

MINISTRY OF EDUCATION AND SCIENCE OF THE REPUBLIC OF KAZAKHSTAN
RSE with EMR "M.AUEZOV SOUTH KAZAKHSTAN STATE UNIVERSITY" MES RK



EDUCATIONAL PROGRAM

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THE MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE REPUBLIC
OF KAZAKHSTAN

M.Auezov SOUTH KAZAKHSTAN UNIVERSITY

« APPROVED BY»

Chairman of the Board-Rector _____

d.h.s., academician Kozhamzharova D.P.

«___»_____2023 y.

EDUCATION PROGRAMME

6B08110 «Agronomy»

Registration number	-
Code and classification of the field of education	«6B08 Agriculture, Bioresources and Veterinary Medicine»
Code and classification of training areas	«6B081-Agronomy»
Group of educational programs	B077- Plant growing
Type of EP	Acting
ISCE level	6
NQF level	6
SQF of education level	6
Language of learning	Kazakh, Russian, English
Typical duration of study	4 years
The complexity of the EP	240 credits
Distinctive features of EP	-
University Partner (JEP)	-
University Partner (TDEP)	-

Drafters:

Fullname	position	signature
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Akparov S.M.	Director of "Tukym" LLP	
Saparymbet G.B.	Director of SUTE "Shymkent State Dendrological Park" A. Askarov name	
Esmurzaev U.	Director of PF “Ak-kayyn»	

The educational program was considered by the decision of academic committee of “ Agriculture, Bioresources and Veterinary Medicine ” branches Protocol №_____ from «_____» _____2023.

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 «_____» _____2023.

Chairman of the ICJ _____ Abisheva R.D.

Approved by the decision of the Scientific Council of the University Protocol №_ from «_____» _____2023.

CONTENT

	Introduction	5
1.	Education passport	7
2.	Learning out comes of EP	11
3.	Competencies of the graduate of EP	13
4.	A summary table reflecting the volume of disbursed credits by modules of the educational program	14
5.	Information about disciplines	46
	Approval Sheet	48
	Appendix 1. Review from the employer	
	Appendix 2. Expertopinion	

1. CONCEPT OF THE PROGRAM

University Mission	Generation of new competencies, training of a leader who translates research and entrepreneurial thinking and culture
University Values	<ul style="list-style-type: none">• Openness—open to change, innovation and cooperation.• Creativity – generates ideas, develops them and turns them into values.• Academic freedom – free to choose, develop and act.• Partnership – creates trust and support in a relationship where everyone wins.• Social responsibility – ready to fulfill obligations, make decisions and be responsible for their results.
Graduate Model	<ul style="list-style-type: none">• Deep subject knowledge, their application and continuous expansion in professional activity.• Information and digital literacy and mobility in rapidly changing conditions.• Research skills, creativity and emotional intelligence.• Entrepreneurship, independence and responsibility for their activities and well-being.• Global and national citizenship, tolerance to cultures and languages.
The uniqueness of the educational program	<ul style="list-style-type: none">• Practice orientation aimed at preparing bachelors of agriculture with integrated knowledge and skills in the fields of agriculture.• Orientation to the regional labor market and social order through the formation of professional competencies of the graduate, adjusted to the requirements of stakeholders.
Academic Integrity and Ethics Policy	<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">• Rules of academic integrity (Minutes of the Academic Council No. 3 dated 30.10.2018);• Anti-Corruption Standard (Order No. 373 n/k dated 27.12.2019).• Code of Ethics (Protocol of the Academic Council No. 8 dated 31.01.2020).
Regulatory and legal framework for the development of EP	<ol style="list-style-type: none">1. Law of the Republic of Kazakhstan "On Education";2. 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. 6143. State obligatory standards of higher and postgraduate education, approved by order of the Minister of Science and Higher Education of

- the Republic of Kazakhstan dated January 19, 2023 y No.21;
4. Rules for organizing the educational process on credit technology of education, approved by order of the Ministry of Education and Science of the Republic of Kazakhstan dated April 20, 2011 No. 152;
 5. Qualification directory of positions of managers, specialists and other employees, approved by order of the Minister of Labor and Social Protection of the Population of the Republic of Kazakhstan dated December 30, 2020 No. 553.
 6. Guidelines for the use of ECTS.
 7. Guidelines for the development of educational programs for higher and postgraduate education, Appendix 1 to the order of the Director of the Center for the Bologna Process and Academic Mobility No. 45 o / d dated June 30, 2021

Organization of the educational process

- Implementation of the principles of the Bologna Process
- Student-centered learning
- Availability
- Inclusivity

Quality assurance of the Educational program

- Internal quality assurance system
- Involvement of stakeholders in the development of the Educational Program and its evaluation
- Systematic monitoring
- Actualization of the content (updating)

Requirements for applicants

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

Conditions implementations OP for persons with disabilities and OOP

For students with OOP and LSI, tactile PVC tiles, specially equipped toilets, a mnemonic circuit, rods in shower rooms are installed in academic buildings and student dormitories. Special parking spaces have been created. A crawler lift is installed. There are desks for MGN, signs indicating the direction of movement, ramps. The academic buildings (main building, No. 8 building) are equipped with 2 classrooms with six workstations adapted for users with disorders of the musculoskeletal system (ODE). For visually impaired users, there is a SARA™ CE machine (2 pcs.) for scanning and reading books. The library's website is adapted for the visually impaired. There is a special NVDA audio program with the service. The website of the <http://lib.ukgu.kz/> is open 24/7. An individual differentiated approach is provided for all types of classes and during the organization of the educational process.

