


Ministry of Agriculture of the Republic of Kazakhstan  
S.Seifullin Kazakh Agro Technical University

Reviewed  
at the meeting of the  
University Academic Council  
Protocol № 15  
dated 30 05 2019

APPROVED  
First Vice Chairman of the Board  
of S.Seifullin Kazakh Agro Technical  
University  
A. Abdyrov  
30 05 2019



**EDUCATIONAL PROGRAM**  
**"Diagnosis, treatment and prevention of animal diseases"**  
(name of the program)

Code and classification of education: 7M091-Veterinary  
Code and classification of training areas: 7M091-Veterinary  
Code in the International Standard Classification of Education: 7M0841  
Qualification: Master of Veterinary Science of the educational program "Diagnosis, treatment and prevention of animal diseases"  
Duration of study: 2 years  
Full-time form of education

The author's team:

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The team of authors was approved by the order of JSC "Saken Seifullin Kazakh Agro Technical Research University"

№ 932-H from 12.12.2018; № 962-H from 28.12.2018; № 964-H from 28.12.2018

**Educational program " Veterinary safety "**

considered at the meeting of the department "Veterinary Medicine"

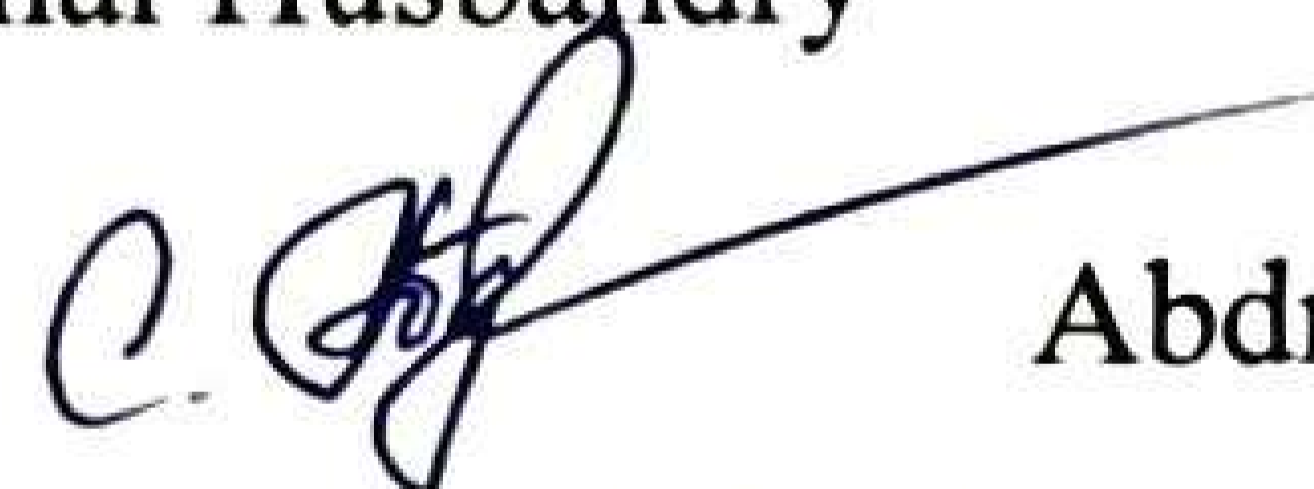
protocol № 8/16 from «21» 04 2023,

approved by the Faculty Council

protocol № 9 from «04» 05 2023

Dean of the Faculty of Veterinary Medicine and Animal Husbandry  
Technology

Doctor of Veterinary Sciences, Professor,



Abdrakhmanov S.K.

Head of the Department "Veterinary Medicine"  
Candidate of Veterinary Sciences, Associate Professor



Mykhanbetkaliyev Y.Y.

Ministry of Agriculture of the Republic of Kazakhstan  
NCJSC «S.Seifullin Kazakh AgroTechnical Research University»

Considered at the meeting of the  
Academic  
Council of the University  
Protocol №  
from « » 2023y.

APPROVE  
Chairman of the Management Board  
NCJSC «S.Seifullin Kazakh  
AgroTechnical Research University»

«\_\_\_\_\_» \_\_\_\_\_ 2023 y.

**EDUCATIONAL PROGRAM**  
**«7M09101- Diagnosis, treatment and prevention of animal diseases»**

Code and classification of the field of education: 7M09 - Veterinary

Code and classification of training areas: 7M091 - Veterinary

Code in the International Standard Classification of Education: 7M0841

Qualification: Master of Veterinary Sciences in the educational program «Diagnosis, treatment and prevention of animal diseases»

Duration of training: 2 years

Astana - 2023

The author's team:

1. Abdrakhmanov Sarsenbai Kadrovich – Doctor of Veterinary Sciences, Professor, Dean of the Faculty of Veterinary Medicine and Animal Husbandry Technology, Saken Seifullin Kazakh Agro Technical Research University
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6. Inirbaev Asyilkhan Kabievich – Candidate of Veterinary Sciences, Senior Lecturer, Acting Head of the Department of Veterinary Sanitation, Faculty of Veterinary Medicine and Animal Husbandry Technology, Saken Seifullin Kazakh Agro Technical Research University

The team of authors was approved by the order of JSC "Saken Seifullin Kazakh Agro Technical Research University"

№ 932-H from 12.12.2018; № 962-H from 28.12.2018; № 964-H from 28.12.2018

**Educational program "Diagnosis, treatment and prevention of animal diseases "**  
considered at the meeting of the department "Veterinary Medicine"

protocol № 1 from «\_\_» \_\_\_\_\_ 202\_\_.,  
approved by the Faculty Council \_\_\_\_\_  
protocol № \_\_\_\_\_ from «\_\_» \_\_\_\_\_ 202\_\_.

