

MINISTRY OF SCIENCES AND HIGHER EDUCATION OF THE REPUBLIC OF  
KAZAKHSTAN  
M.O. AUEZOV SOUTH KAZAKHSTAN UNIVERSITY

«APPROVED»  
Chairman of the board -  
Rector \_\_\_\_\_  
Doctor of historical sciences,  
Academician, Kozhamzharova D.P.  
«\_\_\_»\_\_\_\_\_2023

**EDUCATIONAL PROGRAM**

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6B08210 –Production technology of livestock products

Registration number	6B08200009
Code and classification of education sphere	6B08 Agriculture and bioresources
Code and classification of training direction	6B082 Animal production
Group of educational programs	B078 Animal production
Type of EP	Acting EP
The level of ISCE	6
The level of NQF	6
The level of SQF	6
Language of learning	Kazakh, Russian, English
Labor content of EP	240 credits
Distinctive features of EP	-
University partner (CEP)	-
University partner (DDEP)	-

Shymkent, 2023

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The educational program was considered by the decision of academic commity of “Agricultural and veterinary” branch

Protocol № \_\_\_\_\_ from « \_\_\_\_\_ » \_\_\_\_\_ 20\_\_.

Chairman of the AC \_\_\_\_\_ G.I.Yelibayeva

Considered and recommended for approval at the meeting of Educational and Methodical Council of M. Auezov SKU.

Protocol № \_\_\_\_\_ from « \_\_\_\_\_ » \_\_\_\_\_ 20\_\_.

Chairman of the MC \_\_\_\_\_ Abicheva R.D

Approved by the decision of the Academic Council of the University

Protocol № \_\_\_\_\_ from « \_\_\_\_\_ » \_\_\_\_\_ 20\_\_.

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## 1. CONCEPT OF THE PROGRAM

<b>University Mission</b>	Generation of new competencies, training of a leader who translates research and entrepreneurial thinking and culture
<b>University Values</b>	<ul style="list-style-type: none"> <li>• Openness—open to change, innovation and cooperation.</li> <li>• Creativity – generates ideas, develops them and turns them into values.</li> <li>• Academic freedom – free to choose, develop and act.</li> <li>• Partnership – creates trust and support in a relationship where everyone wins.</li> <li>• Social responsibility – ready to fulfill obligations, make decisions and be responsible for their results.</li> </ul>
<b>Graduate Model</b>	<ul style="list-style-type: none"> <li>• Deep subject knowledge, their application and continuous expansion in professional activity.</li> <li>• Information and digital literacy and mobility in rapidly changing conditions.</li> <li>• Research skills, creativity and emotional intelligence.</li> <li>• Entrepreneurship, independence and responsibility for their activities and well-being.</li> <li>• Global and national citizenship, tolerance to cultures and languages.</li> </ul>
<b>The uniqueness of the educational program</b>	6B08210 "Technology of animal products production" consists in the acquisition of modern knowledge and professional competencies in the field of animal products production and scientific research, determined by the results of training, which are formed on the basis of Dublin descriptors.
<b>Academic Integrity and Ethics Policy</b>	<p>The University has taken measures to maintain academic integrity and academic freedom, protection from any kind of intolerance and discrimination:</p> <ul style="list-style-type: none"> <li>• Rules of academic integrity (Minutes of the Academic Council No. 3 dated 30.10.2018);</li> <li>• Anti-Corruption Standard (Order No. 373 n/k dated 27.12.2019).</li> <li>• Code of Ethics (Protocol of the Academic Council No. 8 dated 31.01.2020).</li> </ul>
<b>Regulatory and legal framework for the development of EP</b>	<p>Law of the Republic of Kazakhstan "On Education";</p> <p>Standard rules of activity of educational organizations implementing educational programs of higher and (or) postgraduate education, approved by Order of the Ministry of Education and Science of the Republic of Kazakhstan dated October 30, 2018 No. 595 with amendments and additions dated December 29, 2021 No. 614</p> <p>Model rules for the activities of educational organizations implementing educational programs of higher and (or) postgraduate education, approved by order of the Minister of Education and Science of the Republic of Kazakhstan from October 30, 2018 №595 (Registered in the Ministry of Justice of the Republic of Kazakhstan on October 31, 2018 № 17657);</p> <p>State obligatory standards of higher and postgraduate education, approved by order of the Minister of Education and Science of the Republic of Kazakhstan from October 31, 2018 № 604;</p> <p>Rules for the organization of the educational process on the credit technology of education, approved by order of the Minister of Education and Science of the Republic of Kazakhstan from April 20,</p>

	<p>2011 № 152 with amendments and additions from October 12, 2018 №563;</p> <p>Professional standard. "Breeding birds". Order of the Board of the National chamber of entrepreneurs of the Republic of Kazakhstan "Atameken" No. 339 dated 11.12.2018 y.</p> <p>Professional standard. "Selection activities (breeding) in animal husbandry". Order of the Board of the National chamber of entrepreneurs of the Republic of Kazakhstan "Atameken" No. 263 dated 26.12.2019 y.</p> <p>Professional standard. "Breeding of dairy camels" Order of the Board of the National chamber of entrepreneurs of the Republic of Kazakhstan "Atameken" No. 263 dated 26.12.2019y.</p>
<b>Organization of the educational process</b>	<ul style="list-style-type: none"> <li>• Implementation of the principles of the Bologna Process</li> <li>• Student-centered learning</li> <li>• Availability</li> <li>• Inclusivity</li> </ul>
<b>Quality assurance of the Educational program</b>	<ul style="list-style-type: none"> <li>• Internal quality assurance system</li> <li>• Involvement of stakeholders in the development of the Educational Program and its evaluation</li> <li>• Systematic monitoring</li> <li>• Actualization of the content (updating)</li> </ul>
<b>Requirements for applicants</b>	<p>It is established according to the Model Rules for admission to training in educational organizations, implementing educational programs of higher and postgraduate education, Order of the Ministry of Education and Science of the Republic of Kazakhstan No. 600 dated 31.10.2018</p>
<b>Conditions for the implementation of educational programs (EP) for persons with disabilities and special educational needs(SSN)</b>	<p>For students with SEN (special educational needs) and persons with disabilities (PSI), tactile PVC tiles, specially equipped toilets, a mnemonic diagram, and shower bars have been installed in educational buildings and student dormitories. Special parking spaces have been created. Crawler lift installed. There are desks for people with limited mobility (PLM), signs indicating the direction of movement, ramps. In the educational buildings (main building, building No. 8) there are 2 rooms with six working places adapted for users with disorders of the musculoskeletal system (DMS). For visually impaired users, the SARA™ CE Machine (2 pcs.) is available for scanning and reading books. The library website is adapted for the visually impaired. There is a special NVDA audio program with a service. The JIC website <a href="http://lib.ukgu.kz/">http://lib.ukgu.kz/</a> is open 24/7. An individual differentiated approach is provided for all types of classes and in the organization of the educational process.</p>

## 2. PASSPORT OF THE EDUCATIONAL PROGRAM

<b>Purpose of the EP</b>	Bachelor training in the field of animal production of a new formation, possessing broad fundamental knowledge, initiative, adaptive to the changing demands of the labor market and technology.
<b>Tasks of the EP</b>	<p>-development of students of high moral and personal qualities, the formation of general cultural and professional competences, development of cognitive activity, decision making responsibility, including professional ones, taking into account their social consequences, independence and creativity.</p> <p>- to ensure the formation of competencies necessary for the implementation of professional activities in the field of production technology of livestock products, poultry farming, beekeeping and fish farming;</p> <p>-provide practical and scientific orientation of training (on the dual education system) in the field of production technology of livestock products, poultry farming, beekeeping and fish farming;</p> <p>-formation of a graduate with a broad outlook, low motivation to build a career in AIC, fluent in the state, Russian and one of the foreign languages;</p> <p>-provide a phased adequate control of the level of competence, to allow the possibility of their quickest employment in the specialty or continue their studies at subsequent levels of education.</p>
<b>Harmonization of EP</b>	<ul style="list-style-type: none"> <li>• 6th level of the National Qualifications Framework of the Republic of Kazakhstan;</li> <li>• Dublin descriptors of the 6th level of qualification;</li> <li>• 1 cycle of a Framework for Qualification of the European Higher Education Area);</li> <li>• 6<sup>th</sup> Level of European Qualification Framework for Lifelong Learning).</li> </ul>
<b>Connection of the EP with the professional sphere</b>	The connecting element is the acquisition of advanced knowledge, skills and the ability to creatively approach their professional competence in the field of livestock production, taking into account innovative educational programs and training technologies, the use of the latest achievements of science, technology and information systems of training.
<b>Name of the degree awarded</b>	A graduate of this OP is awarded the degree of "Bachelor of Agriculture" according to the educational program 6B08210 - Technology of production of animal products.
<b>List of qualifications and positions</b>	Bachelors in the educational program "Technology of animal products production" can hold primary positions - farm manager, zoo technician, chief zoo technician, site manager, poultry technician, poultry technologist, zoologist, animal physiologist, specialist in the field of reproduction and/or commercial cultivation of fish and other aquatic animals, specialist in the field of animal feed production fish and other aquatic animals (forage production technologist), beekeeper, slaughtering line operator, teachers in agricultural colleges, in accordance with the qualification requirements of the Qualification Directory of positions of managers, specialists and other employees, approved by the Order of the Minister of Labor and Social Protection of