2. PASSPORT OF THE EDUCATIONAL PROGRAM

Purpose of the EP	Bachelor's degree, possessing theoretical and practical knowledge in the agricultural field, owning methods and tools in the agronomic field.
Tasks of the EP	<ul style="list-style-type: none">• the formation of socially responsible behavior in society, an understanding of the significance of professional ethical norms and the adherence to these norms;• providing skills and lifelong learning skills that will enable them to successfully adapt to changing conditions throughout their professional careers;• ensuring the conditions for acquiring a high general intellectual level of development, mastering literate and developed speech, a culture of thinking and the skills of the scientific organization of labor in the field of the agro-industrial complex;• the formation of competitiveness of graduates in the field of production, protection and processing of crop products, to ensure the possibility of their quickest employment in the specialty or continuing education at the next levels of education.
Harmonization of EP	<ul style="list-style-type: none">• 6th level of the National Qualifications Framework of the Republic of Kazakhstan;• Dublin descriptors of the 6th level of qualification;• 1 cycle of a Framework for Qualification of the European Higher Education Area);• 6th Level of European Qualification Framework for Life long Learning).
Connection of the EP with the professional sphere	<p>Professional standard “Growing vegetables and potatoes” Order of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan “Atameken” No. №190 dated 26.10.2022. SQF of education level-6</p> <p>Professional standard “Horticultural activity” Order of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan “Atameken” No. №190 dated 26.10.2022. SQF of education level-6</p> <p>Professional standard “Growing sugar beet</p>

and its seeds” Order of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan “Atameken” No. №190 dated 26.10.2022. SQF of education level-6

Professional standard “Production of greenhouse vegetables and berries” Order of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan “Atameken” No. №190 dated 26.10.2022. SQF of education level-6

Professional standard “Viticulture” Order of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan “Atameken” No. №190 dated 26.10.2022. SQF of education level-6

Name of the degree awarded

After the successful completion of this EP, the graduate is “ Bachelor of Agriculture ” in the educational program 6B08110 - “ Agronomy ” .

List of qualifications and positions

head of the peasant economy,
head of the agricultural sector,
specialist in the agricultural sector,
junior researcher in research institutions,
head and specialist of agricultural and commercial enterprises, quarantine and seed inspections, biofactories, enterprises for the storage and processing of crop and fruit and vegetable products, customs institutions, ecology, environmental protection, scientific institutions, state and administrative bodies in accordance with qualification requirements according to the qualification guide positions of managers, specialists and other employees, approved by order of the Minister of Labor and Social Protection of the Population of the Republic of Kazakhstan dated December 30, 2020 No. 553.

Field of professional activity

- republican, regional, district government agencies of the agro-industrial complex;
 - joint-stock companies, production cooperatives, limited partnerships, agricultural companies;
 - farmer, individual, collective farms;
 - experimental research institutions in the field
-

Objects of professional activity

- of agriculture;
- enterprises for storage and processing of crop products;
- evidence-based use of agricultural land resources
- appointments;
- knowledge and application of innovative technologies for the cultivation of crops, their seeds and planting material;
- scientifically grounded calculation of doses and the use of organic fertilizers, protection of crops from pests: weeds, pests, and diseases of agricultural plants;
- natural forage lands and their protection
- soil and reproduction of its fertility:
- -agricultural machinery and equipment used in the cultivation
- field and horticultural crops;
- - materials and fuels and lubricants for the operation of agricultural machinery;
- agricultural land;
- organic, mineral, green fertilizers;
- irrigation water;
- - agricultural plants and their varieties.

Subjects of professional activity

Types of professional activity

- production and technology;
- organizational and managerial;
- experimental research;
- - educational activities in secondary vocational schools by specialty profile.

Learning outcomes

ER 1Fluently communicates in the professional environment and society in Kazakh, Russian and English, taking into account the principles of academic honesty and decency.

ER2To demonstrate socio-cultural, professional development, based on the formation of ideological, civic, spiritual and social responsibility, methods of scientific and experimental research.

ER 3 Possess information, computational and digital literacy with the ability to independently determine the goals of the study and choose ways to achieve it using the analysis and perception of information, generalization of the

statistical results of experiments and the formulation of conclusions.

ER4 Develops comprehensive control measures to protect crops from harmful organisms and diseases of weed infestation, effectively using mechanisms and systems of agricultural machines and technologies of cultivation and harvesting of crops.

ER 5 Justifies the selection of varieties of agricultural crops on the basis of morphological characteristics, physiological state, determining factors for improving growth, the influence of meteorological factors on the development and quality of products for crop yields.

ER 6 Participation in the work on the selection of soil and plant samples for structural analysis and tillage for crops.

ER 7 Evaluates the physiological state of plants, the adaptive potential of varieties and hybrids, in addition to soil and climatic conditions of cultivation, and determines factors for improving plant growth and development and obtaining high yields of high-quality agricultural products, their processing and storage.

ER 8 Compiles technological schemes for cultivating nursery crops, analyzing the state of land use and phytosanitary monitoring data.

ER 9 Conducts scientific research based on the collection of information from domestic and foreign sources on technologies of chemical, biological and agrotechnical methods of scientific research and their analysis, uses statistical processing of experimental results and formulates conclusions.

ER 10 Performs activities to increase crop yields, soil fertility, through the use of organic and mineral fertilizers, pesticides, bioregulators of growth.

