practice			10		2, 5			5							300								
RP	Research practice			10		3, 4			4							300								
PhDSR	PhD student's research work, incl. doctoral thesis			123					1, 2, 3,							3690								
FA	Final attestation			12												360.0								
	Registration and protection of the doctoral dissertation			12					7							360								
Total				180						5400	225	75	120	30	150	375								

Ex. d. Director of department on academic affairs
Chief of postgraduate study department
Dean of faculty
Head of department

Жургенов Жакенбай Сарсенбаевич
Жургенов Жакенбай Сарсенбаевич
Абрахманов Сарсенбай Калырович
Адильбеков Жанат Шабанбаевич

Appendix 3. Matrix of achievability of the generated learning outcomes in the educational program using academic disciplines

№	Name of the discipline	Brief description of the discipline (30-50 words)	Number of credits	Generated learning outcomes (codes)				
				LO1	LO 2	LO 3	LO 4	LO 5
Цикл базовых дисциплин Вузовский компонент								
	Academic writing	He studies the application of writing preparation techniques (free writing, brainstorming), drawing up a plan, the basic principles of creating an essay, working with scientific texts (abstracting, annotating), the basics of bibliography. Forms the skills of reviewing scientific publications, compiling and writing a scientific article, editing an academic text, developing a presentation of one's own project.	5	V				
	Scientific research methods	He studies the methods of posing a scientific problem based on the discovery of contradictions between currently available knowledge about the object of study and the knowledge necessary for the practical solution of a problem demanded by society. Forms the skills of choosing a topic and scientific substantiation of its relevance for practical application, organizing and conducting research work, formalizing scientific results.	5		V			
	Sanitary and environmental safety of livestock products	Considers issues of food security depending on the sanitary and ecological well-being of the environment, studies the negative effects of technogenic and biogenic factors on food products. Forms the skills of conducting a reasonable sanitary and environmental assessment of the quality and safety of livestock products in certain technogenically hazardous regions of the Republic of Kazakhstan	5			V		
	Veterinary Geography	Studies the dependence of the epizootic situation in specific territories on geographical, socio-economic and natural-climatic factors. Forms skills in developing preventive and anti-epizootic					V	

		measures (modeling, forecasting, risk assessment) using information and communication technologies (ArcGIS 10.8, SatScan, Maxent, etc.), taking into account data from determining the chronological characteristics of infectious diseases.						
	Food quality and safety management	Studies quality management systems and food safety; regulatory and legislative framework for food safety in Kazakhstan and abroad; main aspects of product quality and safety; international ISO standards; basic requirements for a food quality and safety management system based on HACCP principles. Forms practical skills in the field of quality management and food safety						V

Head of the department

Adilbekov Zh.Sh.

Employer

Abdulkhalikov S.B.

Chairman of the Faculty Council
for Academic Quality

Shaikenova K.H.

Dean of the Faculty

Abdrakhmanov S.K.