	the Republic of Kazakhstan dated December 30, 2020 No. 553.
<b>Field of professional activity</b>	State institutions of the Ministry of Agriculture, livestock farms of various forms of ownership, poultry farms, racetracks, breeding farms and breeding plants, zoos, scientific laboratories, nature reserves, companies for the dissemination of advanced technologies and vocational educational institutions.
<b>Objects of professional activity</b>	<ul style="list-style-type: none"> <li>The objects of professional activity of bachelors are: the field of technology for the production of livestock products (organization of reproduction and breeding, breeding and fattening of animals, feed production), primary processing of livestock raw materials, organization of the sale of manufactured products and export, conducting breeding work, exhibitions and auctions of farm animals, birds, aquaculture and bees.</li> </ul>
<b>Subjects of professional activity</b>	<ul style="list-style-type: none"> <li>All types of farm animals and poultry, commercial animals, bees, fish; technological processes of production and primary processing of livestock products; feed and feed additives.</li> </ul>
<b>Types of professional activity</b>	<ul style="list-style-type: none"> <li>organizational and technological: organization, planning of innovative technology for the production of livestock products, management in the production system of high-quality environmentally friendly products; organization of animal husbandry in accordance with zoohygenic requirements, organization of feed production; measures for the prevention of internal infectious and non-contagious animal diseases, assessment of feed quality and standardized feeding of farm animals and birds;</li> <li>production and management: zoo technical and breeding accounting of animals; breeding and breeding work, marketing and marketing of livestock products;</li> <li>project: development and compilation of breeding and breeding plans, participation in the development of design and estimate documentation for the construction of livestock and poultry facilities;</li> <li>research: creation, improvement of new breeds of different types of farm animals and birds; biotechnology of herd reproduction; zoo technical analysis of the composition of feed and feed additives, development of recipes for compound feeds for farm animals and birds.</li> <li>educational (pedagogical): pedagogical activity in secondary professional and primary professional educational organizations according to the profile of the specialty.</li> </ul>
<b>Learning outcomes</b>	<p><b>LO 1</b> Freely interacts in the professional environment and society in Kazakh, Russian and English, taking into account the principles of academic honesty and decency.</p> <p><b>LO 2</b> Demonstrates socio-cultural professional development based on the formation of ideological, civic, spiritual and social responsibility, methods of scientific and experimental research.</p> <p><b>LO 3</b> Analyzes and evaluates the production activities of farms, using scientific and experimental research in various livestock formations.</p> <p><b>LO 4</b> Uses modern methods of zygote transplantation and biotechnical methods of animal reproduction, taking into account the biological and productive features of animal husbandry objects.</p> <p><b>LO 5</b> Uses advanced technologies for the production and processing of livestock products, based on quality and safety assessment, and also performs preventive measures for zootechnical and sanitary safety.</p> <p><b>LO 6</b> is working to improve various aggregates to increase the degree of</p>

	<p>mechanization of the main processes in order to increase the efficiency of livestock production.</p> <p><b>LO 7</b> Organizes zootechnical work on breeding and conservation of the gene pool of highly productive animals.</p> <p><b>LO 8</b> Plans and implements production processes in the conditions of farms, taking into account the best practices of foreign countries.</p> <p><b>LO 9</b> Uses various feed components for the best effect on the body in order to obtain high productivity of farm animals.</p> <p><b>LO 10</b> Effectively conducts business in the production and sale of products in the field of animal husbandry and poultry farming, demonstrating entrepreneurial skills.</p> <p><b>LO 11</b> Uses morphological and biological patterns of animal development in order to increase the production of livestock products.</p> <p><b>LO 12</b> Works in a team, using the norms of a healthy lifestyle, constantly improving himself to ensure full-fledged social and professional activities.</p>
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### 3. EP GRADUATE COMPETENCE

<b>GENERAL COMPETENCIES (SOFT SKILLS).</b> Theoretical knowledge and practical skills specific to this area	
GC1. In the area of native language	GC1.The ability to express concepts, thoughts, facts and opinions in written and oral forms (listening, speaking, reading and writing), as well as to interact appropriately and creatively in a variety of social and cultural contexts: during study, at work, at home and at leisure;
GC1. In the area of native language	GC1.The ability to express concepts, thoughts, facts and opinions in written and oral forms (listening, speaking, reading and writing), as well as to interact appropriately and creatively in a variety of social and cultural contexts: during study, at work, at home and at leisure;
GC2. In the field of foreign languages	GC2.The ability to possess basic communication skills in a foreign language - understanding, expressing and interpreting concepts, facts and opinions in the professional field, both orally and in writing (listening, speaking, reading, writing) in the appropriate range of social and cultural contexts, possession of mediation skills and intercultural understanding;
GC3. Fundamental mathematical, natural science and technical training	GC3.The ability and willingness to apply the educational potential, experience and personal qualities acquired during the study of mathematical, natural science, technical disciplines at the university, to determine ways to control and evaluate the solution of professional problems, the development of mathematical and natural science thinking;
GC4. Digital competence, technological literacy	GC4.Ability to confidently and critically use modern information and digital technologies for work, leisure and communication, possession of skills of use, recovery, evaluation, storage, production, presentation and exchange of information through a computer, communication and participation in cooperating networks using the Internet in the field of professional activity;
GC 5. Personal, social and educational competencies	GC 5.The ability to possess social and ethical values based on public opinion, traditions, customs, norms and to focus on them in their professional activities; to know the cultures of the peoples of Kazakhstan and observe their traditions; to observe the foundations of the legal system and legislation of Kazakhstan, including in the field of education; to know the trends of social development of society; to be able to adequately navigate in various social situations; be able to find compromises, correlate their opinion with the opinion of the team; possess the norms of business ethics, ethical and legal norms of behavior; strive for professional and personal growth; work in a team, defend your point of view correctly, offer new solutions; demonstrate tolerance towards other individuals;
GC6. Entrepreneurial competence	GC6. The ability to know and understand the goals and methods of state regulation of the economy, the role of the public sector in the economy; possess the basics of economic knowledge; possess the skills of critical thinking,

	interpretation, creativity of analysis, drawing conclusions, evaluation; manage projects to achieve professional objectives, manage personnel, demonstrate entrepreneurial skills and professional consulting; plan and conduct experiments, for the production of animal products.
GC7. Cultural awareness and self-expression	GC7.The ability to know and understand the traditions and culture of the peoples of Kazakhstan, is tolerant to the traditions and culture of other peoples of the world, is aware of the attitudes of tolerant behavior; is not subject to prejudice, has high spiritual qualities, is formed as an intelligent person
GC8. Additional competencies.	GC8.The ability to possess the skills of critical thinking, interpretation, creativity of analysis, drawing conclusions, evaluation; to have creativity and an active life position; to make professional decisions in conditions of uncertainty and risk.
<b>PROFESSIONAL COMPETENCIES (HARDSKILLS).</b>	
Theoretical knowledge and practical skills specific to this area	PC 1. Ability to develop optimal technology for the production and primary processing of animal products: make feeding rations, rationally use feed and fodder lands, own various methods of harvesting and storing feed, know the systems and methods of keeping livestock and poultry, taking into account the biological and economic characteristics of animals and poultry, for the production of environmentally friendly agricultural products;
	PC 2. The ability to ensure the rational reproduction of animals, to know the peculiarities of breeding, genetics, breeding and artificial insemination, to know the methods of reproduction of farm animals, to use modern methods of assessing the breeding and productive qualities of farm animals and poultry, to develop comprehensive breeding plans in animal husbandry and poultry farming;
	PC 3. The ability to analyze and plan technological processes as management objects, the current state of production, the tasks facing them and methods of their scientific and practical solution, to determine the purpose and objectives of production activities, to choose methods of their solution, to plan and organize implementation, to know resource-saving technologies for the production of environmentally safe livestock products;
	PC4. The ability to organize the work of a team of performers, to make managerial decisions in conditions of different opinions, to possess methods of comprehensive assessment and effective use of animal husbandry technologies and modern animal gene pool;
	PC5. The ability to keep records of the productivity of different types of animals, to draw up accounting and reporting documentation of the structural subdivision of the enterprises of the industry, to know the principles of accounting for IAS, the methodology for determining the quantitative and qualitative indicators of productivity of different types of animals, to know the requirements for the

	quality of livestock products and ways to improve it, hygienic requirements and standards of quality and safety of food raw materials and food products;
	PC6.The ability to apply modern research methods in the field of animal husbandry, to possess methods of collecting, analyzing and interpreting the results of scientific research, to introduce the achievements of science and best practices of animal husbandry into production using modern information technologies;

### 3.1 Matrix of correlating learning outcomes in the EP as a whole with the formed competencies

	ER 1	ER 2	ER3	ER4	ER5	ER6	ER7	ER8	ER9	ER10	ER11	ER12
GC1	+									+		
GC2	+											+
GC3		+										
GC4			+								+	
GC5										+		
GC6					+		+				+	+
GC7												
GC8					+							
PC 1				+		+						
PC2								+				+
PC3					+	+				+		
PC4					+		+	+				
PC5						+		+	+			+
PC6								+			+	