ER 11 Conducts marketing and commercial research in the agricultural markets of crop production and chemical products of agricultural production.

ER 12 Effectively works individually and as a team member demonstrating self-education skills and maintaining a healthy lifestyle.

3. EP GRADUATE COMPETENCE

GENERAL COMPETENCIES (SOFT SKILLS). Theoretical knowledge and practical skills specific to this area

GC1. Competence in managing one's own literacy	GC1.1. The ability to self-learn, self-constantly update their knowledge with a trajectory and in an interdisciplinary environment. GC1.2. Ability to express thoughts, feelings and opinions in the professional field. GC1.3. Ability for mobility in the mode of critical thinking.
GC2. Language competence	GC2.1. Ability to build communication projects in state, Russian and foreign languages. GC2.2. Ability to interpersonal social and communication in conditions of communication.
GC3. Mathematical and Science Competence	GC2.1. Ability to build communication projects in state, Russian and foreign languages. GC2.2. Ability to interpersonal social and communication in conditions of communication.
GC4. Digital competence, technological literacy	GC4.1. The ability to demonstrate information literacy through the mastery of modern information and communication technologies in all areas of their lives and professional activities. GC 4.2. The ability to use various types of information and communication technologies: Internet, cloud and mobile services for search, storage, protecting and disseminating information.
GC 5. Personal, social and academic competencies	GC 5.1. Ability to physical self-improvement on a healthy life to ensure full-fledged social and professional activities through the methods and means of physical culture. GC5.2. Ability to social and cultural development on the manifestation of citizenship and moral responsibility. GC5.3 The ability to build a personal educational trajectory throughout life for self-development, growth and professional success. GC5.4. The ability to successfully interact in socio-cultural contexts at school, at work, at leisure.
GC6. Entrepreneurial competence	GC6.1. Ability to be creative and entrepreneurial in a variety of environments. GC6.2. The ability to work in a mode of uncertainty and rapidly changing task conditions, make decisions and manage resources and manage your time.

GC7. Cultural awareness and ability to express yourself

GC6.3. Ability to work with consumer requests.
GC7.1. The ability to show worldview, civil and positions.
GC7.2. The ability to be tolerant of the traditional culture of other peoples of the world, to have spiritual qualities.

PROFESSIONAL COMPETENCIES (HARDSKILLS).

Theoretical knowledge and practical skills specific to this area

PC 1. To have knowledge of the main types of crops, biological, varietal and economic characteristics, environmental requirements, phyto-sanitary monitoring, pests, diseases and weeds of agricultural lands using digital methods and the preparation of an effective protective measures; select a set of crops for crop rotation taking into account the climatic conditions of the region for cultivation.

PC 2. To have the methods of calculating the doses of organic and mineral fertilizers for the planned crop determine the method and technology of their application for crops;

PC 3. To justify and use crop rotation, soil maintenance systems in field crop cultivation, apply weed protection plantings and crops of field crops.

PC4. Have knowledge of the selection of crop varieties specific conditions of the region and the level of intensification of agriculture, prepare seeds for sowing, apply technologies for the production of planting material, bookmarks and crop care.

PC5. Produce development of agro-technical measures to improve the fertility of soil; to have admission systems of soil fertility and reproduction .

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
GC 1	+				+	+			+	+		+
GC 2	+			+								
GC 3		+								+		
GC 4	+		+									
GC 5	+											+
GC 6				+							+	
GC 6	+											+
PC 1				+		+	+	+				
PC 2					+					+		
PC3					+					+		
PC 4				+						+		
PC5					+				+		+	

7.		PD	EC	Abay studies	<p>Purpose: based on the creativity of A.Kunanbayev, the preservation of the «national code» and in the project «Kazakhtanu»</p> <p>Contents: 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.Auyezova «The Way of Abai» . K. Tokayev «Abai and Kazakhstan in the XXI century», role, significance.</p>		√	√										
8.		PD	EC	Mukhtarology	<p>Purpose: The life and work of M.O. Auezov is being studied; analyzes the creative laboratory of the writer, his biography in the context of creativity; as the creator of the science of Abaevology;</p> <p>Content: Researchers Fat Manas. Acquaintance with M. Auezov as a prominent public figure. The skills of analyzing the literary heritage of M. Auezov in world and eastern literature are developing. They instill feelings of patriotism and love for the homeland.</p>		√	√										
9.		PD	EC	Service to Society	<p>Purpose: The formation of socially significant skills and competencies in students based on the assimilation of academic programs,</p>													

				<p>agricultural production.</p> <p>Content: Forms knowledge on the basics of general and agricultural microbiology and the ability to use the acquired knowledge to solve practical problems of agricultural production: to study the systematics, morphology, genetics, reproduction of bacteria; the metabolism of microorganisms, the participation of microorganisms in the transformations of various compounds; study soil microorganisms and master methods for determining their composition and activity; on the possibility of using microorganisms in agricultural production technologies.</p>														
20.		BD	EC	<p>Agricultural Microbiology</p> <p>Purpose: Assimilation by students of knowledge about microorganisms that have economically valuable properties; the main directions of the use of microbiological preparations in agricultural production.</p> <p>Content: Forms knowledge on the basics of general and agricultural microbiology and the ability to use the acquired knowledge to solve practical problems of agricultural production: to study the systematics, morphology, genetics, reproduction of bacteria; the metabolism of microorganisms, the participation of microorganisms in the transformations of various compounds; study soil microorganisms and master</p>			√							√				

