

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

Reviewed by  
at the meeting of the University  
Academic Council  
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Chairman of the Board  
S. Seifullin Kazakh Agrotechnical  
University JSC

A.K.Kurishbayev  
2019

## EDUCATIONAL PROGRAM

### “Hunting and wild animal husbandry”

Code and classification of education field: 6B08 - Agriculture and bioresources

Code and classification of training direction: 6B083 - Forestry

Code in the International Standard Classification of Education: 0821

Qualification: Bachelor of Agriculture in EP "Hunting and wild animal husbandry "

Studying period: 4 years

Form of study: full-time

Nur-Sultan 2019

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The Academic Committee was approved by Order No. 516-N of 04.10.2022  
for the S.Seifullin Kazakh Agro Technical Research University.

The educational program "Aquaculture and aquatic bioresources" was  
reviewed at the meeting of the Department of Hunting and Fisheries Protocol №  
\_\_\_\_\_ of "\_\_\_\_\_" \_\_\_\_\_ 2023 .

approved by the Council of the Faculty of Forestry, Wildlife and Environment  
Protocol № \_\_\_\_\_ " \_\_\_\_ " \_\_\_\_\_ 2023.

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

**1.1 The purpose of the educational program:** – the educational program "Hunting and animal husbandry" studies the structure, methods of management and management of hunting; biology and ecology of hunting animals; fundamentals and prospects of wild breeding and animal husbandry, legal foundations of hunting; methods of research of hunting animal populations; basic biotechnical measures in hunting farms. The objectives of the program are:

1. provision of conditions for obtaining a full-fledged, high-quality professional education;
2. formation of the main professional competencies of future specialists in hunting and animal husbandry;
3. creating prerequisites for independent search and research activities of students in the framework of the experiment at all its stages;
4. the ability to work with scientific and technical information, use domestic and foreign experience in professional activities, systematize and summarize the information received.

### **1.2 Learning outcomes**

**ON 1.** Possess the basics of economic knowledge, have scientific ideas about management; the ability ideas into actions, has knowledge in the field of interaction with customers, work with permitting and authorized bodies, work with government officials based on the use of mathematical statistics, with the development of simple techniques of biometric data processing.

**ON 2.** To know the chemical bases of biological processes and features of the structure of biomolecules, cytological, molecular cytoplasmic bases of heredity, chromosomal theory of heredity, cellular and genetic engineering, cell division, sporogenesis, gametogenesis, heterosis, issues of management of fertilization processes, variability and hybridization.

**ON 3.** To know the geographical distribution of animals, the patterns of fauna formation, the peculiarities of the organization of invertebrates and chordates, the morphological and ecological characteristics of each class, the basics of systematics, structure, vital activity, biological diversity of fish, fishing of the main objects of fishing

**ON 4.** To know the diversity of plants, their systematics, the main agricultural crops, fodder properties and cultivation technology, the basics of forest management, protection of forests from fires, pests, diseases, inventory, storage and transportation of planting material, the basics of forestry and methods of determination.

**ON 5.** To know the organization of farming as a form of small and medium-sized business in the agro-industrial complex, the biological characteristics of fish, its cultivation on fish farms, technological processes of fish farming, biogeocenoses of various parts of the world, ways to protect against danger, creating comfortable living conditions.

**ON 6.** To know the physical and physico-chemical processes in a living organism, the laws and mechanisms of the impact of physical factors on the body, methods of biophysical research, the basic laws of chemistry, the most important substances and materials, calculations by chemical formulas and equations of reactions.

**ON 7.** To know the issues of biological features, the behavior of animals and birds, the features of genetically determined components of behavior, to possess special terminology in English, the features of written, oral speech, texts in the specialty.

**ON 8.** To know methods of isolation of microorganisms from the intestine, phenotypic and genetic identification of bacteria, the study of microorganisms, classification of diseases, issues of diagnosis, prevention, treatment and measures for the elimination of diseases, analysis of pathological processes, the spread of infectious and non-infectious diseases of animals and birds

**ON 9.** To know the basics of wildlife management, biotechnical methods of influencing animals and the habitat, biological and economic features of fur-bearing animals, technological

processes of fur production, types of specially protected natural territories, their functioning regime, the legislative framework of the Republic of Kazakhstan for the protection of natural territories.