#### 4. MATRIX A OF INFLUENCE DISCIPLINE ON THE FORMATION RESULTS TRAINING AND LABOR INFORMATION \_

No.	Module name	Cycle	Component	Component Name	Purpose and brief description of the discipline	Number of credits	Formed ER (codes)											
							LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9	LO10	LO11	LO12
1	Fundamentals of the Public Sciences	GED	OC	History of Kazakhstan	<p><b>Purpose:</b> The purpose of the discipline is formation of an objective idea of the history of Kazakhstan based on a deep understanding and scientific analysis of the main stages, patterns and originality of the historical development of Kazakhstan.</p> <p><b>Content:</b> Ancient people and the formation of nomadic civilization. Turkic civilization and the great steppe. Kazakh Khanate. Kazakhstan in the era of modern times. Kazakhstan as part of the Soviet administrative-command system. Declaration of Independence of Kazakhstan. State system, socio-political development, foreign policy and international relations of the Republic of Kazakhstan. Methods and techniques of historical description for the analysis of the causes and consequences of events in the history of Kazakhstan.</p>	5	v	v										
2		GED	OC	Philosophy	<p><b>Purpose:</b> The formation of a holistic idea among students about philosophy as a special form of knowledge of the world, about its main sections, problems and methods of studying them in the context of future professional activity. And also the formation of philosophical reflection, introspection and moral self-regulation among students.</p> <p><b>Content:</b> Emergence of a culture of thinking. Subject and method of philosophy. Fundamentals of philosophical understanding of the world: questions of consciousness, spirit and language. Being. Ontology and metaphysics. Cognition and creativity. Education, science, technology and technology. Human philosophy and the world of values. Ethics. Philosophy of values. The subject of aesthetics as a field of philosophical</p>	5	v	v										

					knowledge. Philosophy of freedom. Philosophy of art. Society and culture. Philosophy of history. Philosophy of religion. "Mangilik El" and "Modernization of Public Consciousness" are a new Kazakhstan philosophy														
3	Socio-Political knowledges	GED	OC	Social and political studies	<p><b>Purpose:</b> The goal of forming knowledge about social and political activities, explaining social and political processes and phenomena.</p> <p><b>Content:</b> Consideration of the system of socio-ethical values of the society. Ways to use social, political, cultural, psychological institutions, features of youth policy in the modernization of Kazakhstani society and solve conflict situations in society and professional environment based on them. To study the methods of analysis and interpretation of political institutions and processes, ideas about politics, power, state and civil society, to understand and use the methods and methods of sociological, comparative analysis, to understand the meaning and content of the political situation in the modern world. Analysis and classification of the main political institutions.</p>	4	v	v											
4		GED	OC	Cultural Studies and psychology	<p><b>Purpose:</b> the formation of scientific knowledge of history, modern trends, current problems and methods for the development of culture and psychology, the skills of a systematic analysis of psychological phenomena.</p> <p><b>Contents:</b> Morphology, language, semiotics, anatomy of culture. Culture of nomads, proto-Turks, Turks. Medieval culture of Central Asia. Kazakh culture at the turn of the XVIII - XIX centuries, XX century. Cultural policy of Kazakhstan. State Program "Cultural Heritage". National consciousness, motivation. Emotions, intellect. The will of man, the psychology of self-regulation. Individual typological features. Values, interests, norms are the spiritual basis. The meaning of life, professional self-determination,</p>	4		v											v

					health. Communication of the individual and groups. Socio-psychological conflict. Models of behavior in conflict.																
5	Socio-ethnic development	GED	HSC	Ecosystem and law	<p><b>Purpose:</b> Formation of integrated knowledge in the field of economics, law, anti-corruption culture, ecology and life safety, entrepreneurship, scientific research methods.</p> <p><b>Content:</b> Fundamentals of safe human-nature interaction, ecosystem and biosphere productivity. The entrepreneurial activity of society in conditions of limited resources, increasing the competitiveness of business and the national economy. Regulation of relations in the field of ecology and human life safety. Knowledge and compliance of Kazakhstan's law, obligations and guarantees of subjects, state regulation of public relations to ensure social progress. Application of scientific research methods.</p>	5		v												v	
6		PD	EC	Actual problems and modernization of public consciousness	<p><b>Purpose:</b> The purpose of the discipline is the restoration of spirituality, deformed during the periods of tsarist and Soviet reality, the formation of a creative personality based on the modernization of the public consciousness of young people.</p> <p><b>Content:</b> Spiritual modernization: origin and background. Modern national identity. Pragmatism and competitiveness. National identity and national code. Experience and prospects of evolutionary development. The triumph of knowledge and openness of consciousness. Alphabet Reform: Experience and Priorities. Fatherland is the basis of the state. Education through nationwide sacred places and history. Modern Kazakh culture is the cornerstone of spiritual revival. New humanitarian education and the future national intelligentsia. Abai Kunanbaev and Kazakh society.</p>	3	v	v													v
7		PD	EC	Abay study	<p><b>Purpose:</b> based on the creativity of A.Kunanbayev, the preservation of the</p>		v	v													

				<p>«national code» and in the project «Kazakhstan»</p> <p><b>Contents:</b> historical overview of the history of Kazakhstan and Kazakh literature of the XIX-XX centuries. Studies of Abai's legacy of the XX-XXI century. Chronology of Abai's creativity. Abai is a great poet, ethnographer, founder of Kazakh written literature. Abai is the compiler of the code of laws «The Position of Karamola», social significance. Abai is a thinker, religious scholar, philosopher. The role of Abai in education and science, the concept of a «Holistic person». «Words of Edification» by Abai, an epic novel by M. Aueyzova «The Way of Abai». K. Tokayev «Abai and Kazakhstan in the XXI century», role, significance.</p>														
8		PD	EC	Mukhtar study	<p><b>Purpose:</b> Formation of a historical, literary idea of M. Auezov's work in the context of literary history, patriotism and cultural and spiritual position. Development of artistic thinking, skills of independent research activity.</p> <p><b>Contents:</b> The life and creative path of M. Auezov Semipalatinsk, Tashkent, St. Petersburg periods. M. Auezov's activity in the magazines «Sholpan», «Abai». M. Auezov's journalism. An artistic review of the short stories "Korgansyzydyn kuni", "Kyr suretter", "Okagan azamat", "Kokserek", the play Enlik-Kebek and the stories "Kili Zaman", "Karash-Karash" okigasy", the monograph "Abai Kunanbayev", the epic novel "Abai Zholy".</p>	v	v											
9		PD	EC	Service to Society	<p><b>Purpose:</b> is the formation of socially significant skills and competencies in students based on the assimilation of academic programs, carrying out socially useful activities related to the disciplines studied at the university.</p> <p><b>Contents:</b> The concept and meaning of Service learning, the history of the formation and development of the concept of Service</p>	v	v											



					Learning. Key components of Service Learning, socially useful activities in the children's and youth environment, organization of volunteer movement in the world and Kazakhstan practice, profile orientation of Service Learning. International practice of learning through socially useful activities. General principles and methodology for the development of social projects. Methods of analysis of implemented social projects.													
10		PD	EC	Foundations of Anticorruption Culture	<p><b>Purpose:</b> formation of an anti-corruption worldview, strong moral foundations of a personality, civic position, stable skills of anti-corruption behavior.</p> <p><b>Content:</b> Overcoming legal nihilism, formation of the basics of students' legal culture in the field of anti-corruption legislation. Formation of a conscious perception/attitude towards corruption. Moral rejection of corrupt behaviour, corrupt morality and ethics. Development of skills necessary to fight corruption. Development of anti-corruption standards of conduct. Anticorruption propaganda, dissemination of lawfulness and respect for the law. Activities aimed at understanding the nature of corruption, awareness of social damage caused by its manifestation, ability to defend one's position with arguments, seeking ways to overcome manifestation of corruption.</p>	v	v											
<b>Additional modules that go beyond the qualification</b>																		
11	Module of communication and Physical Training module	GED	OC	Kazakh (Russian) language	<p><b>Purpose:</b> formation of communicative competence using the Kazakh (Russian) language in the socio-cultural, professional and public life, improvement of the ability to write academic texts.</p> <p><b>Content:</b> Levels A1, A2, B1, B2-1, B2-2 (B2, C1 Russian language ) are presented in the form of cognitive-linguocultural complexes, consisting of spheres, themes, sub-themes and typical situations of communication of the</p>	10	v	v										

					international standard: social, social - cultural, educational and professional, modeled by forms: oral and written communication, written speech works, listening. Demonstration of understanding of the language material in the texts on the educational program, knowledge of terminology and development of critical thinking.														
12		GED	OC	Foreign language	<p><b>Purpose:</b> formation of students' intercultural and communicative competence in the process of foreign language education at a sufficient level A2 and a level of basic sufficiency B1. Student reaches B2level of common European competence if the language level at the start is higher than B1level of common European competence</p> <p><b>Content:</b> Levels A1, A2, B1, B2 are presented in the form of cognitive-linguocultural complexes, consisting of spheres, themes, sub-themes and typical situations of international standard'scommunication: social, social - cultural, educational and professional, modeled by forms: oral and written communication, written speech works, listening.Demonstration of language material'sunderstanding in texts on educational program, knowledge of terminology and critical thinking development.</p>	10													v
13		GED	OC	Physical training	<p><b>Purpose:</b> the formation of social and personal competencies and the ability to purposefully use the means and methods of physical culture that ensure the preservation and strengthening of health in preparation for professional activity; to the persistent transfer of physical exertion, neuropsychic stresses and adverse factors in future work.</p> <p><b>Content:</b> Implementation of physical culture and health and training programs. A complex of general development and special exercises. Sports (gymnastics, sports and outdoor games, athletics, etc.). Control and self-control during classes, insurance and self-insurance. Refereeing competitions, Means of</p>	8													v