				ality	necessary educational ones that have a great impact on the development of agricultural crops with the use of advanced progressive technologies. Content: Formation of knowledge about the basic methods of chemical and biological protection of crops and their vital factors, ways of their regulation in agriculture, knowledge of the structure and composition of soils, nutrient medium, properties, adjustment methods, crop rotation, weeds, basic methods of chemical and biological protection against pests, diseases, weeds, completeness, quality about ways and practical aspects														
26.		PD	EC	Fundamentals of Academic writing	Purpose: To familiarize students with the main features of the scientific style of speech; the study of the most common genres of oral and written academic discourse. Content: Forms the skills of 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. It studies language competencies, the possession of which allows the researcher to read, understand and write scientific texts. The rubric contains recommendations for the preparation, writing and publication of scientific texts, reports and publications.		√	√											
27.				Educational practice	Purpose: Consolidation and deepening of the acquired theoretical knowledge, mastering the necessary skills and abilities. Content: Educational practice or	1						√	√		√				

					introductory practice is one of the student's activities carried out at a certain stage of education. This format provides an opportunity to get acquainted with the details of the future profession, observe the work of current employees and prepare yourself for the main production practice.												
28.	Standardization and Business planning in the Agroindustrial complex	PD	HS C	Standardization, Certification and Metrology	<p>Purpose: formation of theoretical knowledge and practical skills in the field of standardization, certification and metrology to solve problems of ensuring the uniformity of measurements and quality control of products, services and works in their professional activities</p> <p>Contents: Objects of standardization, certification and metrology. Legislative and regulatory framework for standardization, technical regulation, metrology and conformity assessment systems. General scientific and special methods of standardization. Certification and declaration schemes. Methods and types of measurements. Calculation of errors and uncertainty of measurements. Technical basis of metrology. The role of international management systems in improving the competitiveness of enterprises.</p>	4	√	√	√								
29.		PD	EC	Fundamentals of	<p>Purpose: Students will master the basics of the theory and practice of business in the field of</p>	4							√			√	√

				agribusiness and Business	<p>agricultural economy.</p> <p>Content: Examines the features of the content of entrepreneurship in the agro-industrial complex. Introduces the features of state regulation of entrepreneurial activity. Forms the skills of creating and registering one's own business, developing constituent documents, agribusiness strategies, business plans. It reveals the mechanism for the formation of business ideas, risk management, evaluation and analysis of the effectiveness of entrepreneurial activity in a particular area or sector of the economy.</p>													
30.		PD	EC	The production organization and business planning of soil protecting in AFC.	<p>Purpose: training in planning control and accounting of agricultural experience, students' experience.</p> <p>Content: Knowledge and understanding of legality, principles and forms of organization of production, forms of entrepreneurial activity, business plan, leasing, commercial activity. Organization of labor promotion and calculation of the effectiveness of the use of forms of material incentives; justification of the combination of industries in agricultural enterprises; justification of the organization of additional and service industries in agricultural enterprises.</p>								√				√	√
31.		CH.D	EC	Organization of scientific research works	<p>Purpose: to teach students the methods of organizing scientific research and staging a scientific experiment.</p> <p>Contents: Specification of science, its goals, functions, types of scientific research; considers general scientific and special research methods; the main ways to choose an actual topic for</p>	4							√					√

					research and ways to compile programs for its implementation; algorithmic search for information from documentary sources of information. Skills in developing a research program, analyzing scientific literature on the research topic.													
32.		CH.D	EC	Organization of Scientific Research in Modern conditions	<p>Purpose: To teach modern students the methods of organizing scientific research and staging scientific experiments.</p> <p>Contents: Specification of science, its goals, functions, types of scientific research; considers general scientific and special research methods; the main ways to choose an actual topic for research and ways to compile programs for its implementation; algorithmic search for information from documentary sources of information. Skills in developing a research program, analyzing scientific literature on the research topic.</p>	4							√					√
33.	General Biology and Plant Protection	PD	EC	Taxonomy of Agricultural plants	<p>Purpose: the future specialist should know that the entire plant world is divided into two major sections. Lower and tall plants. He should be able to assess the evolutionary significance of a specific morphological structure inherent in the object under study, which provides for an understanding of the level of plants and phylogenetic relationships of a group of plants.</p> <p>Content: Studies the basic laws of the taxonomy of agricultural plants, has the skills of carrying out protective measures, phytosanitary monitoring of agricultural plants from pests, diseases and weeds, as well as quarantine facilities; quarantine inspection at customs posts.</p>	5				√			√					√
34.		PD	EC	Systematic	<p>Purpose: systematics (systematization) of flowering plants, medicinal</p>					√		√		√				√

				<p>s of flowering plants</p> <p>properties of flowers, one of the generative members of the plant is vegetative reproduction (natural and artificial reproduction), explaining to students the differences between flowering plants of double sex and single breeds, types of their flowers.</p> <p>Content: Knowledge of the classification of flowering plants, their morphological characteristics. Determines the composition of the flower vegetation of agricultural crops, makes up the phytocounting of flower plants of agricultural crops in various ecological and geographical zones. Has the skills of carrying out protective measures, phytosanitary monitoring of agricultural plants from pests, diseases and weeds, as well as quarantine facilities; at customs posts.</p>													
35.		Ch.D	EC	<p>Protection of Agricultural cultures Against Wreckers and Diseases</p> <p>Purpose: formation of students' theoretical and practical knowledge of chemical and biological protection of agricultural plants from pests, diseases and weeds, the use of modern means of chemical and biological protection, resistant varieties of effective crop protection, preservation of conditions for phytosanitary satisfaction of grain crops.</p> <p>Content: Knowledge of modern methods of crop protection from pests, modern means of chemical protection of crops from pathogens. Formation of a complex of knowledge and skills of chemical protection of plants from pests, diseases and weeds.</p>	5				√					√			√
36.		Ch.D	EC	<p>Chemical and Biological Protection</p> <p>Purpose: Modern methods of crop protection from pests, modern means of chemical protection of crops from pathogens are provided. Formation of a complex of knowledge and skills on chemical protection of plants from</p>					√					√			√