Dean of the Faculty of Veterinary Medicine and Animal Husbandry  
Technology, Professor,

Akibekov O.S.

Head of the Department "Veterinary Medicine"  
Candidate of Veterinary Sciences, Associate Professor

Mykhanbetkaliyev Y.Y.

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## **1 Passport of the educational program**

### **1.1 Purpose of the educational program**

Training highly qualified veterinary specialists who are competitive in the labor market and have a high level of scientific knowledge and are capable of realizing acquired knowledge in the production, research and pedagogical fields.

### **1.2 Learning outcomes**

**LO 1.** Demonstrate knowledge in the field of veterinary medicine, formulate concepts of legal and anti-corruption culture, determine the importance of principles and culture of academic integrity for the formation of a competent person with high thinking potential, distinguish between the methods of writing academic texts, summarizing, compiling and formalizing research results.

**LO 2.** Understand the main philosophical problems of the development of modern science and assess its relationship with the history of the development of science, integrate the knowledge of higher education pedagogy, management psychology into research activities using foreign languages (professional).

**LO 3.** Have knowledge in the field of intellectual property and copyright protection, conduct patent information research and prepare national and international applications for inventions.

**LO 4.** To formulate the basic principles of the organization of veterinary and sanitary measures, to know the methods of diagnosing diseases of infectious and invasive etiology, as well as to present the methodology of therapeutic and preventive measures for these pathologies.

**LO 5.** Integrate knowledge on the laws of the structure of the system of organs of the musculoskeletal system, apply modern methods of diagnosis and treatment for various animal injuries.

**LO 6.** To use the issues of legislative regulation and nomenclature of document management in veterinary medicine in professional activities, to analyze the economic justification of veterinary measures.

**LO 7.** To formulate the theoretical and practical foundations of etiopathogenesis and therapeutic and preventive measures for pathologies of non-infectious etiology of animals and young animals, including metabolic disorders of productive livestock, to have the skills of laboratory diagnostics and interpret the results obtained.

**LO 8.** Integrate theory and experimental methods with the results of research work and interpret them taking into account the field of study.

**LO 9.** To understand modern problems in veterinary medicine and formulate the main ways to solve them, taking into account the social and ethical standards of responsibility associated with the use of acquired knowledge and judgments.

**LO 10.** Have the necessary knowledge to select diagnostic measures for obstetric pathologies using modern biophysical research methods, taking into account the physiological state of the animal's body and interpret the results of the study.

**LO 11.** Integrate knowledge on the anatomical and physiological state of animal organs and tissues, apply diagnostic methods for various pathologies and metabolic disorders, master medical thinking when conducting scientific research.

**LO 12.** To formulate the basic principles of the organization of practical therapy of animals, to know modern methods of therapeutic techniques and instrumental diagnostics of diseases of non-infectious etiology of productive and unproductive animals, to master the methodology of veterinary manipulations using modern equipment and interpret the results obtained.

## **2. General characteristics of the educational program (relevance, features, competitive advantages, uniqueness, stakeholders, etc.)**

The Educational program (EP) has been developed in accordance with the National Qualifications Framework and Professional Standards, designed on the basis of a modular system for studying disciplines and contains 13 modules. The volume of the cycle of basic disciplines is 29% of the volume of the educational program or 35 credits. Of these, 57% or 20 credits are allocated to the university component. The volume of the cycle of specialized disciplines is 41%, or 49 credits of the volume of the educational program.

**The relevance** of the EP lies in the fact that it meets the demand of the labor market for scientific and practical veterinary personnel who have special competencies in the field of monitoring and management of animal diseases of various etiologies, scientific and pedagogical activities, for production, educational and scientific organizations.

**A special feature** of the EP is that it teaches modern research methodologies in the field of epidemiology, therapy, surgery, obstetrics of animal diseases, as well as veterinary aspects of food safety, taking into account the regional characteristics of Kazakhstan.

**Competitive advantages** are determined by the fact that the basic and elective disciplines of the EP are consistent with global research trends in specific areas of the branches of veterinary sciences.

**The uniqueness** of the program lies in the fact that the process of its implementation allows undergraduates to use the material and technical bases of the university, innovative scientific institutions and agro-industrial enterprises of Kazakhstan to achieve results corresponding to international standards when conducting research.

The stakeholders of the EP are veterinary services of district, regional and republican significance, NCE "Atameken", agricultural business entities of Central and Northern Kazakhstan, leading educational, scientific and research institutes of the veterinary profile of the country.

## **3. Competence model (portrait) graduate**

### **3.1 Areas of professional activity:**

- management structures of the state veterinary supervision;
- scientific research organizations of veterinary, biological and agricultural fields;
- pedagogical activity in the field of professional veterinary education;
- commercial veterinary enterprises.

### **3.2 Types of professional activity**

Graduates of the master's degree in 7M091 - "Veterinary" can perform the following types of professional activities:

- production and management;
- organizational and technological;
- research;
- design and innovation;
- pedagogical;
- entrepreneurial.

### **3.3 General education competencies**

- awareness of the social significance of the profession, motivation to carry out professional activities;
- ability to use systematized theoretical and practical knowledge of the humanities and social sciences in solving social and professional problems;

- mastering the methodology of scientific experiment and analysis of actual material in the field of veterinary medicine for practical application in professional activities;
- skills of working on modern means of information and communication technology.

#### **3.4 Basic competencies**

- ability to use basic knowledge in the field of theory and methodology of veterinary science in scientific research;
- ability to understand, critically analyze and use basic veterinary information;
- use of the main methods used in veterinary activities in solving professional problems;
- ability to compile reviews, annotations, abstracts and bibliographies on the subject of the problem under study.