**ON 10.** To know the history of the development of hunting grounds, the classification and basic taxonomic units of hunting grounds, division of the territory of the farm into plots for various purposes. Methods of using mechanical means, construction of economic, mathematical models of hunting farms, forecasting the effectiveness of hunting models.

**ON 11.** To know the main categories of field equipment, equipment, the basics of scientific research in hunting, interpretation of the results of observations, methods of animal production tools, optimal sizes withdrawal of hunting animals, the history of the origin dogs, the value of purebred breeding, methods of training, working with dogs.

**ON 12.** Know the commodity properties, technological methods of primary processing, characteristics of various types of fur raw materials. Classification of raw materials, standardization based on GOST, ND, rules for trophy processing, requirements for the quality, design of trophies, methods for evaluating hunting trophies, methods for making stuffed animals of various animals.

**ON 13.** To know the biological features of game animals, the settlement of animals, to determine by external signs the biological state, the evolutionary stages of the development of mammals, the principles of classification, the system of order, bird species in nature, biology, ecology of birds, distribution, importance of birds in ecosystems.

**ON 14.** Possess the basics of hunting, commercial production of hunting animals and birds. To know the main products of commercial hunting, as well as the processing technology of various types of animal products, biological characteristics of marals, exterior, biology of the common pheasant, maintenance and feeding, evaluation of meat.

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

The educational program "Hunting and animal husbandry" was created in accordance with the Law of the Republic of Kazakhstan dated July 9, 2004 "On the protection, reproduction and use of wildlife", taking into account the request of employers. This educational program solves the main problems of biodiversity conservation and rational use of the hunting fund, will allow the future specialist to form core competencies.

The relevance of the educational program lies in the fact that it reflects the issues of environmental protection in the field of wildlife protection and hunting management taking into account modern realities.

The peculiarity of this educational program is that it takes into account the world experience of hunting and organization of hunting economy (Western Hungarian University, Warsaw University of Natural Sciences, Vyatka Agricultural Academy, Irkutsk State Agricultural Academy), as well as taking into account the work and proposals of UNDP, ASBC, etc.

The competitive advantage of the educational program lies in the fact that, based on the experience of various countries, this OP is aimed at solving issues of protection, rational use of the wildlife of the Republic of Kazakhstan, taking into account the peculiarities and uniqueness of the hunting fauna.

The uniqueness of the educational program lies in the fact that it reflects significant tasks in the development of hunting farms and the protection of wildlife in the Republic of Kazakhstan, and in particular the issues of wild breeding, intensification of hunting farms and the development of national types of hunting. For the implementation of the educational program, there is an appropriate material and technical base (educational and production hunting and fishing farm "Dudarai", UAZ cars, motorized vehicles, monitoring devices for living objects, watercraft, fishing gear, etc.), as well as practice bases provided by employers, such as the Forestry and Wildlife Committee of the Ministry of Agriculture RK, regional territorial

inspections Committee of Forestry of the Animal World of the Ministry of Agriculture of the RK, public association of hunters and subjects of hunting economy "Kansonar", "Okhotzooptom", The State National Nature Park "Burabai", the State Nature Reserve "Korgalzhyn" and other subjects in the field of hunting and animal husbandry.

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

**3.1 Areas of professional activity:** hunting farms of various forms of ownership; animal farms; state nature reserves; zoological reserves; national natural parks; specially protected natural territories; state institutions for the protection of forests and wildlife; republican and regional state bodies of wildlife and hunting management; tourist organizations and public associations of hunters and fishermen.

**3.2 Types of professional activity:** organization and conduct of all types of hunting; protection, reproduction and rational use of natural resources; breeding, maintenance and use in hunting farms of various types of commercial hunting animals and birds; harvesting, primary processing, processing and marketing of wild breeding and hunting products; organization and conduct of hunting equipment and creation of conditions for sports and amateur, commercial hunting, development of measures for semi-voluntary maintenance and cultivation of hunting game. Conducting biotechnical measures to increase the number of animals and birds; organizing and conducting activities for the semi-voluntary maintenance and cultivation of hunting game in hunting farms: breeding works, veterinary and sanitary measures, feeding and keeping of animals and birds.