			ction of Plants	pests, diseases and weeds. Contents: The biological protection of this plant is an integral part of the main professional specialization of the training of agronomists. In-depth study of the links between plant pests and pathogens, teaches biological natural measures to combat them. Studies the identification of factors that reduce their number.															
37.	PD	EC	Pests and Diseases of Agricultural crops	Purpose: The specific composition of diseases of agricultural crops and the reduction of their harmfulness on a biological basis. Formation of students' theoretical and practical knowledge of chemical and biological protection of agricultural plants from pests, diseases and weeds; Use of modern means of chemical and biological protection, resistant varieties that effectively protect agricultural crops, preservation of conditions for phytosanitary satisfaction of grain crops. Contents: Knowledge of phytopathology of agricultural plants, symptoms of the most common diseases and ways to control pathogens, the nature of the spread in agrotensis, as well as biological, chemical and agrotechnical measures to combat them.	4				√						√				√
38.	PD	EC	Harm												√				√

39.				ful nematodes, mites and rodents	<p>Purpose: familiarization with the composition of pests and types of diseases and taking biological measures to reduce their damage. Determination of the main systemic groups of pests and pathogens of agricultural crops.</p> <p>Contents: harmful nematodes study of morphology, physiology, ecology, determination of types and methods of injury of harmful nematodes, ticks, pathogens and agents of diseases. The study of the diseased properties of pests, the study of their drinking apparatus, the determination of the systemic location of pests, the study of the use of systemic and contact types of pesticides in the fight against them, the coordination of rates and time of their use.</p>				√										
40.		CH.D	EC	Agriculture with the basics of soil science	<p>Purpose: to teach students the correct planning and management of the main methods and systems of soil treatment, the basics of the farming system today, explanation of agrotechnological measures to increase soil fertility.</p> <p>Content: Agriculture is an agronomic science that teaches very efficient, economical, ecological and technologically motivated land use, forming high fertile soils characterized by favorable indicators for crop production. Laws of agriculture, methods of increasing soil fertility for students; application in production of ways to increase soil fertility, features of regional farming systems; scientific foundations of crop rotation, basic principles of drawing up their sketches, rules for their implementation and development.</p>				√	√	√								

43.	Module of Agricultural area	Ch.D	HS C	Agro chemistry	Purpose: to create good conditions for feeding plants with fertilizers, to teach them the peculiarities of interaction with the soil. Content: Formation of approaches, skills and practical skills on the basics of crop nutrition, which are the scientific basis for the intensification of agricultural production through the use of economically sound, resource-saving and environmentally friendly fertilizers.	5				√						√		
44.		Ch.D	HS C	Select ion and Seed-breed ing of Crop	Purpose: The main object of breeding and seed production should master the correct application of varietal and the requirements imposed on them in production, methods of studying the soil and climatic characteristics of the region for cultivating varieties. Content: Breeding and seed production occupy a special place in increasing the yield of agricultural crops. Provides information about the selection of arable crops and the scientific and theoretical foundations of seed production, methods of their application in the practice of breeding and seed production, methods of breeding and cultivation of cult varieties resistant to diseases and pests, adapted to local soil and climatic conditions, as well as the organization of the seed production system, modern ways to improve the quality of seeds.	5				√			√			√		
45.		PD	EC	Mach inery use in agric ulture	Purpose: To study the buses of agricultural machines and the formation of ways of their operation. Content: Research of repair work in production - maintenance and preventive maintenance of machines, as well as equipment of livestock farms. Familiarization with the	4							√					

				classification and principles of operation of agricultural machinery engines, technology of mechanized work in animal husbandry and crop production. Dismantling experience - assembly and adjustment work, troubleshooting skills.														
46.		PD	EC	Crop production mechanization	<p>Purpose: to study the buses of agricultural machines and the formation of ways of their operation.</p> <p>Contents: Introduction to the classification and principles of operation of agricultural machinery engines, mechanization technologies in animal husbandry and crop production. He is trained to perform disassembly and adjustment work, to identify and eliminate malfunctions. Skills of the repair process - maintenance and prevention of machines</p>						√							√
47.		CH.D	EC	Forestry	<p>Purpose: to solve important economic tasks to improve the natural forest, as well as to study forestry as a professional discipline, to explain to students the work of creating forests, to attract future specialists to forest protection work, mainly in the use of forests, increasing its productivity and quality.</p> <p>Content: Solving the necessary individuals upon completion of national education, as well as receiving social assistance in a professional discipline, uniting students to create art, attracting new specialists to logging work, work mainly in the process of use, its productivity and quality were carried out</p>	4						√	√					
48.		CH.D	EC	Decorative Dendrology	<p>Purpose: to form a complex of knowledge about the practical application in the field of landscape design of the diversity and decorative features of woody plants, international</p>							√	√					