#### **3.5 Professional competencies**

- the ability to navigate modern scientific concepts such as common health, animal welfare, explaining unity, diversity and approaches to veterinary activities;
- readiness to apply methods of comprehensive analysis of the obtained data to explain specific veterinary facts and problems;
- skills of applying general scientific and special principles and methods of cognition in analysis;
- be able to synthesize theoretical, practical and ethical elements of professional competence;
- ability to develop and implement specialized training programs in educational institutions of veterinary and biological profile;
- the ability to use special knowledge gained within the framework of the educational trajectory of undergraduates.

#### **4. Bases of passing professional practices**

The educational program includes two types of practice that are conducted in parallel with theoretical training:

- 1) pedagogical - in specialized higher educational institutions;
- 2) research - in specialized research and educational institutions.

Pedagogical practice is carried out in order to form practical skills of teaching and learning methods. At the same time, undergraduates are involved in conducting undergraduate classes at the discretion of a specialized higher educational institution.

The research practice of the master's student is carried out in order to familiarize himself with modern methods of scientific research, theoretical and technological achievements of domestic and foreign science.

Research practice is carried out in various state and private veterinary structures of regional, regional and republican significance, agricultural economic entities, leading educational institutions and research organizations of the veterinary and biological profile of the country.

The research work carried out during the period of professional practice serves to establish production and laboratory experiments, accumulate theoretical and actual material in order to process and interpret the results of research, design in the form of scientific publications and a dissertation of a master's student.



**5. The structure of the educational program of the master's degree in the scientific and pedagogical direction**

№	The name of the cycles of disciplines and activities	Total labor intensity	
		in academic hours	in academic credits
1	2		
	History and philosophy of science	3	4
	Foreign language (professional)	150	5
	Pedagogy of higher education	150	5
	Management Psychology	90	3
	Teaching practice	150	5
	Transboundary and vector-borne infectious diseases of animals	60	2
	Modern laboratory and biophysical methods in obstetrics	150	5
	Disease prevention and animal welfare/Fundamentals of Herd health Management	150	5
	Veterinary Traumatology/Reconstructive Surgery	120	4
	Emergent and neglected parasitic zoonoses/Protozoa of animals, birds and fish	150	5
	Metabolic diseases in intensive animal husbandry/Epizootological monitoring and forecasting of infectious animal diseases	120	4
	Innovative approaches to the diagnosis and treatment of diseases of young animals/Practical therapy	150	5
	Modern problems of veterinary medicine	150	5
	Theory and methods of experiment	150	5
	Patenting and Intellectual property protection/Intellectual property protection in scientific research	150	5
	Research practice		
	Research work	600	20
	Research work		
	Research work of a graduate student, including internship and completion of a master's thesis (research work of a graduate student)	720	24
	Additional types of training (ATT)	720	24
	Final Qualification (FQ)		
	Preparation and defense of a master's thesis (PaDMT)	360	12
	Total	3600	120

**Approve**  
 Chairman of the Academic Council  
 NJSC "Seifullin KATIUS"  
 Tireuov K.M.  
 2023 y.

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

1	Presentation week, registration for disciplines	1 course August 28 - 31
2	I semester	September 1 - December 15
3	Constitution day	August 30
4	Knowledge Day	September 1
5	Republic Day	October 25
6	Independence Day	December 16
7	Exam session	December 18 - 29
8	Passing FX	December 18 -29
9	New Year's Holiday	January 1, 2
10	Holidays	January 1-26
11	II semester	January 29 to May 10
12	International Women's Day	March 8
13	Holiday Nauryz	March 21,22,23
14	Holiday of unity of the people of Kazakhstan	May 1
15	Defender of the Fatherland Day	May 7
16	Victory Day	May 9
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	Capital Day	July 6
	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.

Schedule of the educational process for the 2023-2024 academic year for the educational program of the Faculty of Veterinary and Animal Husbandry Technology

Course	2023-2024 academic year																																																													
	September				October				November				December				January				February				March				April				May				June				July				August																	
I	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
II	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
III	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
IV	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Conventions:  
 PW - presentation work  
 a - directed training  
 g - graduation seminar  
 S - summer seminar  
 RP - research practice

Holidays:  
 29 August - Constitution Day  
 23 October - Ruzh'ko Day  
 14, 17 December - Independent Day of RK  
 1, 2 January - New Year  
 7 January - Mary Christmas  
 8 March - International Women's Day

TP - teaching practice  
 U - independent research work  
 TD - enrollment in discipline  
 P - passing FX

H - holidays  
 FE - final examination

21, 22, 23 March - Nauryz Holiday  
 1 May - Unity Day of people of the RK  
 7 May - Fatherland Defender Day  
 9 May - Victory Day  
 6 July - Arstan Day

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

Considered at the meeting of Academic Council of the  
University Protocol № \_\_\_\_\_  
" \_\_\_\_ " \_\_\_\_\_ 20\_\_ y.

APPROVED  
Member of the Board  
Vice-Rector for Academic  
NC JSC "KATIU"  
Abisheva R.D.  
" \_\_\_\_ " \_\_\_\_\_ 20\_\_ y.