**3.3 General education competencies** (see the SGSE) Upon completion of the study of compulsory disciplines of the cycle of GED, the student will be able to:

1) to collect and interpret information for the formation of judgments taking into account social, ethical and scientific considerations;

2) evaluate the surrounding reality on the basis of worldview positions formed by knowledge of the fundamentals of philosophy, which provide scientific understanding and study of the natural and social world by methods of scientific and philosophical cognition;

3) to show a civic position based on a deep understanding and scientific analysis of the main stages, patterns and peculiarities of the historical development of Kazakhstan;

4) apply knowledge and understanding of facts, phenomena, theories and complex dependencies between them in the field under study;

5) understand the importance of the principles and culture of academic integrity.

**3.4 Basic competencies** (see SGSE) according to the results of teaching basic disciplines, the student should know:

1) demonstrate knowledge and understanding in the field of hunting and animal husbandry based on advanced knowledge of this field;

2) apply knowledge and understanding at a professional level, formulate arguments and solve problems in the field of hunting and animal husbandry;

3) apply theoretical and practical knowledge to solve educational, practical and professional tasks in the field of hunting and animal husbandry;

4) training skills necessary for independent continuation of further training in the field of hunting and animal husbandry;

5) know the methods of scientific research and academic writing and apply them in the field of hunting and animal husbandry;

**3.5 Professional competencies (according to specialization) in the learning process, the student acquires the following competencies:**

**To know and understand:**

resolutions, orders, orders, instructions and other normative materials on hunting;

hunting science, biology and ecology of hunting animals and birds, methods of accounting, techniques of hunting and extraction of hunting animals;

the economy of the hunting economy and the organization of hunting;

fundamentals of labor legislation, rules and regulations of labor protection, safety, industrial sanitation and fire protection;

**Be able to:**

apply the acquired knowledge to solve specific scientific, practical, information retrieval and methodological, educational tasks;

production activities in wild-producing enterprises, animal nurseries, maral farms of all forms of ownership, as well as the organization of hunting operations in natural conditions, expert assessment of land for the purpose of their hunting use;

**Acquire practical skills:**

conducting field experiments, handling fishing gear for animals and birds, hunting equipment;

applications of methods of accounting for hunting animals;

conduct biotechnical activities.

**4 Base of professional practices (all types of practices)** In the process of implementing the EP, students undergo training practice in the discipline biology and ethology of animals and birds at the end of the 2nd course in the field. The training practice will be conducted under the guidance of a teacher of the department on the basis of The State National Nature Park "Burabai", The State National Nature Park "Karkaraly", the State Nature Reserve "Korgalzhyn" Departure to the listed places of internship is carried out according to contracts. To consolidate the theoretical knowledge, the graduating department organizes industrial and pre-graduate practice. The main bases of practices for passing professional practices are RSU "Committee of Forestry and Wildlife of the Ministry of Agriculture of the Republic of Kazakhstan", LLP "Zharkul-2002", Peasant Farm "Aika" Hunting farm "Zaisanskoe", RSI "Almaty regional territorial Inspection of Forestry and Wildlife", RSI "Irgiz-Turgay State Reserve", RSI "Sairam-Ugam State National Natural Park", RSI "Karkaralinsky State National Natural Park", RSI "Ustyurt State Nature Reserve", RSI "Zhongar-Alatau National Natural Park", RSI "Katon-Karagai GNPP", Municipal State Institution "Department of Natural Resources and Environmental Management of Zhambyl region", RSI "Kyzylorda regional Territorial Inspection of forestry of the animal world", Republican Public Association "Tazy Tobet Boribasars", Public Association "Society of Hunters and Fishermen of the city of Nur-Sultan and Akmola region", State Municipal State Enterprise "Production and Economic Enterprise "Zhas-Nur" of the Akimat of Nur-Sultan", Central Regional Branch of the Republican State Municipal Enterprise "Production Association Okhotzooptom", Representative Office of the Republican Association of Public Associations of hunters and hunting subjects "Kansonar" in the Karaganda region, East-Kazakhstan Regional Public Association of Hunters and Fishermen.