				<p>botanical nomenclature, habitat forms, biological, ecological and modern woody plants.</p> <p>Content: obtaining knowledge about the decorative properties of woody plants, their growth, development and reproduction phenomena; knowledge of compositional solutions in the structure of the green architecture of the city and locality; knowledge of the biology of reproduction and planting economy. Mastery of the skills of obtaining new species and identification of processed species; mastery of the skills of forming decorative compositions by cutting and other agrotechnical techniques.</p>														
49.	CH.D	EC	Technology of Cultivation of Closures in the Closed Ground	<p>Purpose: formation of theoretical knowledge and skills based on phytosanitary assessment of plants and plantings.</p> <p>Content: Knowledge and understanding of the technology of growing crops in a closed place as one branch of vegetable growing and as a scientific discipline. History, current state and directions of development of cultivation of crops in a closed field. The importance of developing a closed field in the cultivation of seedlings and the supply of fresh vegetables throughout the year.</p>	4							√	√				√	
50.	CH.D	EC	Production of greenhouse vegetables and berries	<p>Purpose: formation of theoretical knowledge and practical skills of plant protection aimed at increasing the production of environmentally friendly agricultural products to students. Reflection of harmful objects, theoretical knowledge, practical skills in building a system of protective measures.</p> <p>Content: formation of knowledge and skills in biology and technology of</p>									√				√	√

				growing vegetable and berry plants, study of biological characteristics of vegetable and berry crops, technological methods of their cultivation, study of new technologies of drip irrigation and application of fertilizers.														
51.		PD	HS C	Plant Breeding I	<p>Purpose: to explain the importance of crop production in agriculture. Possession of the basic laws of the origin of products, the basic principles (principles) of product orientation.</p> <p>Contents: The types and varietal forms of crops, biological features, environmental requirements for their cultivation and methods of growing high-quality crops have been studied. Formation of skills of economical growth with technical improvement of maximum productivity of agricultural products with high quality and low costs.</p>	5							√	√		√		
52.		PD	HS C	Plant Breeding II	<p>Purpose: To explain to students the regularities of product formation, to master the ways of using advanced technology for growing field (sowing) crops, the correct application of a comprehensive scientifically-based system for growing basic crops.</p> <p>Content: Created on the principles of the science of growing cultivated plants and modern biological science. Students should study the basic laws of crop production, since the application of the basic laws of crop production is the theoretical basis for the effective management of the crop industry, based on the principles of progressive integrated agricultural technology. It is also necessary to know the issues of seed production of field crops, the theoretical foundations of product orientation.</p>	5							√	√		√		

53.	Module of Dual Education	CH.D	EC	Technology of cultivation of cultures in the open ground *	<p>Purpose: Formation of knowledge and skills about the theoretical and practical foundations of integrated plant protection, methods of control and optimization of the phytosanitary condition of agricultural land, obtaining guaranteed profitability and product quality.</p> <p>Content: Understanding and knowledge of fruit and vegetable crops and methods of their cultivation and production, development of intensive technologies for obtaining planting material and fruit products. The production of fruits and vegetables for year-round and balanced provision of the population with fruit and vegetable products is carried out outdoors. He is trained in the development of agricultural techniques for the cultivation and production of fruit and vegetable crops.</p>	4				√	√	√	√					
54.		CH.D	EC	Growing of sugar beet and its seeds	<p>Purpose: Technology of sugar beet cultivation. Formation of technology for growing sugar beet, increasing soil fertility, weeds, pests, diseases of sugar beet, their destruction through agrotechnical, chemical and other measures, the introduction of rolling crops into production.</p> <p>Content: Knowledge of sugar beet cultivation to increase the intensity of production of the sugar beet subcomplex of the Republic of Kazakhstan, mixing chemicals in accordance with the instructions on labor protection for workers working with pesticides and chemicals, introduction of pesticides that destroy weeds on the territory to a certain depth, drawing up a map of the college of weed beet</p>				√	√	√	√						

55.		CH.D	EC	Fruit growing	<p>Purpose: The main groups of fruit, bony and other non-traditional fruit crops, about the biology of their growth and development; obtaining knowledge about the scientifically based technology of their cultivation.</p> <p>Content: Acquisition of skills in determining their varieties and species depending on characteristic features; skills in forming cells using various types of mucosa; possession of skills in pest and disease control methods.</p>	4				√	√	√	√			√		
56.		CH.D	EC	Gardening activities	<p>Purpose: Formation of knowledge and skills of agronomic research and development, design of landscaping and landscaping facilities, creation of new varieties of garden crops and technologies of garden crops aimed at solving complex problems of cultivation, care, production, storage and primary processing of fruit and berry and grape products.</p> <p>Content: Acquisition of skills in determining their varieties and species by characteristic features; acquisition of skills in the formation of barberry with the use of various types of chirpu; skills in pest and disease control techniques.</p>						√						√	√
57.		CH.D	EC	Vegetable Growing	<p>Purpose: To gain knowledge about the main groups, varieties of vegetable crops, the biology of their growth and development; about the scientifically based technology of their cultivation and production.</p> <p>Content: Understanding and knowledge of vegetable crops and methods of their cultivation and production, development of intensive technologies for obtaining planting material and vegetable products. For year-round and balanced provision of vegetable products to the population,</p>	4				√				√	√		√	