**WORKING CURRICULUM**  
for 2023-2025 academic year  
For the modular education program "Diagnostics, treatment and  
prophylaxis of Animals' diseases"  
by the speciality/group of educational programmes M138 –  
Veterinary science  
Degree: Master's program by specialization (Scientific &  
pedagogical direction)  
Form of education: Full-time (MS 2 years) semester  
Entry year: 01-09-2023

Module code	Module name	Discipline cycle	Discipline 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/practice	Differentiated test(course paper)	Practice/SRW	Term paper/project	Total	In-class learning	including			Self-study work of Ms student with teacher (office)	Self-study work of Ms student	1 course		2 course		
														Lectures	Practice	Lab practicals			1	2	3	4	
General modules																							
1	Psychology of management	BS	UC	PU 5203	Psychology of management	5	2					150.0	45.0	15	30	0	20	85		5.0			
2	Pedagogics of higher school	BS	UC	PVSH 5205	Pedagogics of higher school	3	2					90.0	30.0	15	15	0	12	48		3.0			
3	History and philosophy of Sciences	BS	UC	IFN 5201	History and philosophy of science	5	2					150.0	45.0	15	30	0	20	85		5.0			
4	professional foreign language	BS	UC	IYaP 5202	Foreign language (professional).	5	2					150.0	45.0	0	45	0	20	85		5.0			
Modules of specialty/education programm																							
5	Research practice	AS	UC	IP 6310	Research practice	8				240		240.0		0	0	0	0	0				8.0	

6		AS	UC	IP 6311	Research practice	12														360		360.0		0	0	0	0	0						12.0																		
7	scientific-pedagogical	AS	UC	TTIBZh 5306	Transboundary and vector-borne infectious animal diseases	5	1														150.0	45.0	15	30	0	20	85					5.0																				
8		AS	UC	SLBMA 6305	Modern Laboratory and Biophysical Methods in Obstetrics	5	3															150.0	45.0	15	30	0	20	85					5.0																			
9		BS	ES	PBBZh 5208	Disease prevention and animal welfare	5	2																45.0	15	30	0	20	85																								
10		BS	ES	OMZS 5208	Fundamentals of Herd Health Management		2																																													
11		AS	ES	VT 5309	Veterinary Traumatology	4	1																120.0	45.0	15	30	0	16	59				4.0																			
12		AS	ES	RVH 5309	Reconstructive and Recreating Surgery		1																		45.0	15	30	0	16	59																						
13		AS	ES	EZPZ 6307	Emergent and Neglected Parasitic Zoonoses	5	3																150.0	45.0	15	30	0	20	85					5.0																		
14		AS	ES	PZhPR 6307	Protozooses of animals, birds and fish		3																		45.0	15	30	0	20	85																						
15		AS	ES	MBIZh 5308	Metabolic diseases in intensive animal husbandry	4	2																120.0	45.0	15	30	0	16	59				4.0																			
16		AS	ES	EMPIBZh 5308	Epizootological monitoring and prediction of infectious animal diseases		2																		45.0	15	30	0	16	59																						
17		BS	ES	IPDLBM 5206	Innovative approaches to the diagnosis and treatment of diseases of young animals	5	1																150.0	45.0	15	30	0	20	85				5.0																			
18		BS	ES	PT 5206	Practical Therapy		1																		45.0	15	30	0	20	85																						
19		scientific approaches to conducting the experiment	AS	UC	SPVM 5304	The modern problems of Veterinary Medicine	5	1														150.0	45.0	15	30	0	20	85				5.0																				
20			AS	UC	TME 5301	Theory and Methods experiment	5	1															150.0	45.0	15	30	0	20	85				5.0																			
21			BS	ES	PZIS 5207	Patenting and intellectual property protection	5	1																150.0	45.0	15	30	0	20	85																						
22			BS	ES	ZISNI 5207	Protection of intellectual property in research		1																		45.0	15	30	0	20	85																					
23		Teaching practice	BS	UC	PP 5209	Pedagogical training	2															60		60.0		0	0	0	0	0				2.0																		
Scientifically research																																																				
24	The research work of a master student including the implementation of the master's thesis	RW	CS	NIRVVMD 5501	Master student's research work, including implementation of master's thesis	1															30		30.0		0	0	0	0	0			1.0																				
25		RW	CS	NIRVVMD 5502	Master student's research work, including implementation of master's thesis	1																30		30.0		0	0	0	0	0			1.0																			
26		RW	CS	NIRVVMD 6503	Master student's research work, including implementation of master's thesis	12																360		360.0		0	0	0	0	0			12.0																			
27		RW	CS	NIRVVMD 6504	Master student's research work, including implementation of master's thesis	10																300		300.0		0	0	0	0	0			10.0																			
<b>Total of theoretical course</b>						112	14	0	0													1380	0	3360	615	195	420	0	264	1101	30.0	30.0	30.0	22.0																		
AC	Additional courses																																																			
FA	Final attestation																				8																															

Master dissertation defence	8				4		240												
Total	120				1384		3600	615	195	420	0	264	1101						

Examinations (semester)\* - The final form of control on Physical Culture and types of professional practice is a differentiated credit.

The modular curriculum is made in accordance with the standard curriculum of the speciality (approved by the Order of the MES RK from 16.08.2013 № 343).  
 State obligatory standards of education (approved by the Order of the Ministry of Education and Science of the Republic of Kazakhstan from 23.08.2012 № 1080), modular educational programme of the speciality.  
 The modular curriculum was considered and approved at the meeting of the methodical commission of the faculty, Protocol № 20\_\_

Director of Department of Academic Affairs  
 Deputy Director of the Department of Academic Affairs  
 Dean of the faculty  
 Head of the Department

Жургенов Жакенбай Сарсенбаевич  
 Акибеков Оркен Султанхамитович  
 Муханбеткалиев Ерсун Ергазыевич

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

Considered at the meeting of Academic Council of the  
University Protocol № \_\_\_\_\_  
" \_\_\_\_ " \_\_\_\_\_ 20\_\_ y.