## 5 Structure of the Bachelor's degree program

№	Name of cycles and disciplines	Total labor intensity	
		in academic hours	in academic credits
1	2	3	4
1	The cycle of general education disciplines (GED)	1680	56
1)	is a mandatory component	1530	51
	History of Kazakhstan	150	5
	Philosophy	150	5
	Foreign language	300	10
	Kazakh (Russian) language	300	10
	Information and Communication Technologies (in English)	150	5
	Module of socio-political knowledge (sociology, political science, cultural studies, psychology)	240	8
	Physical Culture	240	8
2)	Component of choice	150	5
	Fundamentals of Economics / Fundamentals of Anti-corruption Culture	150	5
2	Cycle of basic disciplines (BD)	3510	116
1)	University component	2190	73
	Zoology	180	6
	Animal Physiology	150	5
	Genetics	150	5
	Ornithology	180	6
	Theriology	150	5
	Biochemistry	150	5
	Biology of game animals	120	4
	Forest botany	180	6
	General forestry	180	6
	Typology of hunting grounds	150	5
	Hunting management	150	5
	Specially protected natural territories of Kazakhstan	180	6
	Ethology of animals and birds	180	6
	Educational practice	120	4
2)	Component of choice	1230	41
	English for Special Purposes /Professionally oriented foreign language	90	3
	Fundamentals of farming /Entrepreneurship in the agricultural sector	150	5



	Chemistry/ Microbiology and Virology	150	5
	Mathematics with the basics of biometrics/ Biophysics	150	5
	Diseases of animals and birds/Parasitology	150	5
	Zoogeography /Entomology	150	5
	Fish farming/ Basics of ichthyology	120	4
	Ecology and life safety / Labor protection and the basics of life safety	150	5
	Expeditionary field research in hunting / Expeditionary field equipment	120	4
3	Cycle of profile disciplines (PD)	1800	60
1)	University component	1470	49
	Bioengineering and wild breeding	180	6
	Animal husbandry	150	5
	Hunting dog breeding	150	5
	Accounting of animals and birds	150	5
	Techniques for the extraction of animals and birds	180	6
	Trophy case with the basics of taxidermy	150	5
	Production practice	390	13
	Pre-graduate practice	120	4
2)	Component of choice	330	11
	Hunting and commercial products/Technology of production of hunting	180	6
	Products of maral breeding/Pheasant breeding	150	5
4	Additional types of training (ATT)		
1)	Component of choice		
	Military training		
5	Final certification	240	8
1)	Writing and defending a thesis, graduation project, or preparing and passing a comprehensive exam	240	8
	Total	7200	240







### Appendix 3. Matrix of achievability of the formed learning outcomes according to the educational program with the help of academic disciplines

№	Name of the discipline	Brief description of the discipline	Number of credits	Generated learning outcomes													
				ON 1	ON 2	ON 3	ON 4	ON 5	ON 6	ON 7	ON 8	ON 9	ON 10	ON 11	ON 12	ON 13	ON 14
<b>Cycle of general education disciplines</b>																	
<b>Component of choice</b>																	
1	Basic of economics / Basics of anti-corruption culture	Introduction. Basic concepts of economic theory. Economic needs, benefits and resources. Per capita consumption of products; Types of economic systems. Market. The mechanism of its functioning. The economic fundamentals of the business. Production, labor productivity. Factors affecting productivity. The course forms a system of knowledge on combating corruption, and the development on this basis of a civil position in relation to this phenomenon. As a result of mastering the discipline, students will be able to: navigate the legislation; analyze and apply legal acts in specific situations, follow moral	5	V										V			
<b>Cycle of basic disciplines</b>																	
<b>University component</b>																	
2	Genetics	Genetics studies the material foundations of heredity. Basic laws of inheritance and principles of heredity. Chromosome theory of inheritance. Genetics of sex. Heterosis. Molecular basis of heredity. Genome and genetic engineering. Mutational variability. Genetics of quantitative traits of animals. Genetic parameters of selection	5		V												V
3	Zoology	The discipline forms knowledge in issues of adaptation and patterns of distribution of various animals on Earth. It studies all types of invertebrates and vertebrates, their body structure, taxonomy, the origin of various animal species, ways of development, the	6			V											V