				vegetable production is carried out both in the open and in the closed ground. Acquisition of skills in the use of intensive technologies in the cultivation and production of vegetable crops.														
58.	CH.D	EC	Grow ing vegetables and potatoes	<p>Purpose: To teach students advanced technologies for growing vegetable and potato crops.</p> <p>Content: cultivation, develop intensive technologies for obtaining planting material and vegetable and potato products. To produce vegetables and potatoes both in open and protected areas for year-round and balanced supply of vegetable products to the population. Mastering the skills of applying intensive technologies in the cultivation of vegetable and potato crops.</p>							√		√			√		
59.	CH.D	HS C	Agric ulture	<p>Purpose: Interpretation of types of farming systems (simple, extensive, intensive). Scientific foundations and training of the main links of the farming system. Explanation of the meaning of crop rotations.</p> <p>Content: features of its application in agricultural production. Objects and methods of studying agriculture. Agricultural products-skills in the use of arable land for the purpose of obtaining grain, root crops, hay; study of environmental problems arising from the use of intensive chemical and man-made approaches in agriculture and the features of modern methods of irrigated agriculture.</p>	4				√	√	√							
60.	PD	EC	Soil science	<p>Purpose: Forms an idea of the soil as the main tool for agricultural production, to acquaint students with basic information about the soil, bio-inert system, biogeocenosis as an integral and</p>	5					√	√							

				<p>irreplaceable part of the biosphere. Content: Studies the formation, development, structure, composition and properties of soils, and also develops measures for the protection and rational use of soils. Recognizes the peculiarities of the relationship between soil and biota. The role of soil in the transformation of flora and fauna. Master the skills of the influence of environmental factors on soil processes and dynamics.</p>														
61.		Ch.D	EC	Fertilizer application system	<p>Purpose: to study the basic properties of organic and mineral fertilizers and changes in the agrochemical properties of soils associated with plant nutrition and the use of fertilizers, mastering the theoretical problems of plant nutrition and methods of their regulation. Contents: To know the theoretical problems of plant nutrition and methods of their regulation, physiological bases, agrotechnical techniques and conditions; basic properties of organic and mineral fertilizers and agrochemical properties of soils. Gets used to the use of organic and mineral fertilizers; methods for determining the doses of mineral fertilizers, humus in the soil and the balance of nutrients.</p>	5 4						√		√				
62.		Ch.D	EC	Use of fertilizers in intensive farming	<p>Purpose: to study the agrotechnics of applying mineral fertilizers to crop rotations and individual crops of intensive cultivation. Content: Defines the physiological basis of fertilizers, considers agrotechnical methods and conditions for the effective use of fertilizers for agricultural crops in a lawn-pasture field, in a garden and vegetable garden,</p>					√	√		√					

					Content: Collection of information about the activities of an educational institution and the professional activities of an agronomist. Analysis of normative documents that determine the content of education under the updated program. Instilling the skills of mastering the practical foundations of the future profession. Development of skills for collecting and accumulating empirical material. Development of skills for structuring, systematizing knowledge and presenting it in various ways. Development of public speech skills, presentation of reporting documentation.													
66.	Technology of Storage and Processing of Production of Agricultural crops	PD	EC	Storage and Processing of Production of Plant Growing	Purpose: formation of theoretical and practical foundations of storage technology; processing of crop production to preserve a certain quality of products. Contents: after harvesting of crop production and organization of its effective storage; scientific principles of storage of crop production, processes occurring in the product during storage; characteristics and properties of raw materials and finished products. Get used to the development of complex measures for the processing of crop products obtained after harvesting and the organization of its effective storage.	6						√	√		√			
67.		Ch.D	EC	Storage and Processing technology for	Purpose: agricultural products. This is due to an increase in the amount of profit and the level of revenue, a decrease in costs and funds per unit mass of the stored product with good preservation of its quantity and quality. The costs of storage and processing of products are reduced, an improved							√	√		√			

				vegetable products and potatoes	technical base is being created, new technological methods are being introduced, and the flexibility of specialists is increasing. Content: Studies the application of production technologies for the storage and processing of vegetable crops and potatoes. Forms theoretical knowledge and practical skills of future specialists in the storage and processing of vegetable products and potatoes to provide the population with this type of food.														
68.		PD	EC	Cotton Breeding	Purpose: To get an idea of cotton, to study the technology of growing domestic varieties of cotton, to take into account the agrophysical, agrochemical properties of purple soils of the Turkestan region, as well as the conditions of fertilizing fertilizers, pest control and diseases. Teaching students effective approaches to the agronomic study of plants, improving the technology of cultivation. Content: Studies the theoretical foundations of increasing the economic efficiency of cotton growing in assessing the current state of the industry and developing proposals for improving the placement of cotton growing in new economic conditions. Cotton growing, methods of growing and producing cotton, development of intensive technologies for obtaining planting material and fruit products. Acquisition of skills of effective cotton farming with the use of innovative technologies.	4							√				√		
69.		PD	EC	Gardening and Viticulture	Purpose: The main purpose of the discipline is to train future specialists to work independently in production conditions with the study of technology for obtaining products of horticultural								√				√		

					and grape production, its agrotechnical, biological and other specialized special operations and technological links, mastering the place and methods of execution. Contents: To know the diversity of horticultural crops and viticulture, methods of obtaining horticulture and viticulture products, the current state of the industry and prospects for its development, requirements for varieties and hybrids of modern horticulture and viticulture, to develop an intensive technology for obtaining planting material and fruit products. Mastering the skills of using intensive technologies in the cultivation and production of melons and viticultural crops.												
70.				Industrial Practice II	<p>Purpose: Systematization, generalization and deepening of theoretical knowledge in the field of plant protection and quarantine based on the study of the work of organizations in which students have practical training.</p> <p>Content: Considers technology, economics, organization and management of agricultural production, the organization of the agronomic service and the methods of work of the chief agronomist, agronomists of industries and production units of the economy. Gaining skills with maps by crops, take part in the development of a work plan for spring field work and its implementation, as well as in organizing control over the quality of work and products.</p>	5							√		√	√	
71.	Professional competence	PD	EC	Subjects on	<p>Purpose: Acquisition of new professional competencies in the</p>	12						√		√			

