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MINISTRY OF SCIENCES AND HIGHER EDUCATION OF THE REPUBLIC KAZAKHSTAN

M.O. AUEZOV SOUTH KAZAKHSTAN UNIVERSITY

«APPROVED»
Chairman of the board - rector,
Doctor of historical sciences,
Academician Kozhamzharova D.P.

«27» 04 2022 y.

EDUCATION PROGRAMME

6B07260 – «Technology and Design of Textile Materials»

Registration number	
Code and classification of the field of education	6B07- Engineering, manufacturing and construction industries
Code and classification of training areas	6B072- Manufacturing and processing industries
Group of educational programs	B070- Ttextiles: clothing, footwear and leather goods
Typeof EP	current (updated)
ISCE level	6
NQF level	6
SQF of education level	6.1
Language of learning	English
The complexity of the EP	240 credits
Distinctive features of EP	-
University Partner (JEP)	-
University Partner (TDEP)	-

Shymkent, 2022 y.

Developers:

Full Name	Position	Signature
Eshzhanov A.A.	a.d.Head of the chair.	
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Oguz D.	director of "Bal decor" LLP»	
Iskhakhov T. Zh.	director of Bal Textile LLP	
Dyisenbaev M.T	director of HBPTalapty	

The EP was considered in the direction of training "Production and Processing Industry" at a meeting of the academic committee,

Minutes # 1 «27» 08 2022 y.

Chairman of the Committee _____ KhanzharovN.S.

The EP was considered and recommended for approval at Educational-methodical meeting of M. Auezov SKU

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The EP was approved by the decision of the Academic Council of the University

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CONTENT

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	• 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	• 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	• Orientation to the regional labor market and social order through the formation of professional competencies of the graduate, adjusted to the requirements of stakeholders • Practical orientation and emphasis on the development of critical thinking and entrepreneurship, the formation of a wide range of skills that will allow to be functionally literate and competitive in any life situation and be in demand in the labor market
Academic Integrity and Ethics Policy	The University has taken measures to maintain academic integrity and academic freedom, protection from any kind of intolerance and discrimination: • 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	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. 614 3. State obligatory standards of higher and postgraduate education, approved by order of the Ministry of Education and Science of the Republic of Kazakhstan dated July 20.2022 No. 2; 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

2. PASSPORT of the Educational program

Purpose of the EP	Training of highly qualified bachelors with a competitive level of knowledge, skills and skills in the field of textile industry goods.
Tasks of the EP	- formation of knowledge and skills in the field of entrepreneurship, business development in the technology of production of textile materials and products; - providing them with lifelong learning skills that will enable them to successfully adapt to changing conditions throughout their professional careers; - creating conditions for students to acquire a high general intellectual level of development, mastering competent and developed speech, culture of thinking and skills of scientific organization of work in the textile industry; - the formation of professional competencies in the field of design and decoration of textile materials and products, to ensure the possibility of their employment in the specialty or continuing education at subsequent levels of education.
Harmonization of EP	• 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); • 6^{th} Level of European Qualification Framework for Life long Learning).
Connection of EP with the professional sphere	The industry qualifications framework in "Light Industry" was approved by the minutes of the meeting of the industry commissions on social partnership and regulation of social and labor relations for the mining and metallurgical, chemical, construction and woodworking industries, light industry and mechanical engineering dated August 16, 2016 No. 1. The professional standard "Specialist in the design of textiles and clothing" was approved by the order of the Ministry of Labor and Social Protection of the Russian Federation (prepared by the Ministry of Labor of the Russian Federation on 08.11.2019)
Name of the degree awarded	After the successful completion of this EP, the graduate is awarded «Bachelor of Engineering and Technology» 6B07260 – «Technology and Design of Textile Materials»
List of qualifications and positions	According to EP 6B07260 – «Technology and Design of Textile Materials», they can hold primary positions of technologist, engineer, specialist in research institutions,