APPROVED  
Member of the Board  
Vice-Rector for Academic  
NC JSC "KATIU"  
Abisheva R.D.  
" \_\_\_\_ " \_\_\_\_\_ 20\_\_ y.

**WORKING CURRICULUM**  
for 2023-2025 academic year  
For the modular education program "Diagnostics, treatment and  
prophylaxis of Animals' diseases"  
by the speciality/group of educational programmes M138 –  
Veterinary science  
Degree: Master's program by specialization (Scientific &  
pedagogical direction)  
Form of education: Full-time (MS 2 years) semester  
Entry year: 04-01-2023

Module code	Module name	Discipline cycle	Discipline 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(practice)	Differentiated test(course paper)	Practice/SRW	Term paper/project	Total	In-class learning	including			Self-study work of Ms student with teacher (office)	Self-study work of Ms student	1 course		2 course	
														Lectures	Practice	Lab practicals			1	2	3	4
																	Number of weeks in the academic period					
																	15	15	15	15		
<b>General modules</b>																						
1	Psychology of management	BS	UC	PU 5206	Psychology of management	5	1				150.0	45.0	15	30	0	20	85	5.0				
2	Pedagogics of higher school	BS	UC	PVSH 5208	Pedagogics of higher school	3	1				90.0	30.0	15	15	0	12	48	3.0				
3	History and philosophy of Sciences	BS	UC	IFN 5204	History and philosophy of science	5	1				150.0	45.0	15	30	0	20	85	5.0				
4	professional foreign language	BS	UC	IYaP 5205	Foreign language (professional).	5	1				150.0	45.0	0	45	0	20	85	5.0				
<b>Modules of specialty/education programm</b>																						

5	Theory and Methods experiment	AS	UC	TME 5304	Theory and Methods experiment	5	1					150.0	45.0	15	30	0	20	85	5.0			
6	Foreign and Infectious Animal Diseases	AS	UC	EIBZh 5303	Exotic and Infectious Diseases of Animals	5	1					150.0	45.0	15	30	0	20	85	5.0			
7	Research practice	AS	CS	IP 5309	Research practice	4				120		120.0		0	0	0	0	0	4.0			
8		AS	CS	IP 6306	Research practice	10				300		300.0		0	0	0	0	0		10.0		
9		AS	CS	IP 6307	Research practice	6				180		180.0		0	0	0	0	0				6.0
10	scientifically research	AS	UC	MIVA 6305	Research Methods in veterinary obstetrics	5	3					150.0	45.0	15	30	0	20	85		5.0		
11		AS	ES	PMBZB 5301	Prevention and Control of Zoonotic Diseases	4	1					120.0	45.0	15	30	0	16	59	4.0			
12		AS	ES	EMPIBZh 5301	Epizootological monitoring and prediction of infectious animal diseases		1						45.0	15	30	0	16	59				
13		AS	ES	IBZhZh 6302	The invasive disease of ruminants animals	5	3					150.0	45.0	15	30	0	20	85		5.0		
14		AS	ES	PZhPR 6302	Protozooses of animals, birds and fish		3						45.0	15	30	0	20	85				
15		BS	ES	DNBM 5201	Diagnosis of non-infectious diseases of young animals	5	1					150.0	45.0	15	30	0	20	85	5.0			
16		BS	ES	PT 5201	Practical Therapy		1						45.0	15	30	0	20	85				
17		BS	ES	PZIS 5202	Patenting and intellectual property protection	5	1					150.0	45.0	15	30	0	20	85	5.0			
18		BS	ES	ZISNI 5202	Protection of intellectual property in research		1						45.0	15	30	0	20	85				
19		BS	ES	PBBZh 5203	Disease prevention and animal welfare	5	1					150.0	45.0	15	30	0	20	85	5.0			
20		BS	ES	OMZS 5203	Fundamentals of Herd Health Management		1						45.0	15	30	0	20	85				
21	The modern problems of veterinary medicine	AS	UC	SPVM 5308	The modern problems of Veterinary Medicine	5	1					150.0	45.0	15	30	0	20	85	5.0			
22	Teaching practice	BS	CS	PP 5207	Pedagogical training	2						0.0		0	0	0	0	0	2.0			
Scientifically research																						
23	The research work of a master student including the implementation of the master's thesis	RW	CS	NIRMVVM D 5501	Master student's research work, including implementation of master's thesis	1				30		30.0		0	0	0	0	0	1.0			
24		RW	CS	NIRMVVM D 5512	Master student's research work, including implementation of master's thesis	1				30		30.0		0	0	0	0	0	1.0			
25		RW	CS	NIRMVVM D 6509	Master student's research work, including implementation of master's thesis	10				300		300.0		0	0	0	0	0			10.0	



26		RW	CS	NIRMVVM D 6511	Master student's research work, including implementation of master's thesis	12				360		360. 0		0	0	0	0	0				12. 0	
<b>Total of theoretical course</b>						10 8	13	0	0	132 0	0	3180	570	18 0	39 0	0	248	1042	60. 0	0. 0	30. 0	18. 0	
AC	<b>Additional courses</b>												0										
FA	<b>Final attestation</b>					12						360.0											
	Master dissertation defence					12				4		360											
	<b>Total</b>					12 0				132 4		3540	570	18 0	39 0	0	248	1042					

Examinations (semester)\* - The final form of control on Physical Culture and types of professional practice is a differentiated credit.