		diversity of animals, their role in nature, animal ecology.															
4	Animal Physiology	The discipline forms theoretical knowledge the structural and functional organization of animals, homeostasis, principles of nervous and humoral regulation of functions, physiology of the central nervous system, cardiovascular, digestive and respiratory systems. It studies the physiological processes occurring in the body of animals, the role and physiology of the endocrine glands, the biological significance of energy and metabolic processes, the processes of excretion of vital products of the body.	5						V								
5	Biochemistry	The discipline studies the biochemistry of proteins, nucleic acids, carbohydrates, lipids, minerals and vitamins and hormones; the essence of chemical transformations occurring in organisms, the mechanisms of their regulation and their role in ensuring the vital activity of the organism; methods of theoretical and experimental research. Explores the qualitative and quantitative analysis of bioactive substances in biological material	5		V												
6	Biology of fur-bearing animals	The discipline studies the features of animals inhabiting different zones, with their morphological structure; differences of hunting and commercial species in nature; systematics, biological and ecological features, reproduction features in order to rationally organize the management of hunting within the forest zone; hunting and commercial fauna of the intrazonal complex, including aquatic and wetland	5									V				V	
7	Ethology of animals and birds	The discipline studies the behavior of animals in natural conditions, genetically determined (hereditary, instinctive) components of behavior, the dynamics of life processes, the	6			V				V							

		influence on their manifestation of the nervous and endocrine systems, as well as the problems of evolutionary behavior, the development of the psyche of animals in the process of phylogenesis and ontogenesis.															
8	Typology of hunting areas	Discipline typology of the hunting grounds exploring the main stages and periods of formation and development of the doctrines of the hunting grounds; the principles of classification of hunting grounds and the main taxonomic unit of classification of hunting grounds (categories, classes, groups, types and types) and rules for their identification; classification of feed origin and the accounting of their reserves; principles for the valuation of hunting lands.	5						V			V					
9	Hunting management planning	The discipline of planning management examines the methods and organization of work of inter-farm game management; holding inter othozhajstva the biological and economic survey; places inter korostelina; organization of monitoring of inter-farm game management; methods of calculating the optimal capacity of the hunting and optimal density for the main types of hunting animals; methods for the determination of feed stocks and limiting factors; carrying capacity of the hunting ground.	5									V					
10	Specially protected natural territories of Kazakhstan	The discipline is aimed at studying the methods of scientific research and activities of nature reserves, national nature parks, reserves and other specially protected natural areas, as well as ways of managing protected areas. The issues and methods of protection, conservation and protection and reproduction of effectively used plants and animals are considered.	6						V	V							
11	Forest botany	The discipline examines the structure of cells, tissues, morphology and anatomy, nutrition, biosynthesis of accumulation of various	6		V		V										

		substances, flowering, fruiting, growth, development, movement, interaction with pathogens, reactions to adverse environmental factors and the stability of phytocenoses, systematics, physiology and biochemistry of forest plants, life forms, ecogroups of woody and shrubby plants, non-woody forest products and efficient use															
12	Ornithology	Studies the characteristics of the class of birds, their predestination and evolution, morphological features and flight ability, achievement and ecological features of birds, practical fixation and protection; hunting and trade and rare bird species of Kazakhstan	6							V							V
13	Theriology	The discipline studies the general characteristics of the class of mammals, morphology and ecological-systematic review of the class of mammals (Mammalia), rational use of resources of commercial animals, their protection and reproduction.	6							V							V
14	General forestry	Morphological structure of the forest, theoretical foundations of biology and ecology of the forest, forest types, features of seed and vegetative renewal of the forest, change of breeds. Methods of main logging and intermediate logging. Methods of promoting natural renewal	6		V		V						V				
<b>Cycle of basic disciplines</b>																	
<b>Component of choice</b>																	
15	English for special purposes / Professionally-oriented Foreign Language	The discipline is aimed at studying general scientific terminology and terminology for the language of the corresponding specialty in English, forms skills in four types of communicative activity: reading with a full understanding of authentic texts in the specialty, the ability to write an essay on a specialty problem, the ability to listen to authentic messages containing professional	3							V							