				professionally applied physical training. Modern health-improving systems: the breathing system according to A. Strelnikova, K. Buteyko, K. Dinaiki, joint gymnastics according to Bubnovsky.															
14		PD	HSC	Kazakh (Russian) language	<p><b>Purpose:</b> to provide professionally oriented language training of a specialist who is able to competently construct communication in professionally significant situations and speak the language norms for special purposes.</p> <p><b>Content:</b> Professional language and its components. Professional terminology as the main feature of scientific style. Scientific vocabulary and scientific constructions in educational-professional and scientific-professional spheres. Algorithm of work on the analysis and production of scientific texts on specialty. Producing scientific and professional texts. Basics of business communication and documentation within the framework of future professional activity.</p>	3	v	v											
15		PD	HSC	Professionally Oriented Foreign language	<p><b>Purpose:</b> a formation of students' intercultural and communicative competence in the process of foreign language education at a sufficient level A2 and a level of basic sufficiency B1. Student reaches B2level of common European competence if the language level at the start is higher than B1level of common European competence</p> <p><b>Content:</b> Levels A1, A2, B1, B2 are presented in the form of cognitive-linguocultural complexes, consisting of spheres, themes, sub-themes and typical situations of international standard'scommunication: social, social - cultural, educational and professional, modeled by forms: oral and written communication, written speech works, listening. Demonstration of language material's understanding in texts on educational program, knowledge of terminology and critical thinking development.</p>	3	v	v											

16		GED	OC	Information and Communication Technologies	<p><b>Purpose:</b> formation of the ability to critically evaluate and analyze processes, methods of searching, storing and processing information, methods of collecting and transmitting information through digital technologies. Development of new "digital" thinking, acquisition of knowledge and skills in the use of modern information and communication technologies in various activities</p> <p><b>Contents:</b> Introduction and architecture of computer systems. Software. Operating systems. Human-computer interaction. Database systems. Data analysis. Data management. Networks and Telecommunications. Cybersecurity. Internet technologies. Cloud and Mobile technologies. Multimedia technologies. Smart technology. E-technologies. Electronic business. Electronic government.</p>	5	v												
<b>Interdisciplinary modules</b>																			
17	Fundamentals of natural Biological sciences	PD	EC	Biochemistry of Farm animals	<p><b>Purpose:</b> formation of knowledge about the chemical composition of the animal organism.</p> <p><b>Content:</b> Knowledge and understanding of the biochemical processes occurring in the body of animals, the regularities of functions in interaction with the external environment, technologies for keeping animals, possession of methods for regulating metabolic processes occurring in the body. Promotes the possession of scientific ideas about the structure, physical and chemical properties of bioorganic substances.</p>	5	v	v											
18		PD	EC	Immunology	<p><b>Purpose:</b> formation of the main groups of microorganisms, their classification; the importance of microorganisms in nature in human and animal life; microscopic, cultural and biochemical research methods;</p> <p><b>Content:</b> Knowledge and understanding: immunology and organo-tissue structure of</p>		v	v											

				the immune system of animals and birds, immunocompetent cells ax and their receptor ax; about the mechanism of regulation of immune processes in the body and cellular levels. Knowledge of antigens and antibodies , their interactions , and the main complex of histoses place and its biological significance , genetic diversity . Knowledge about the features of the formation of antigens that recognize the receptors of T- and B-lymphocytes, the methodological basis for assessing the immune status, having ideas about immunodependent pathological conditions and organism .														
19		PD	HSC	Microbiology in animal husbandry	<p><b>Purpose:</b> to form practical skills in general microbiology for future specialists, to study various groups of saprophytic and pathogenic microorganisms, their morphology, systematics and physiology, the influence of environmental factors on the vital activity of microorganisms and the role of microorganisms in the transformation of substances in nature, in production processes, in the life of healthy animals and their pathology.</p> <p><b>Content:</b> Knowledge of the role of microorganisms in nature, their morphology, physiology, biochemistry, classification, practical use of the beneficial properties of microorganisms in agricultural production, external factors affecting the vital activity of microorganisms, Mastering methods for studying microbiological processes in the digestion of ruminants, in the technological process of preparing feed, microbiology milk, dairy products, meat and hides.</p>	5	v	v	v									
20		PD	EC	Systematics of the animal world	<p><b>Purpose:</b> To study the taxonomy of animals.</p> <p><b>Content:</b> Knowledge of the classification of vertebrate and invertebrate organisms</p>	5	v										v	

					and their general characteristic differences in parasitic forms from free-living to protozoa. Knowledge about the features and structure of unicellular organisms, their embryonic development , as well as the special structures of multicellular organisms. Students form a complex of knowledge on the general taxonomy of the animal world ; on the origin and significance of unicellular and multicellular organisms; their characteristics _ by class, order y and families, while there is a complete knowledge and understanding of the taxonomy of mammals.															
21		PD	EC	Fundamentals of zootechnic	<p><b>Purpose:</b> To prepare students for the theoretical and practical skills of the managerial work of livestock specialists. To instill knowledge of general animal science, including: breeding, feeding, technology of production of animal products</p> <p><b>Content:</b> Knowledge and skills to perform organizational and technological work on maintenance, care and feeding, as well as breeding, reproduction and production of livestock products. Distinguish the main breeds of their productivity; know the physiology of animals, evaluate animals by origin, constitution, exterior and interior, their productivity and the quality of their offspring . Carry out selection and selection work, select various types of feed , with an assessment of their quality ; to carry out a complex of protective measures against diseases and cases; be able to breed the necessary breeds of animals in the directions of their productivity; use advanced engineering breeding and feeding technologies .</p>		v			v								v		
22		PD	EC	Morphology of Agricultural animals	<p><b>Purpose:</b> To master the macroscopic and microscopic structure, topography, phylogenetic, ontogenetic development of organs and organ systems, to study the</p>	4		v											v	

				<p>morphological basis of the functioning of organs and systems, the features of the structure of organs in animals of different species, gender and age.</p> <p><b>Content:</b> Mastering the course teaches students about the morphology of the animal world, the role of discipline in biology, instills knowledge of general cytology, histology and pathology of animals, the skills of conducting and staging laboratory studies on morphology, studying the basics of development and structure of cells, knowing the discoveries of A. Leeuwenhoek and L .Pasteur, understand their meanings and practical application in the field of animal husbandry. In the course of studying the course , learn the biological significance of eukaryotes , prokaryotes and the characteristics of viruses, own laboratory methods for studying microorganisms.</p>														
23		PD	EC	Fundamentals of Livestock	<p><b>Purpose:</b> To impart theoretical and practical knowledge on general animal husbandry, livestock production technology, to know the biological characteristics of farm animals, the basics of animal husbandry.</p> <p><b>Content:</b> Knowledge and understanding of technology features: production, processing, primary processing, harvesting, transportation and storage of livestock products, skills in: assessing the quality of products and their technology, laboratory analysis methods, the use of raw material processing technology in various agricultural formations, the principles of production planning and the sale of finished meat, dairy and other livestock products. Formation of knowledge along the chain: "production of raw materials - sales of finished products." Mastering the technology and organizing the production</p>	v												v

					of products of rare species of domestic and wild animals that are of value in medicine and pharmacological production.													
24		PD	EC	Physiology of farm animals	<p><b>Purpose:</b> To familiarize students with the essence of vital processes and the meaning of the function of individual organs and systems, with the mechanisms that ensure the interaction of the body with the external environment, to enable them to accumulate the knowledge necessary to obtain a specialty.</p> <p><b>Content:</b> Knowledge and understanding of the morphological and physiological characteristics of farm animals, poultry, fish, etc.; mastering theoretical knowledge in the field of anatomy and physiology of animals and mammals, the homeostatic mechanism of regulation. Knowledge of the adaptive capabilities of the body to changing environmental conditions, as well as behavioral reactions and productivity.</p>	4		v										v
25		PD	EC	Phylogenesis of Animals	<p><b>Purpose:</b> formation of systematized knowledge about the patterns of development of the structure and manifestation of physiological functions of the body in philo and ontogenesis.</p> <p><b>Content:</b> The discipline studies knowledge about phylogeny, its essence and practical significance in animal husbandry, forms the student's knowledge about the evolutionary processes of the development of the nervous system , mechanisms of regulation of vital functions and hormonal and settor organs of animals. The student gains knowledge and understanding about the relationship of the organism with the external environment, the mechanisms for maintaining constancy of the internal environment and the homeostasis of the animal world.</p>			v										v
26		PD	EC	Introduction to specialty	<p><b>Purpose:</b> to prepare students for the theoretical and practical skills of the managerial work of livestock specialists. To</p>	4								v				