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State obligatory standards of education (approved by the Order of the Ministry of Education and Science of the Republic of Kazakhstan from 23.08.2012 № 1080), modular educational programme of the speciality.  
The modular curriculum was considered and approved at the meeting of the methodical commission of the faculty, Protocol № 20\_\_

Director of Department of  
Academic Affairs  
Deputy Director of the  
Department of Academic  
Affairs  
Dean of the faculty  
Head of the Department

Жургенов Жакенбай Сарсенбаевич

Акибеков Оркен Султанхамитович

Муханбеткалиев Ерсун Ергазыевич

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

Considered at the meeting of Academic Council of the  
University Protocol № \_\_\_\_\_  
“ \_\_\_\_ ” \_\_\_\_\_ 20\_\_ y.

APPROVED  
Member of the Board  
Vice-Rector for Academic  
NC JSC “KATIU”  
Abisheva R.D.  
“ \_\_\_\_ ” \_\_\_\_\_ 20\_\_ y.

**WORKING CURRICULUM**

for 2022-2024 academic year

For the modular education program “Diagnostics, treatment and  
prophylaxis of Animals' diseases”

by the speciality/group of educational programmes M138 –  
Veterinary science

Degree: Master's program by specialization (Scientific &  
pedagogical direction)

Form of education: Full-time (MS 2 years) semester

Entry year: 01-09-2022

Module code	Module name	Discipline cycle	Discipline component	Code of subject	Subject name	Academic credits	Control in the academic period					Volume of hours					Distribution of credits per academic period					
							Exams	Differentiated tests/practice	Differentiated tests(course paper)	Practice/SRW	Term paper/project	Total	In-class learning	including			Self-study work of Ms student with teacher (office)	Self-study work of Ms student	1 course		2 course	
														Lectures	Practice	Lab practicals			1	2	3	4
15	15	15	15																			
General modules																						
1	Psychology of management	BS	U	PU 5215	Psychology of management	5	2					150.0	45.0	15	30	0	20	85		5.0		
2	Pedagogics of hipher school	BS	U	PVSH 5217	Pedagogics of higher school	3	2					90.0	30.0	15	15	0	12	48		3.0		
3	History and philosophy of Sciences	BS	U	IFN 5212	History and philosophy of science	5	1					150.0	45.0	15	30	0	20	85	5.0			
4	professional foreign language	BS	U	IYaP 5213	Foreign language (professional).	5	2					150.0	45.0	0	45	0	20	85		5.0		
Modules of specialty/education programm																						

5	Theory and Methods experiment	AS	U C	TME 5311	Theory and Methods experiment	5	2									150.0	45.0	15	30	0	20	85		5.0																						
6	Research practice	AS	CS	IP 5313	Research practice	4										0.0		0	0	0	0	0																								
7		AS	CS	IP 6313	Research practice	10			300							300.0		0	0	0	0	0		10.0																						
8		AS	CS	IP 6313	Research practice	6			180							180.0		0	0	0	0	0				6.0																				
9	Foreign and Infectious Animal Diseases	AS	U C	EIBZh 5310	Exotic and Infectious Diseases of Animals	5	1									150.0	45.0	15	30	0	20	85	5.0																							
10	scientifically research	AS	U C	MIVA 6312	Research Methods in veterinary obstetrics	5	3									150.0	45.0	15	30	0	20	85		5.0																						
11		BS	ES	PBBZh 5209	Disease prevention and animal welfare	5	1									150.0	45.0	15	30	0	20	85	5.0																							
12		BS	ES	PZIS 5208	Patenting and intellectual property protection	5	1									150.0	45.0	15	30	0	20	85	5.0																							
13		BS	ES	DNBM 5207	Diagnosis of non-infectious diseases of young animals	5	1									150.0	45.0	15	30	0	20	85	5.0																							
14		AS	ES	IBZhZh 6309	The invasive disease of ruminants animals	5	3									150.0	45.0	15	30	0	20	85		5.0																						
15		AS	ES	PMBZB 5308	Prevention and Control of Zoonotic Diseases	4	1									120.0	45.0	15	30	0	16	59	4.0																							
16	The modern problems of veterinary medicine	BS	U C	SPVM 5211	The modern problems of Veterinary Medicine	5	1								150.0	45.0	15	30	0	20	85	5.0																								
17	Teaching practice	BS	CS	PP 5216	Pedagogical training	2									0.0		0	0	0	0	0	0		2.0																						
Scientifically research																																														
18	The research work of a master student including the implementation of the master's thesis	GE R	CS	NIRMVVM D 5106	Master student's research work, including implementation of master's thesis	1										0.0		0	0	0	0	0																								
19		GE R	CS	NIRMVVM D 5101	Master student's research work, including implementation of master's thesis	1										0.0		0	0	0	0	0		1.0																						
20		GE R	CS	NIRMVVM D 6107	Master student's research work, including implementation of master's thesis	10			300							300.0		0	0	0	0	0			10.0																					
21		GE R	CS	NIRMVVM D 6108	Master student's research work, including implementation of master's thesis	12			360							360.0		0	0	0	0	0				12.0																				
<b>Total of theoretical course</b>						108	13	0	0	1140	0	3000	570	180	390	0	248	1042	35.0	20.0	30.0	18.0																								
A C	<b>Additional courses</b>																									0																				
FA	<b>Final attestation</b>																									12				360.0																

Master dissertation defence	12				4		360											
Total	120				1144		3360	570	180	390	0	248	1042					

Examinations (semester)\* - The final form of control on Physical Culture and types of professional practice is a differentiated credit.