		<p>information, the ability to discuss specialty issues.</p> <p>To form the professional foreign language speech of future specialists to increase the level of professional competence, proficiency in a professional foreign language for the implementation of written and oral information exchange, further development of speech activity (reading, writing, listening and speaking - monologue and dialogic speech). Rules of speech behavior in accordance with situations of professional communication, depending on the style and nature of communication in the social, household and academic spheres</p>															
16	Basics of farming / Entrepreneurial activity in the agricultural sector	<p>The basics of farming involves the study of the formation of modern ideas, knowledge about the basics of the organization and management of farming, knowledge of the theoretical foundations of the organization of the farm (peasant) economy; the acquisition of knowledge on the rational management of the process of production of agricultural products in the farm (peasant) economy.</p> <p>Entrepreneurial activity in the agricultural sector studies the types and legal foundations of entrepreneurial activity in the hunting sector. The content of entrepreneurial activity is freely carried out, not prohibited by law, activities in hunting and fur farming.</p>	5					V					V				
17	Chemistry / Microbiology and Virology	<p>Formation of students' system of fundamental knowledge of the basic laws of chemistry and physico-chemical methods of analysis with their subsequent application of professional activity and use for solving engineering problems. The study of the basic laws of chemistry, chemical reactions, the peculiarities of their course, control methods, the theory of the structure of organic compounds, the</p>	5						V		V						

		classification of reagents and reactions in organic chemistry . Basic information about the place of prokaryotes and eukaryotes among living organisms, about the morphology, physiology and genetics of microorganisms, as well as about metabolism in a microbial cell. General characteristics of viruses. The use of microorganisms and their metabolites in the food industry. The influence of external factors on microorganisms. Mechanisms of metabolism in microorganisms. Conversion of nitrogen compounds by microorganisms.															
18	Mathematics with the basics of biometrics / Biophysics	The discipline studies the basic methods for solving the basic problems considered within the discipline, the types and methods of processing and analysis of biological and environmental data based on the use of mathematical statistics and modern computer technology, with the development of simple techniques for biometric data processing. Biophysics considers the physical and chemical phenomena occurring in living organisms, which underlie elementary life processes, as well as the action of physical factors on the body. The main task of biophysics is to study the processes associated with the transformation of the chemical energy of the components of living matter into other types of energy - mechanical and osmotic work, electrical and radiation energy.	5	V													
19	Pisciculture / Basics of ichthyology	Discipline studies the biological characteristics of fish grown in fish farms. Ecological groups of fish. Growth and development of fish. Factors affecting the livelihoods of fish. Types and forms of fisheries. Fish breeding technology. Fertilizer ponds. Organization of feeding fish. The discipline studies the basics of the	4			V		V									

		taxonomy, structure, life and biodiversity of fish, periods of ontogenesis, biology, ecology and fishing features of the main objects of fish farming and fishing, the role of ichthyofauna in the functioning of aquatic ecosystems, the importance of aquatic biological resources for humans.														
20	Diseases of animals and birds /Parasitology	Diseases of animals and birds studies the evolution, nomenclature and classification of diseases of animals and birds, methods and methods of epizootological research, comprehensive methods for diagnosing diseases of animals and birds, the principles of anti-epizootic works in modern farming and in hunting conditions, means and methods of therapy and treatment and preventive treatments animals and birds in diseases, the basis of veterinary sanitation.. Basic information about the place of prokaryotes and eukaryotes among living organisms, about the morphology, physiology and genetics of microorganisms, as well as about metabolism in a microbial cell. General characteristics of viruses. The use of microorganisms and their metabolites in the food industry. The influence of external factors on microorganisms. Mechanisms of metabolism in microorganisms. Conversion of nitrogen compounds by microorganisms.	5			V					V					V
21	Zoogeography/ Simulation Hunting	The discipline studies the basic patterns of distribution of various animals depending on natural and climatic conditions. Forms theoretical knowledge in the field of ecology of the animal world. Simulation of hunting economy: studies the basics of building economic and mathematical models of hunting economy, economic interpretation of the forecast behavior of the model, to find the optimal solution to the	5		V	V										