	s acquisition			the Additional Educational Program	field of related educational programs. Content: They study the additional educational program Minor (Minor) - a set of disciplines and (or) modules and other types of educational work, determined by students for study in order to form additional competencies													
72.	Module final certification			Predegree or Industrial practice	Purpose: Consolidation of theoretical knowledge gained in the study of the disciplines provided for by the curriculum, gaining experience in the study of an actual scientific problem and preparing for the completion of the bachelor's final qualifying work. Content: Knowledge - formation of general professional and professional competencies necessary for the development of crop cultivation technologies, acquisition of production experience of independent work in the conditions of professional agronomic activity, updating knowledge, skills and abilities in the field of agriculture in real conditions of agronomic activity.	10				√						√	√	√
73.				Writing and defence of degree work (project) or prepa	Purpose: Systematization, consolidation and expansion of theoretical knowledge and practical skills in the educational program and their application in solving specific problems in the field of plant protection. Content: Knowledge and understanding-oriented practice, as the final stage of training, is	8				√							√	√

5.SUMMARY TABLE REFLECTING THE VOLUME OF DEVELOPED LOANS IN THE CONTEXT OF MODULES OF THE EDUCATIONAL PROGRAM

Course of Study	Semester	The number of	Number of studied disciplines			Amountofcredits					Total hours	Total loans KZ	Amount	
			OC	HSK	EC	Theoretical education	Physical training	Training practice	Internship Undergraduate practice	Final examination			exam	Dif. offset
1	1	3	5		2	28	2				900	30	6	1
	2	4	3	1	3	27	2	1			900	30	5	3
2	3	7	2	3	2	28	2				900	30	6	1
	4	6	3	3	1	24	2		4		900	30	5	3
3	5	5	-	2	5	30					900	30	6	1
	6	4	-	1	2	25			5		900	30	3	1
4	7	3	-	-	3	16			5		600	21	3	1
	8	2	-	-	5	21					600	21	5	0
	9	1							10	8	600	18		1
Total			13	10	23	199	8	1	24	8	7200	240	39	12

6. STRATEGIES AND METHODS OF TRAINING, MONITORING AND EVALUATION

Learning Strategies	<p>Student-centered learning: the learner is the center of teaching/learning and an active participant in the learning and decision-making process.</p> <p>Practice-oriented learning: focus on the development of practical skills.</p>
Teaching methods	<p>Conducting lectures, seminars, various types of practices:</p> <ul style="list-style-type: none"> • application of innovative technologies; • problem learning; • case study; • work in a group and creative groups; • discussions and dialogues, intellectual games, competitions, quizzes; • methods of reflection, projects, benchmarking; • Bloom's taxonomy; • presentations; • rational and creative use of information sources: • multimedia training programs; • electronic textbooks; • digital resources. <p>Organization of independent work of students, individual consultations.</p>
Monitoring and assessing the achievability of learning outcomes	<p>Current control on each topic of the discipline, control of knowledge in classroom and extracurricular activities (according to the syllabus).</p> <p>Assessment Forms:</p> <ul style="list-style-type: none"> • surveys in the classroom; • testing topics of academic discipline; • test papers; • protection of independent creative works; • discussions; • trainings; • colloquia; • essays, etc. <p>Midterm control at least two times during one academic period within the same academic discipline.</p> <p>Intermediate certification is carried out in accordance with the working curriculum, academic calendar.</p> <p>Conduct forms:</p> <ul style="list-style-type: none"> • exam in the form of testing; • oral exam; • a written exam; • combined exam; • protection of projects; <p>protection of practice reports.</p> <p>Final state certification.</p>

EDUCATIONAL AND RESOURCE SUPPORT OF THE EP

<p>Information Resource Center</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 http://lib.ukgu.kz 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 http://articles.ukgu.kz/ru/pps.</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 http://lib.ukgu.kz/.</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>Material and technical base</p>	<p>For conducting practical classes and passing educational, industrial and undergraduate practice within the framework of dual education, there is: Training and production base "Kainar-bulak". Land area: 2.8000 ha</p> <p>Cereals, vegetables, melons, medicinal, industrial crops are cultivated at the scientific-experimental site. An intensive orchard of fruit trees, a collection vine nursery, plantations of berry crops have been laid out using new drip irrigation technologies, using mineral fertilizers and biostimulants. The scientific and experimental base "Kainar-bulak" is equipped with a technopark, scientific laboratories for conducting agricultural experiments.</p> <p>For classroom (lecture, practical, laboratory) classes there are: Lecture rooms – 4, Classrooms for laboratory classes – 5, Auditorium for practical exercises- 2, Greenhouses – 2, Experimental site – 2, Training workshop – 1, Educational and auxiliary premises: Library -1, Reading rooms – 1, Food point – 15, Assembly Hall -1 Sports hall – 1, Medical point – 8, Computer rooms – 4.</p>

APPROVAL SHEET

according to the Educational program " 6B08110 «Agronomy» "

Director of DAA _____ Naukenova A.S.

Director of DASc _____ Nazarbek U.B.

Director of DE&C _____ _____ Bazhirov T.S.