				<p>instill knowledge of general animal science, including: breeding, feeding, technology of production of animal products.</p> <p><b>Content:</b> Knowledge of the history of the development of animal husbandry and the achievements of modern science, basic skills in the field of technology for the production of livestock products, study of advanced technologies in livestock industries on the experience of the best domestic and foreign industries . Formation of modern trends , directions and patterns of development of zootechnical science ; studying the basics of selection and breeding, mastering biotechnical techniques for the reproduction of a highly productive herd and methods for assessing the analysis and quality of products in the field of animal husbandry.</p>															
27		PD	EC	<p>Fundamentals of Academic Writing</p>	<p><b>Purpose:</b> the objectives of mastering the discipline "Academic Writing" are the Basic basic Language for academic As a result of mastering the discipline, the student must: familiarize students with the main features of the scientific style of speech; study the most common genres of oral and written academic discourse; formation of skills for creating written and oral academic texts based on ideas about their goals, structure, stylistic features, genre differences; mastering the basic principles of communication in the academic environment</p> <p><b>Content:</b>The discipline studies scientific knowledge on social consciousness and integrity, a self-developing socio-cultural system in a sociological approach to the individual, patterns and forms of regulation of social behavior. It studies language competence and mastery of the basics of academic writing, writing and understanding the text.</p>	v	v												v

28				Educational practice	<p><b>Purpose:</b> To acquire practical experience in organizing breeding business, to solve the issues of creating and storing a valuable gene pool of highly productive animals, to master the skills of egg production technology and poultry meat.</p> <p><b>Content:</b> Familiarization with the organizational structure and economics of livestock, poultry, beekeeping and fish farms; technology for the production of livestock products.</p>	1											v	v
<b>Speciality modules</b>																		
29	Additional Livestock industries	PD	EC	Fur farming	<p><b>Purpose:</b> to form knowledge and basic concepts for future specialists on the procurement of different types of fur-fur raw materials, classification, structure of wool, fur-fur raw materials, differences in their commodity properties depending on individual and biological variability, season of the year, conditions of keeping, feeding fur-bearing animals, as well as primary technology and storage conditions of fur-bearing animals. fur raw materials before delivery to processing enterprises.</p> <p><b>Content:</b> Knowledge and understanding of fur farming objects, breeds of animals, defects in the skins of fur animals, breeding work in fur farming, methods of breeding animals, organization of fur farms; features of feeding fur animals, features of private animal kinship, characteristics of the properties of the fur semi-finished product, packaging, storage, labeling of fur raw materials.</p>	4											v	v
30		PD	EC	Rabbit breeding	<p><b>Purpose:</b> to master the technology of breeding domestic rabbits.</p> <p><b>Content:</b> Knowledge and understanding of the basic methods of breeding and selection of rabbits , the principles of evaluation, selection and selection, the theoretical foundations of breed formation, the</p>													v

					principles of organizing selection and breeding work, the assessment of the productive qualities and features of feeding rabbits, the knowledge of all breeds of rabbits and their productive areas, especially for fur semi-finished products, mastering skills in organizing and developing rabbit breeding of various economic formations; technology of processing, packaging, storage and labeling of fur raw materials.														
31		Ch.D	EC	Beekeeping	<p><b>Purpose:</b> to master the methods of breeding, reproduction and crossing of bees of different breeds; the ability to recognize specific diseases and identify pests of honey bees.</p> <p><b>Content:</b> The development of this course forms students' knowledge about breeding and selection work in the field of beekeeping and the history of its appearance; knowledge of modern achievements and possibilities of the science of beekeeping, as well as knowledge of selection work, processes of biological development and physiological reproduction, structural features of bee colonies, and distinctive features of the external and internal structure of bees . Evaluation and knowledge of methods of breeding , reproduction and crossing of bees of different breeds; the ability to recognize specific diseases and identify pests of honey bees .</p>	4				v		v							v
32		Ch.D	EC	Technology of honey and beekeeping products	<p><b>Purpose:</b> to give students knowledge about bee products (wax, honey, propolis, royal jelly and bee milk, pollen, perga, bee venom), their chemical composition, physical properties, methods of production, processing, storage and use.</p> <p><b>Content:</b> Knowledge of the production and processing of bee honey, the basics of beekeeping , the process of harvesting</p>						v		v						v

					nectar and turning it into honey , the timing of maturation and chemical composition, nutritional properties, varieties, storage and analysis methods for assessing the quality of honey . Develops skills about wax processing processes raw materials and their production , as well as the use of : pollen , milk, propolis and bee venom ; receipt , storage and qualitative difference of honey varieties ; humidity indicators , falsification and naturalness of the product ; methods for processing wax raw materials and artificial foundation . To master the process of obtaining flower pollen , methods of pollination of a plant, organization and structure of a bee apiary.															
33				Industriai practice I	<p><b>Purpose:</b> Practical acquaintance with breeds and crosses of animals, birds, bees and fish.</p> <p><b>Content:</b> Knowledge of the skills of assessing the exterior, interior productivity of different types of birds, bees and fish; Mastering practical skills of feeding, breeding and keeping birds, bees and fish; Practical acquaintance with breeds and crosses of birds, bees and fish</p>	4												v		v
34	Feed production and animal feeding	PD	HSC	Livestock Feeding of Animals I	<p><b>Purpose:</b> to teach students the scientific basics of livestock feeding, classification of various feeds, their feeding, methods of use, determination of the nutritional needs of farm animals depending on the species, gender, age and normal feeding.</p> <p><b>Content:</b> Knowledge and understanding of the system for assessing the nutritional value of feed, the study of the needs of animals for energy, nutrients and biologically active substances, the ability to independently make up the feeding rate and the choice of techniques for watering and keeping animals. To master the knowledge of methods for assessing the chemical composition and nutritional value of feed,</p>	4												v		

				feed additives and premixes; knowledge of the scientific foundations of balanced animal feeding. Consideration of the role and significance of individual nutritional and biologically active components in the metabolic processes of the animal body.														
35 _	PD	HSC	Livestock Feeding of Animals II	<p><b>Purpose:</b> to teach future specialists the conditions of proper organization of feeding of farm animals aimed at preserving their health and increasing productivity, for which to familiarize them with the chemical composition of feed and methods of assessing their nutritional value and quality.</p> <p><b>Content:</b> Possess knowledge of the basics of determining the need, nutritional value and energy intensity of feed. Knowledge of methods for evaluating the feed used and the development of standard rations, taking into account the technique and technology of feeding in conditions of stable keeping of animals. Be able to calculate the needs and determine the norm for fattening livestock of horses, steers, sheep and broiler birds. To develop knowledge on the technology of production and preparation of modern granular feeds, briquettes, feed additives and vitamins, knowledge on the preparation of special norms and rations for the use of compound feeds, BVMC, VK, MK and premixes.</p>	4									v				
36 _	Ch.D	EC	Advanced feed preparation technology	<p><b>Purpose:</b> to teach students to create a solid fodder base through rational use, improvement of field fodder lands.</p> <p><b>Content:</b> Knowledge and understanding of new technologies and feed production, feed preparation and feeding. Mastering the technology of fodder harvesting and preparing them for feeding to animals; knowledge of computer programs for the preparation of special feed for animals of the dairy direction of productivity. Ability</p>	6									v				

				to plan the level of animal feed needs for a day, month, season and year.																
37 _		Ch.D	EC	Feed production with the basics of agronomy	<p><b>Purpose:</b> assimilation of specific knowledge in the field of theory and practice of forage production, familiarization with the biology of forage crops and technologies of their cultivation in specific soil and climatic conditions, with the basics of field and meadow forage production, possible systems of root and surface improvement, familiarization with methods and techniques of rational use of pastures and forage harvesting.</p> <p><b>Content:</b> Knowledge of the basics of plant botany and the constituent elements of hay and pasture lands, the study of issues of meadow and field fodder production, knowledge of compiling crop rotations of fodder crops and the rational use of cultivated pastures and hayfields. Skills by effective use of various feed products, the ability to draw up a diet for the need for roughage, for different types of animals and in their areas of productivity. Calculate the feed used, their economic efficiency in the production of livestock and poultry products.</p>												v	v		
38		PD	EC	Mechanization and automation in Livestock	<p><b>Purpose:</b> students to master the theoretical foundations and practical skills in calculating, selecting and analyzing the operation of machines and equipment for mechanization and automation of processes on livestock farms and complexes.</p> <p><b>Content:</b> Knowledge of the basic elements of mechanization and technological processes harvesting , dosing and mixing feed in the conditions of large livestock complexes, master their principle of operation, be able to work and manage machinery for distributing feed within farms , mechanizing watering and watering pastures . To learn the technological</p>	4														

				processes of microclimate maintenance , mechanization and milking of cows , sheep shearing and manure cleaning , to master the process of primary milk processing and all technological processes of mechanization of poultry farming .														
39		PD	EC	Machines and apparatus for processing livestock products	<p><b>Purpose:</b> to provide future specialists with knowledge about the effective use of technology and technical means, machinery and equipment, taking into account their safety for the production and processing of livestock products.</p> <p><b>Content:</b> Knowledge machines , mechanisms and devices , as well as technological equipment for the processing of meat and dairy products in animal husbandry . Be able to manage machinery and equipment for the transportation and storage of finished raw materials, manage the work of all machines and about equipment for distribution , packaging and races of packaging of meat , milk and other meat and dairy products . To study and be able to work on machines and devices of poultry farms, know the principle of their operation and maintenance techniques, own technological and apparatus and equipment for linear slaughter of livestock . and storage of meat.</p>						v		v					
40	Primary treatment and quality of livestock raw materials	Ch.D	EC	Technology of primary processing of raw materials of animal origin	<p><b>Purpose:</b> knowledge and understanding of the technology of primary processing of animal raw materials.</p> <p><b>Content:</b> Knowledge and understanding of the technology of primary processing of animal raw materials , the main methods of slaughter technology for various types of animals; determining the quality of carcasses, the species of meat . Be able to evaluate the requirements for control slaughter and varietal cutting of carcasses of various animals; carry out processing by-products and technical raw</p>	6					v							