The modular curriculum is made in accordance with the standard curriculum of the speciality (approved by the Order of the MES RK from 16.08.2013 № 343).  
 State obligatory standards of education (approved by the Order of the Ministry of Education and Science of the Republic of Kazakhstan from 23.08.2012 № 1080), modular educational programme of the specialty.  
 The modular curriculum was considered and approved at the meeting of the methodical commission of the faculty, Protocol № 20\_\_

Director of Department of Academic Affairs  
 Deputy Director of the Department of Academic Affairs  
 Dean of the faculty  
 Head of the Department

Жургенов Жакенбай Сарсенбаевич

Акибеков Оркен Султанхамитович  
 Муханбеткалиев Ерсун Ергазыевич

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

Considered at the meeting of Academic Council of the University Protocol  
№ \_\_\_\_\_  
" \_\_\_\_ " \_\_\_\_\_ 20\_\_ y.

APPROVED  
Member of the Board  
Vice-Rector for Academic  
NC JSC "KATIU"  
Abisheva R.D.  
" \_\_\_\_ " \_\_\_\_\_ 20\_\_ y.

**WORKING CURRICULUM**  
for 2022-2024 academic year  
For the modular education program "Diagnostics, treatment and prophylaxis of  
Animals' diseases"  
by the speciality/group of educational programmes M138 – Veterinary science  
Degree: Master's program by specialization (Scientific & pedagogical direction)  
Form of education: Full-time (MS 2 years) semester  
Entry year: 05-01-2022

Module code	Module name	Discipline cycle	Discipline 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 (practice)	Differentiated test (course paper)	Practice/SRW	Term paper/project	Total	In-class learning	including			Self-study work of Ms student with teacher (office)	Self-study work of Ms student	1 course		2 course	
														Lectures	Practice	Lab practicals			1	2	3	4
<b>General modules</b>																						
1	Social Sciences	BS	UC	PVSH 5206	Pedagogics of higher school	3	1				90.0	30.0	15	15	0	12	48	3.0				
2		BS	UC	IFN 5203	History and philosophy of science	5	1				150.0	45.0	15	30	0	20	85	5.0				
3		BS	UC	PU 5205	Psychology of management	5	1				150.0	45.0	15	30	0	20	85	5.0				
4	Professional foreign language	BS	UC	IYaP 5204	Foreign language (professional).	5	1				150.0	45.0	0	45	0	20	85	5.0				
<b>Modules of specialty/education program</b>																						
5	Scientifically research	BS	UC	SPVM 5202	The modern problems of Veterinary Medicine	5	3				150.0	45.0	15	30	0	20	85				5.0	
6		AS	UC	EIBZh 5304	Exotic and Infectious Diseases of Animals	5	2				150.0	45.0	15	30	0	20	85		5.0			
7		AS	UC	TME 5305	Theory and Methods experiment	5	2				150.0	45.0	15	30	0	20	85		5.0			
8		AS	UC	MIVA 6306	Research Methods in veterinary obstetrics	5	3				150.0	45.0	15	30	0	20	85			5.0		

9		BS	ES	PBBZh 5209	Disease prevention and animal welfare	5	2									150.0	45.0	15	30	0	20	85		5.0		
10		BS	ES	PZIS 5207	Patenting and intellectual property protection	5	3									150.0	45.0	15	30	0	20	85		5.0		
11		BS	ES	DNBM 5208	Diagnosis of non-infectious diseases of young animals	5	3									150.0	45.0	15	30	0	20	85		5.0		
12		AS	ES	IBZhZh 6308	The invasive disease of ruminants animals	5	3									150.0	45.0	15	30	0	20	85		5.0		
13		AS	ES	PMBZB 5307	Prevention and Control of Zoonotic Diseases	4	3									120.0	45.0	15	30	0	16	59		4.0		
14	Research practice	AS	CS	IP 5301	Research practice	4										0.0		0	0	0	0	0		4.0		
15		AS	CS	IP 6302	Research practice	6										0.0		0	0	0	0	0		6.0		
16		AS	CS	IP 6303	Research practice	10										0.0		0	0	0	0	0		10.0		
17	Teaching practice	BS	CS	PP 5201	Pedagogical training	2										0.0		0	0	0	0	0				
Scientifically research																										
18	the research work of a master student, including the implementation of master's thesis	RW	CS	NIRVVMD 5501	Master student's research work, including implementation of master's thesis	1										0.0		0	0	0	0	0		1.0		
19		RW	CS	NIRVVMD 5502	Master student's research work, including implementation of master's thesis	1										0.0		0	0	0	0	0		1.0		
20		RW	CS	NIRVVMD 6503	Master student's research work, including implementation of master's thesis	4										0.0		0	0	0	0	0		4.0		
21		RW	CS	NIRVVMD 6504	Master student's research work, including implementation of master's thesis	10										0.0		0	0	0	0	0		10.0		
22		RW	CS	NIRVVMD 6505	Master student's research work, including implementation of master's thesis	8				240						240.0		0	0	0	0	0		8.0		
<b>Total of theoretical course</b>						108	13	0	0	240	0					2100	570	180	390	0	248	1042	19.0	20.0	48.0	0.0
AC	Additional courses					12										360.0										
FA	Final attestation					12				3						360										
	Design and defense of msters thesis/					120				243						2460	570	180	390	0	248	1042				
<b>Total</b>						120				243					2460	570	180	390	0	248	1042					

Examinations (semester)\* - The final form of control on Physical Culture and types of professional practice is a differentiated credit.