		problem, allowing to extract maximum profit at minimum cost															
22	Ecology and life safety / Labor protection and the basics of life safety	The discipline studies the laws of interaction between organisms and their habitats, the laws of development, the preservation of human health and life in the technosphere, protection from the dangers of man-made and natural origin and the creation of comfortable living conditions. The discipline contributes to the formation of students' knowledge, practical skills to create safe and harmless living conditions, to prevent the causes and prevention of dangerous situations, to protect the population and production personnel and objects of the national economy from the possible consequences of emergency situations. Supervision and control of the implementation of legislation and responsibility for violation of labor protection requirements	5			V		V									
23	Expeditionary field research in hunting / Forwarding-field equipment	Discipline studies and forms the ability to operate with basic knowledge of the basics of research in hunting, mastering methods of planning field experience, observations and surveys, developing the ability to analyze and interpret the results of hunting research based on their statistical processing. The discipline studies the general requirements for ensuring the safety of life in expeditionary conditions, the necessary skills in the field, personal protective equipment, expeditionary field equipment	4										V		V		
<b>Cycle of profile disciplines University component</b>																	
24	Bioengineering and game breeding	The discipline studies the theoretical foundations of life management of animals in a state of natural freedom, the development of skills for a creative approach to the arsenal of biotechnical methods of influencing animals	6	V									V				

		and their habitat, the formation of skills for the direct implementation of biotechnical measures in the conditions of specific natural and economic regions of the country.															
25	Fur farming	Discipline includes the study of animal products, the organization of animal farms, the maintenance of fur animals, feeding characteristics of fur animals, feed used for feeding predatory fur animals, breeding work in fur farming, methods of breeding, zootechnical accounting and data processing, breeding objects of cellular fur farming.	5									V			V	V	
26	Accounting of animals and birds	Discipline the record of the animals and birds exploring the theoretical foundations of counting and ways of processing of field materials accounting of game animals; biological bases of carrying out of population census; methods of counting the number of game animals and a technique of their carrying out; organization of conducting accounting works and reporting on them.	5										V	V			
27	Technique of animal and bird production	The technique of extraction of animals and birds studies the classification of methods and tools for extracting hunting animals; the feasibility of using a particular tool for extracting hunting and commercial animals; hunting equipment and equipment used in the extraction of hunting and commercial animals and the basis of marking on the hunt, the basis of economic evaluation of tools and methods of obtaining hunting and commercial animals.	6			V								V			
28	Trophy case with the basics of taxidermy	The discipline studies the development of trophy and sport hunting, the correct conduct of selective removal of animals that are especially outstanding in relation to the trophy, the formation of a careful attitude towards the fauna of Kazakhstan and the presentation of hunting exhibits at international exhibitions	5											V	V		

Cycle of profile disciplines																
Component of choice																
29	Breeding of Red deer	The discipline provides for the study of the origin, economic and biological features, constitution, exterior and interior of deer; study of products of maral breeding; study of methods of breeding work and breeding of animals; study of herd reproduction and rearing of young animals; - study of feeding and maintenance of deer; development of technologies for the production of maral products	5	V										V		V
30	Hunting dog breeding	The discipline studies the origins and contemporary state of hunting dogs, methods of breeding, maintenance breeding, growing and learning, the exterior hunting dogs and field quality, the use of different breeds of dogs for hunting.	5					V						V		
31	Technology of production of hunting products	The importance of hunting products for supplying the population with consumer goods, the role of hunting products in exports, the meat of game mammals, the chemical composition and nutritional properties of meat, the marketable yield and quality requirements for meat products, storage conditions, features after slaughter transportation, the impact of hunting techniques and primary technology processing for the quality of meat products.	6										V	V	V	V