				materials; technologies for primary processing of beekeeping and fish farming products.														
41		PD	EC	Karakul breeding	<p><b>Purpose:</b> assimilation of specific knowledge in the field of karakul breeding and their valuable genotypes of Karakul sheep herds. To teach breeding methods for the purpose of future use in production.</p> <p><b>Content:</b> Knowledge of productive and biological characteristics of Karakul sheep; the ability to classify the qualities of the sold astrakhan according to their types, shapes and sizes of curls; to instill the skills of carrying out selection and breeding work with Karakul sheep of different colors and colors. The ability to assess newborn Karakul lambs, to consolidate the theoretical skills of selection and selection of animals. Know the process of technology and processing of the production of astrakhan products : astrakhan, abomasum, wool and sheep meat.</p>				v									
42		PD	EC	Merchandising and Examination of animal raw materials	<p><b>Purpose:</b> knowledge and basic concepts of harvesting different types of animal raw materials.</p> <p><b>Content:</b> Knowledge and basic concepts of harvesting different types of animal raw materials, classification, structure of wool, leather, fur and sheepskin-fur raw materials. Knowledge of the difference in commodity properties of raw materials and dependence on the individual and biological variability of the season of the year, the conditions of keeping, feeding animals, as well as the primary technology and storage conditions of animal raw materials before delivery to processing enterprises.</p>	5			v									
43		PD	EC	Merchandising of additional types of animal raw	<p><b>Purpose:</b> the formation of students' theoretical and practical skills in managing technological processes from the reception</p>				v									



				materials	and delivery of additional types of animal raw materials. <b>Content:</b> Knowledge of the main properties and indicators of the range of additional types of animal raw materials; indicators of identification of additional types of raw materials of animal origin; regulatory documents that determine the quality, labeling, packaging, transportation and storage of additional types of raw materials of animal origin; the procedure for organizing and conducting commodity examination, confirmation of conformity and other types of evaluation activities of additional types of raw materials at all stages of product distribution.													
44				Industrial practice II	<b>Purpose:</b> formation of students' theoretical and practical skills in managing technological processes from the reception and supply of additional types of animal raw materials. <b>Content:</b> Mastering the skills of assessing the exterior, interior productivity of different types of birds, bees and fish; Mastering practical skills of feeding, breeding and keeping birds, bees and fish; Practical acquaintance with breeds and crosses of birds, bees and fish.	3				v								v
45	Processing technology and quality of livestock products	PD	EC	Dairying	<b>Purpose:</b> to study the composition and properties of milk, the organization of ways to obtain milk from various farm animals. <b>Content:</b> Knowledge and understanding of planning and production and organization technological process of obtaining milk, studying the composition and properties of milk from different breeds of farm animals, methods for accounting for milk productivity ; development of technologies for the production of milk and dairy products , methods of processing, storage, transportation and conditions for implementation. Studied methods of	6				v	v		v					

				selection of farm animals for milk production , conducting selection and breeding work in dairy cattle breeding.														
46		PD	EC	Quality and safety of livestock products	<p><b>Purpose:</b> knowledge of theoretical and practical skills of quality control and safety of livestock production and, taking into account regulatory requirements, be able to conduct an examination of the quality of livestock products</p> <p><b>Content:</b>Knowledge of the basic concepts and quality and safety of livestock products, the ability to assess the indicators of quality and safety of livestock products; assessment of the quality and safety of livestock products and their expertise ; regulatory requirements and maintenance of documentation on quality and safety; control system using modern achievements of science and advanced technologies and .</p>					v	v		v					
47		Ch.D	HSC	Processing Technology for Livestock products	<p><b>Purpose:</b> formation of students' theoretical knowledge and practical skills that allow them to carry out acceptance, quality control and processing of raw materials of animal origin, as well as food production</p> <p><b>Content:</b> Knowledge of the technology of processing animal products, assessment of the quality of animal raw materials and products of its processing. justification of methods, methods and modes of storage of agricultural products. Knowledge of the processes of implementation and technology of processing livestock products and issues of development of plans, schedules for processing agricultural products.</p>	5				v	v							
48		PD	HSC	Breeding and selection of farm animals	<p><b>Purpose:</b> mastering the basics of zootechnical and breeding accounting, the basics of breeding, breeding work in cattle breeding, sheep breeding, horse breeding and planning of breeding work for the future in breeding farms of various forms of ownership.</p>	5							v					v

	Breeding and selection of farm animals				<b>Content:</b> Knowledge and understanding of the main methods of breeding and selection of farm animals , the skills of conducting a breeding assessment, selection and selection, the study of the theoretical foundations of breed formation, the principles of organizing selection and breeding work in areas of productivity, methods for improving the quality of livestock, instilling analytical skills of control and comparison selection results and scientific research in animal husbandry .													
49		PD	HSC	Genetics of farm animals	<b>Purpose:</b> Formation of basic knowledge about the mechanisms of heredity and variability, the material substrate of heredity, methods and problems of modern genetics, its role for various fields of human activity. <b>Content:</b> Mastering the course contributes to the formation of students' knowledge of the patterns of inheritance and genetic variability of traits, knowledge of the basics of the chromosome theory and heritability and the development of the process of ontogenesis in a living organism, the study of sex and methods of genetic research in animal husbandry . Knowledge and development of the course of genetic engineering, the principles of inheritance of genetic deficiencies in the development of organisms, the causes of inheritance of chromosomal anomalies, the issues of the body's immune resistance to infectious animal diseases are considered.	5				v			v					
50		Ch.D	HSC	Animal Biotechnology	<b>Purpose:</b> to develop students' theoretical knowledge on general problems of biotechnology and practical skills in embryo transplantation, as well as embryo engineering research in animal husbandry. <b>Content:</b> Knowledge of the main directions of development of animal biotechnology,	4				v			v					

				biotechnology of animal reproduction, the basics of laboratory work, selection and genetic aspects, cell bases of biotechnology and cell technologies in animal husbandry, embryo transplantation in animal husbandry. Knowledge of the implementation of innovative technologies and the synchronization and hunting of donors and recipients, the development of methods for washing out animal embryos and cryopreservation of gametes and embryos .													
51		Ch.D	EC	Horse breeding, horse meat and koumiss production technology	<p><b>Purpose:</b> students study the current state of horse breeding industries in the republic, the CIS and abroad, biological and economically useful features of horses, its effective use to obtain high-quality environmentally friendly products at the lowest cost.</p> <p><b>Content:</b> The discipline studies the foundations of knowledge in the field of horse breeding and bred horse breeds in their productive areas; skills in organizing a breeding company and technologies for feeding and fattening for the production of horse meat, determining the category and fatness of animals, conducting a grading assessment of breeding horses according to a complex of their characteristics and maintaining zootechnical and breeding records in horse breeding; ability to conduct preparation of traditional meat products, as well as knowledge about the nutritional value and technology of making koumiss in the conditions of horse breeding farms and private backyards.</p>	4		v		v	v						
52		Ch.D	EC	Sports horse breeding	<p><b>Purpose:</b> performance of auxiliary works on breeding, maintenance and reproduction of sports-oriented horses. Auxiliary work for the care of a herd of horses and young animals. Training in auxiliary work on feeding, feeding, grazing a given number of</p>							v			v	v	

				horses. <b>Content:</b> The development of this course contributes to the formation of students' knowledge of sports horse breeding, knowledge of the breeds of domestic and foreign horses, their origin, achievements and possibilities of breeding and use in Kazakhstan. Instills knowledge about the types of sports games, with the participation of specially trained breeds of horses; issues of breeding, conditions of keeping and feeding, breeding of new domestic breeds of sports horses, development of traditional national equestrian sports; the ability to evaluate														
53		Ch.D	EC	Research methodology	<b>Purpose:</b> to provide future students with knowledge on methods of research work in animal husbandry. <b>Content:</b> Mastering the course of methods of scientific research in animal husbandry forms students' knowledge about the basics of conducting scientific research and setting up zootechnical experimental experiments. Mastering skills in compiling a methodology for scientific research and being able to analyze the obtained indicators of control and experimental groups, with the calculation of the level of reliability of the obtained research materials . Upon completion of scientific research, be able to draw up scientific report, draw relevant conclusions and production proposals.	4		v	v					v				v
54		Ch.D	EC	Innovative technology for the production of farm animal products	<b>Purpose:</b> to train highly qualified specialists who possess modern knowledge in the field of resource-saving environmentally friendly technologies for the production of livestock products, who are able to successfully solve the problem of introducing scientific and technological progress in various branches of animal husbandry in market conditions.			v	v									