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Жургенов Жакебай Сарсенбаевич  
 Акибеков Оркен Султанхамитович  
 Муханбеткалиев Ерсин Ергазыевич

**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)														
				PO1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO8	PO9	PO 10	PO11				
The cycle of general education disciplines																		
The university component																		
	Foreign language (professional).	It forms foreign language communicative competence as an important component of professional competence and the culture of scientific writing among students, which allows them to integrate into international scientific activities, allows them to freely operate the scientific and conceptual apparatus in their specialty, expand the scientific and information base, acquire broad scientific knowledge, identify promising areas of professional and scientific activity.	18	V	V													
	History and philosophy of science	Forms the skills of a methodological and dialectical approach to research, generalizes philosophical knowledge, studies the issues of historical development, its structure, analyzes the patterns and trends of scientific knowledge, systematizes the effectiveness of research work.																
	Higher school pedagogy	It allows undergraduates studying in the scientific and pedagogical field to understand common problems, methodological and theoretical foundations of higher school pedagogy, skills in the analysis of teaching and upbringing, elements of modern planning and organization technologies. Forms the skills of managing organized activities of people through the study of psychological laws and patterns of management and quality of work, forms the ability to make scientifically sound decisions, structure the actions of other people, manage the organization.																
	Management Psychology																	
Component of choice																		
The cycle of basic disciplines																		

Intellectual property protection in scientific research	Considers issues of copyright protection, patent law, the right to the secret of development in scientific research on the basis of current legislation. Develops skills in conducting patent research, intellectual property protection on the Internet.	5	V		V									
Innovative approaches to the diagnosis and treatment of diseases of young animals	Forms the theoretical and practical foundations of etiopathogenesis and therapeutic and preventive measures for pathologies of non-infectious etiology of young animals. Determines the correlation between the manifestation of diseases of young animals with their anatomical and physiological characteristics of growth and development, examines the issues of diagnosis and research methods in the context of innovative achievements of science in the field of veterinary medicine.													
Fundamentals of Herd health Management	Forms knowledge in the field of herd health management, ensuring the preservation of biosafety and hygiene of productive animals. Defines the skills and abilities of the organization of feeding, maintenance and carrying out veterinary and sanitary measures in livestock farms.													
Patenting and intellectual property protection	Summarizes knowledge in the field of intellectual property and copyright protection, conducting patent information research and drafting national and international applications for inventions. Forms the skills of interpretation of the objects of invention, creative thinking.													
Practical therapy	Defines the practical skills of conducting diagnostic, therapeutic and preventive measures for animal diseases of non-infectious etiology. Forms knowledge and skills of using innovative technologies for the diagnosis and therapy of animal diseases and predicting a possible outcome.													
Disease prevention and animal welfare	Studies the issues of animal health preservation, the influence of various factors on their well-being. Demonstrates the main aspects of preventive work in livestock farms and in settlements.													
The cycle of core disciplines														
The university component														
Modern laboratory and biophysical methods in obstetrics	Examines modern research methods in obstetrics, studies equipment and methods of clinical, laboratory, biophysical methods of diagnosing obstetric physiology, pathology. Defines the skills of	5	V								V	V		



		studying the reproductive functions of males and females, sperm research.											
Modern problems of veterinary medicine		Studies the state, structure and role of veterinary medicine in the food security of the republic, modern methods of diagnosis, prevention and treatment of infectious and non-communicable animal diseases. It forms the ability to make decisions on current topical problems of veterinary medicine, with a scientifically based approach to their elimination.	5			V				V		V	
Theory and methods of experiment		Develops the skills of organizing and conducting a scientific experiment, studies the problems of monitoring and methodological approach to substantiating the choice of research methods. Integrates theoretical and practical knowledge in the formulation of scientific experience, with the justification of the obtained results of research work and interpret them.	5				V	V	V				
Transboundary and vector-borne infectious diseases of animals		Studies current transboundary and vector-borne animal diseases, develops theoretical and practical skills in organizing measures for diagnosis, monitoring, prevention and elimination of diseases of a transboundary and vector-borne nature.	5							V		V	V
The cycle of core disciplines Component of choice													
Veterinary traumatology		Provides theoretical and practical knowledge in the field of veterinary traumatology, develops medical thinking skills using modern, scientifically based methods of diagnosis and treatment of injured animals.	4					V		V			V
Metabolic diseases in intensive animal husbandry		Studies strategies for feeding and keeping highly productive livestock to integrate different types of metabolism during periods of highest physiological tension. Develops practical skills in the development of preventive measures in intensive animal husbandry for ketosis, acidosis, osteodystrophy, limb diseases and reproductive diseases.	5					V		V			V
Protozoa of animals, birds and fish		The subject studies modern parasitological, serological and molecular biological methods of diagnosing protozoa of animals, birds and fish. It builds understanding and the ability to solve problems in veterinary protozoology in broader contexts related to their field of study.											
Reconstructive and		Forms scientific knowledge about the general patterns of the system of organs of the musculoskeletal system											

reconstructive surgery	in ontogenesis and phylogenesis in normal and in various pathological conditions of the body Provides theoretical and practical knowledge in the diagnosis and in the conduct of traumatic orthopedic care for animals.													
Emergent and neglected parasitic zoonoses	Provides basic training in theoretical and practical aspects of emergent and neglected parasitic zoonoses, covering protozoa and multicellular parasites of animals and humans, as well as vectors of pathogens of invasions. Develops special skills in the field of applied parasitology.													
Epizootological monitoring and forecasting of infectious animal diseases	Studies methods of epizootological monitoring and forecasting of the occurrence of infectious animal diseases. Develops skills in analyzing and assessing the risk of the occurrence and spread of infectious animal diseases using information and communication technology													

**Head of the Department  
of «Veterinary Medicine»**

**Mukhanbetkaliyev Y.Y.**

**Employer**

**Tyulegenov S.B.**

**Chairman of the Faculty Council for  
Academic Quality**

**Shaikenova K.H.**

**Dean of the Faculty of Veterinary  
Medicine and Animal Husbandry  
Technology**

**Akibekov O.S.**