				<p><b>Content:</b> The discipline " Innovative technologies for the production of livestock products " studies the state of animal husbandry and poultry farming in our country and abroad, the rational use of new technologies to obtain environmentally friendly products , assessment production costs , possibility of getting materials on the final results of innovation activity . Knowledge of the technology and production of livestock products , obtaining new results of improved products . Knowledge of the evaluation of the results of research and the implementation of the achievement of scientific research in production.</p>														
55		PD	HSC	Artificial insemination of animals and Obstetrics	<p><b>Purpose:</b> to study the anatomical and physiological foundations of animal reproduction</p> <p><b>Content:</b> Knowledge methods of artificial insemination of animals , to master the technique of obtaining sperm from manufacturers, assessing the quality of sperm products. To be able to organize and carry out work on the technology of insemination of farm animals, mastering the skills of self-identification and insemination, collecting and evaluating the results obtained, know the methods for determining the process of pregnancy different kinds of animals. The study of the technological map of the brood company and the assessment of the provision of obstetric care in pathological childbirth.</p>	4				v	v							
56				Industrial Practice III	<p><b>Purpose:</b> A systematic and constructive solution of the tasks set in production practice, an analysis of the review of information sources, the development of applied research methods, the ability to generalize the results of scientific experiments conducted in production conditions.</p>	3					v							

					<b>Contents:</b> Mastering the practical skills of artificial insemination of animals, mastering the skills of an inseminator technician, carrying out work on the accounting of farm animals and birds, animal bonitation -evaluation of productive and breeding qualities, evaluation of the quality of offspring;; carrying out work on the accounting of farm animals and birds.													
57		PD	EC	Basics of Veterinary medicine	<p><b>Purpose:</b> to provide students with theoretical foundations and practical skills in methods of diagnosis and therapy of diseases of farm animals of various etiologies: non-infectious, parasitic and infectious.</p> <p><b>Content:</b> Knowledge of pathological processes in animals , understanding and about the disease and the light of the teachings of I.I. Mechnikov, I.M. Sechenov and I.G. Pavlov and protective barrier ah _ _ living organism. Knowledge of advances in veterinary science and excellence in the control of infectious and non-communicable diseases. Know about the features of the prevention of dangerous diseases in industrial animal husbandry and have an understanding of injuries and injuries .</p>	4			v		v							
58		PD	EC	Breeding activities \Livestock breeding\ in Livestock	<p><b>Purpose:</b> the course of breeding in animal husbandry aims to deepen students' knowledge of the biological and genetic foundations of breeding, which will allow to a certain extent to anticipate its overall likely result.</p> <p><b>Content:</b> Importance and knowledge of material accounting and identification of breeding animals in the course of selection and breeding work ; rules and techniques for marking breeding animals and methods of accounting for the productive, reproductive and breeding qualities of animals of different species. Knowledge of</p>								v					v

				the procedure for maintaining documentation of zootechnical and breeding records and existing forms of zootechnical and breeding records , as well as and instructions for assessing animals. Ability to work and participate in modern technological processes of livestock production and breeding business .														
59	Ch.D	EC	Basics of Farming	<p><b>Purpose:</b> it is taught on the basis of modern data of biological and agricultural sciences, as well as the achievements of advanced farms of the Republic of Kazakhstan.</p> <p><b>Content:</b> Knowledge and understanding of the essence of farming, its production functions, composition, types of production and direction, the ability to organize, plan and conduct economic regulation of farming, to know and analyze the development of farming in Kazakhstan and abroad, about the volume and prospects for increasing production . To develop skills in optimizing and increasing the profitability of modern farms, experience in leading advanced farms of the republic, economic evaluation of production activities, the possibility of improving the structures and functions of individual farms.</p>	4								v					v
60	Ch.D	EC	Fundamentals of Entrepreneur Activity	<p><b>Purpose:</b> the mechanism of entrepreneurship in the field of livestock production is revealed, taking into account theoretical studies in this field of economics, the application of civil legislation and rule-making regulating the organization of entrepreneurial activity, the essence of the main subsystems of entrepreneurship is revealed.</p> <p><b>Content:</b> Knowledge and understanding of the theory and practices and the formation and development of agribusiness, the organizational and legal foundations of agribusiness, as an integral part of market reforms in the economy. Studying the</p>									v					v



				history of the development of entrepreneurship, organizational and legal forms of entrepreneurial activity in the agro-industrial complex and the agro-industrial complex Kazakhstan, prospects for the development of entrepreneurial activity and issues of business planning, marketing, leasing, agricultural insurance, evaluating the efficiency of economic activity of agro-industrial enterprises.															
61		PD	HSC	Zoohygiene with the basics of Projecting of livestock objects	<p><b>Purpose:</b> to study environmental factors and their relationship with animal organisms. Features of different age and gender groups, maintenance, feeding, care and maintenance. Creating optimal conditions that meet the physiological needs of the animal and increasing productivity, improving product quality, as well as disease prevention.</p> <p><b>Content:</b> Knowledge of the basic sanitary and hygienic requirements : for livestock buildings and enterprises ; soil composition and its sanitary protection ; to feed and feeding of farm animals . Master the basic sanitary n o - hygienic requirements for the composition of water , water conditions , watering farm animals . Know zoohygienic standards and requirements for the maintenance of agricultural animals during the summer .</p>	6					v								
62	Technology	ChD	EC	Poultry farming , technology of poultry products	<p><b>Purpose:</b> students study the state of poultry farming in our country and abroad, the biological economic characteristics of birds, its rational use to obtain environmentally friendly products at the lowest cost. <b>Content:</b> Knowledge and understanding of the technology and production and procurement of poultry products , productive-biological, exterior - constitutional features of poultry of different directions and productivity .</p> <p><b>Content:</b> Knowledge of incubation</p>	4									v	v	v		

	of livestock production and Poultry faming				processes, technologies and production of dietary eggs and meat of broilers, geese, ducks, turkeys and quails . Values – features of full-fledged feeding and conditions of detention all types of poultry ; knowledge of the applied methods of laboratory analyzes of quality assessment and issues of possible increase in volume and improvement of quality , as well as reducing the cost of poultry products .													
63		ChD	EC	Bird breeding	<p><b>Purpose:</b> to provide theoretical and practical knowledge of the basics of genetic and zootechnical methods in breeding, breeding technology in egg and meat poultry farming.</p> <p><b>Content:</b> The discipline studies the issues of breeding work in the egg and meat poultry industry, features of breeding and breeding , methods used in the course of selection work ; instills knowledge on the principles of breeding birds of new domestic selection and their productive indicators, the advantages of breeding, the features of keeping and feeding. Knowledge of the practical use of new crosses and their products in production. There is an opportunity to study the nutritional value of new products, to approach the level of feeding and maintenance in a qualified manner, to develop new regulatory requirements, to conduct breeding, genetic and accounting of breeding stock.</p>									v	v	v		
64		Ch.D	EC	Sheep breeding, Mutton wool production technology	<p><b>Purpose:</b> knowledge about the esteryary-constitutional and interior features of sheep and their productivity (wool, mutton, Karakul fur and sheepskin coats, milk and lard), about sheep breeds of different directions of productivity.</p> <p><b>Content:</b> Knowledge of the origin, economic and biological characteristics, constitution, exterior and interior of sheep;</p>	5								v	v	v		

				technologies for the production of sheep products : wool, lamb, milk, smushka, sheepskins; breed characteristics of sheep. Possession of methods of organizing and planning selection and breeding work , the basics of herd reproduction and grading of sheep.														
65	Ch.D	EC	Breeding business in sheep breeding	<p><b>Purpose:</b> patterns of development, distribution and division into production types, ways to improve them, evaluation of absolute and comparative, methods of selection and selection, organization of a comprehensive system of breeding work in sheep breeding.</p> <p><b>Content:</b> Knowledge of the organization of breeding work with families, lines, herds and breeds. The concept of breeding business as an integral system of zootechnical, breeding, genetic and organizational measures aimed at improving the productive and breeding qualities of animals. Knowledge about the features of the development of sheep breeding at the present stage and the role and breeding work in the breed-forming process.</p>							v		v	v				
66	Ch.D	EC	Cattle breeding, milk and beef production technology	<p><b>Purpose:</b> in-depth study by students of the state of cattle breeding in our country and abroad, biological and economic characteristics of livestock, its rational use to obtain environmentally friendly products at the lowest cost.</p> <p><b>Content:</b> Knowledge of the development of the livestock sector in the national economy . Studying the patterns of growth and development of livestock, features and directions of productivity of breeds to cattle ; meat and milk production technologies; ability to conduct work : zootechnical accounting and planning of dairy and meat productivity , technology of feeding and keeping livestock, taking into</p>	4									v	v	v		

				account age and sex groups , as well as qualitative assessment of dairy and meat indicators of animals and evaluation of livestock .														
67		Ch.D	EC	Cattle breeding of Dairy Direction	<p><b>Purpose:</b> knowledge about breeding and reproduction of dairy cattle.</p> <p><b>Content:</b> Knowledge of the development of the dairy cattle industry in the national economy. Study of the patterns of growth and development of dairy cattle, features of dairy productivity, cattle breeds; milk production technologies; zootechnical accounting and planning of dairy productivity, feeding technology and livestock keeping taking into account age and sex groups; evaluation of dairy indicators of the animal, bonitirovka dairy direction of cattle.</p>							v		v				v
68		Ch.D	EC	Camel breeding, production technology of Shubat, Camel meat and wool	<p><b>Purpose:</b> to study the types and breeds of camels, their biological characteristics; reproduction and cultivation; meeting the requirements of the national economy in a universal agricultural animal with high efficiency, adaptability to desert conditions and giving meat, milk, wool and leather; as well as effective use.</p> <p><b>Content:</b> Mastering this course forms students' knowledge on the productive and biological features of camels of Bactrian and dromedary breeds . Knowledge of the nutritional values of shubat and the medical significance of wool, the physiological processes of digestion , reproduction and reproduction; ability to assess exterior , constitution and interior of animals. To have knowledge about the methods of rearing camels , their working qualities x and the behavioral characteristics of adult males of bacterian breeds; knowledge of the technology for the production of meat , milk and wool, as well as the organization of farms for breeding camels of productive</p>	4				v	v	v	v					

				breeds of domestic selection.																
69		Ch.D	EC	Tribal business in camel breeding	<p><b>Purpose:</b> to study the types and breeds of dairy camels and their biological characteristics; reproduction and cultivation; possession of technologies for the production of camel milk and fur coat.</p> <p><b>Content:</b> Mastering this course forms students' knowledge about the productive and biological features of dairy camels. Knowledge of the nutritional values of the fur coat and the medical values of wool, the physiological processes of digestion, reproduction and reproduction; the ability to assess the exterior, constitution and interior of dairy camels. Possess knowledge about the methods of raising dairy camels, their working qualities and features.</p>											v	v	v		
70				Industrial practice I V	<p><b>Purpose:</b> to possess practical skills of a manager-technologist in the field of livestock production.</p> <p><b>Content:</b> mastering the practical skills of the manager – technologist of animal husbandry in the organization and conduct of agricultural work; breeding and breeding work: carrying out work on the accounting of agricultural animals, birds, fish, bees. participation in the okotnaya company.</p>	2										v				v
71		PD	EC	Subjects on the Additijnal Educational Program	<p><b>Purpose:</b> Acquisition of new professional competencies in the field of related educational programs.</p> <p><b>Content:</b> Additional educational program Minor (Minor) - a set of disciplines and (or) modules and other types of educational work, determined by the student for study in order to form additional competencies</p>	12		v		v		v								
72	Module of Final Certification			Prediploma or industrial practice	<p><b>Purpose:</b> To consolidate the theoretical knowledge gained in the study of the disciplines provided for in the curriculum, to gain experience in the study of an actual scientific problem and to prepare for the completion of the bachelor's final qualifying work.</p>	10		v	v				v						v	

					<p><b>Content:</b> Collection of materials on the production activities of the base enterprise, materials on the topic of the thesis. Description of the characteristics and activities of the object of the thesis, the production sector, as well as the equipment used (capacity, equipment performance, principle of operation, advantages of this or another type of equipment ) ; carrying out research work, applying the methods of experimental work in scientific and economic experiments.</p>													
73				<p>Writing and defending a thesis, graduation project or preparing and passing a comprehensive exam</p>	<p><b>Purpose:</b> Systematization, consolidation and expansion of theoretical knowledge and practical skills in the educational program and their application in solving specific tasks in the field of plant protection.</p> <p><b>Content:</b> Conduct an analysis of the state of the issue. Justify the relevance and novelty of the decisions made. Conduct an analytical review on the topic of the thesis, present the methodology and results of their own research; describe the environmental safety measures of the object under study, life safety techniques, draw conclusions and conclusions; as well as production proposals. To substantiate and prove the effectiveness of the adopted technical solutions.</p>	8				v			v				v	v

**5. SUMMARY TABLE SHOWING THE VOLUME OF DISPUTED LOANS BY OP MODULES**

Course of Study	Semester	Number of modules being mastered	Number of disciplines studied			KZ credits					Total hours	Total loans KZ	Quantity	
			OC	HSC	HSC	Theoretical training	Physical Culture	Educational practice	Internship	Final examination			Copy	Diff. offset
1	1	3	5	-	2	28	2				900	30	6	1
	2	3	3	2	2	27	2	1			900	30	5	3
2	3	5	2	2	3	28	2				900	30	5	2
	4	4	3	3	1	24	2		4		900	30	6	2
3	5	4	-	3	3	27			3		900	30	6	1
	6	4	-		3	27			3		900	30	4	1
4	7	3	-	2	2	19			2		630	21	4	1
	8	4	-	-	5	21	-				630	21	5	
	9	1							10	8	540	18		1
Totl			13	12	20	201	8	1	22	8	7200	240	41	12

## 6. STRATEGIES AND METHODS OF TRAINING, MONITORING AND EVALUATION

<b>Strategies and learning</b>	<p><b>Student - Centered Learning</b> : Learner - Center _ teaching/learning and active participant in the process learning and acceptance solutions .</p> <p><b>Practice-oriented learning</b> : focus on the development of practical skills.</p>
<b>Teaching methods</b>	<p>Conducting lectures, seminars, various types of practices with:</p> <ul style="list-style-type: none"> <li>• application of innovative technologies: <ul style="list-style-type: none"> <li>problem learning;</li> <li>case study;</li> <li>group work and creative groups;</li> <li>discussions and dialogues, intellectual games, olympiads, quizzes;</li> <li>methods of reflection, projects, benchmarking;</li> <li>Bloom's taxonomy;</li> <li>presentations;</li> </ul> </li> <li>• rational and creative using information sources : <ul style="list-style-type: none"> <li>multimedia educational programs ;</li> <li>electronic textbooks ;</li> <li>digital resources .</li> </ul> </li> </ul> <p>Organization of independent work of students, individual consultations.</p>
<b>Monitoring and assessing the achievability of learning outcomes</b>	<p><b>Current control</b> on each topic of the discipline, control of knowledge in classroom and extracurricular activities ( <i>according to the syllabus</i> ). Evaluation forms:</p> <ul style="list-style-type: none"> <li>poll on the classes;</li> <li>testing on topics educational disciplines;</li> <li>test papers;</li> <li>protection independent creative works;</li> <li>discussions;</li> <li>trainings;</li> <li>colloquia;</li> <li>essay , etc.</li> </ul> <p><b>R intermediate control</b> at least two times during one academic period within the same academic discipline.</p> <p><b>Intermediate certification</b> is carried out in accordance with the working curriculum, academic calendar.</p> <p>Conduct forms:</p> <ul style="list-style-type: none"> <li>examination in the form of testing;</li> <li>oral exam;</li> <li>a written exam;</li> <li>combined exam;</li> <li>protection projects;</li> <li>reporting protection on practitioners .</li> </ul> <p><b>Final state certification</b> .</p>



## 7 EDUCATIONAL AND RESOURCE SUPPORT OF THE EP

<p><b>Information Center</b>      <b>Resource</b></p>	<p>The structure of the Educational Information Center includes 6 subscriptions, 16 reading rooms, 2 electronic resource centers (ERC). The basis of the network infrastructure of the Educational and Information Center is 180 computers with Internet access, 110 workstations, 6 interactive whiteboards, 2 video doubles, 1 video conferencing system, 3 A-4 format scanners, JIC software - AIBS "IRBIS-64" under MS Windows (basic set of 6 modules), stand-alone server for uninterrupted operation in the IRBIS system.</p> <p>The library fund is reflected in the electronic catalog available to users on the site <a href="http://lib.ukgu.kz">http://lib.ukgu.kz</a> on-line 24 hours 7 days a week.</p> <p>Thematic databases of their own generation: "Almamater", "Proceedings of SKSU scientists", "Electronic archive" have been created. Online access from any device 24/7 via the external link <a href="http://articles.ukgu.kz/ru/pps">http://articles.ukgu.kz/ru/pps</a>.</p> <p>Catalogs are processed electronically. EC consists of 9 databases: "Books", "Articles", "Periodicals", "Proceedings of the teaching staff of SKSU", "Rare Books", "Electronic Fund", "SKGU in Print", "Readers" and "SKU".</p> <p>The EIC provides its users with 3 options for accessing its own electronic information resources: from the "Electronic Catalog" terminals in the catalog hall and in the EIC subdivisions; through the information network of the university for faculties and departments; remotely on the library website <a href="http://lib.ukgu.kz/">http://lib.ukgu.kz/</a>.</p> <p>Open access to international and republican resources: "Springer-Link", "Polpred", "Web of Science", "EBSCO", "Epigraph", to electronic versions of scientific journals in the public domain, "Zan", "RMEB", "Adebiet", Digital library "Aknurpress", "Smart-kitar", "Kitar.kz", etc.</p> <p>For people with special needs and disabilities, the library website has been adapted to the work of visually impaired users</p>
<p><b>Material and technical base</b></p>	<p>In the "Agro-industrial" complex of the M. Auezov South Kazakhstan University, located in the village of Zhas keshu, Tulkubassky district, students studying under the educational program 6B08210 - "Technology of livestock production" - to familiarize themselves with animal husbandry and for practical training in animal husbandry, farm animals are raised: horses, cattle and sheep, In addition to the premises where farm animals are grown, there are classrooms, laboratories for students to conduct lectures, practical, laboratory classes.</p> <p>In them, students directly participate in the activities carried out for the maintenance, fattening, breeding, reproduction of these species of animals, as well as in the feeding, maintenance, artificial insemination of animals. They conduct research in laboratories.</p>

## APPROVAL SHEET

according to the Educational program 6B08210- "Production technology of livestock products "

Director DAA \_\_\_\_\_ A.S.Naukenova

Director of DA Sc \_\_\_\_\_ U.B. Nazarbek

Director of DE&C \_\_\_\_\_ T.S.Bazhirov