	design and design organizations, without presenting requirements for work experience in accordance with the qualification requirements. The qualification directory of positions of managers, specialists and other employees approved by the order of the Minister of Labor and Social Protection of the Population of the Republic of Kazakhstan dated December 30, 2020 No. 553.
Field of professional activity	The field of professional activity is the textile industry (in the field of design and production of textile products; in the field of research; in the field of standardization, certification and quality management, technical expertise).
Objects of professional activity	- branches of the textile complex and processing industries, research organizations, firms of various forms of ownership, factories or textile enterprises, as well as control and production laboratories, regulatory and technical documentation.
Subjects of professional activity	- textile materials and products, knitted fabrics, natural and artificial leather, fur, non-woven and shoe materials; - technological equipment for textile production; - design and technical documentation of textile production; - normative and technical documentation and systems of standardization, certification of textile production;
Types of professional activity	- production and management management of existing technological processes of production of yarn and yarns, fabrics, knitwear, nonwovens; operation and repair of technological equipment and automation of technological processes of production; - project-implementation of complex design projects, products and systems, subject and information complexes based on the methodology of introduction of design and artistic activities; knowledge of technologies for manufacturing design objects and layout design; knowledge of methods of ergonomics and anthropometry. - information technology knowledge of the basics of industrial production; knowledge of modern information technologies for creating graphic images, project documentation, computer modeling; - theoretical and experimental research in the field of production technology of fabrics and knitwear using modern methods of experiment planning.
Learning outcomes	**LO1.** Communicate freely in the professional environment and society in Kazakh, Russian and English. **LO2.** Demonstrate scientific, mathematical, social, socio-economic and engineering knowledge in professional activities, methods of mathematical data processing, theoretical

	and experimental research, regulatory documents and elements of economic analysis **LO3.** Possess information and computational literacy, the ability to generalize, analyze and perceive information, set goals and choose ways to achieve it. **LO4.** The ability to analyze the state and dynamics of indicators of the quality of objects of activity (raw materials, yarn, fabric, knitwear, nonwoven materials, technological processes) using necessary methods and means of research. **LO5.** Know the design and operating principle of the main and auxiliary equipment for the production of yarn fibers, determine the consumption rates of raw materials and materials. **LO6.** The ability to analyze, evaluate and compare the structure, properties and quality indicators of the objects of research of textile and leather products. **LO7.** Be able to rationally use raw materials and materials in the production of textiles. **LO8.** Implementation of modern innovative technologies and processing of competitive textile materials and products. **LO9.** Assess production and non-production costs to ensure product quality, organize the work of the team of performers, make management and organizational decisions taking into account various technical situations. **LO10.** To study scientific and technical information, domestic and foreign experience, to participate in research on improving technological processes and equipment, to apply the results in practice. **LO 11.** Use research, entrepreneurial skills in professional activities. **LO 12.** Effectively work individually and as a team member, correctly defend your point of view, adjust your actions and use different methods.

3. COMPETENCES OF EP GRADUATE

GENERAL COMPETENCIES (SOFTSKILLS). Behavioral skills and personal qualities	
GC 1. Competence in managing your literacy	GC1.1. The ability to self-study, self-develop and constantly update their knowledge within the chosen trajectory and in an interdisciplinary environment. GC1.2. The ability to express thoughts, feelings, facts and opinions in the professional sphere. GC1.3. The ability to mobility in the modern world and critical thinking.
GC 2. Language competence	GC2.1. Ability to build communication programs in the state, Russian and foreign languages. GC2.2. The ability to interpersonal social and professional communication in the conditions of intercultural communication.
GC3. Mathematical competence and competence in the field of science	GC3.1 The ability and willingness to apply the educational potential, experience and personal qualities acquired during the study of mathematical, natural science, technical disciplines at the university to solve professional problems.
GC4. Digital competence, technological literacy	GC4.1. The ability to demonstrate and develop information literacy through the mastery and use of modern information and communication technologies in all areas of their lives and professional activities. GC4.2. The ability to use various types of information and communication technologies: Internet resources, cloud and mobile services for the search, storage, protection and dissemination of information.
GC5. Personal, social and educational competencies	GC5.1. The ability to physical self-improvement and orientation to a healthy life to ensure full-fledged social and professional activities through methods and means of physical culture. GC5.2. The ability to socio-cultural development based on the manifestation of citizenship and morality.

	GC5.3. The ability to build a personal educational trajectory throughout life for self-development, career growth and professional success. GC5.4. The ability to successfully interact in a variety of socio-cultural contexts during study, at work, at home and at leisure.
GC6. Entrepreneurial competence	GC6.1. The ability to be creative and enterprising in different environments. GC6.2. Ability to work in the mode of uncertainty and rapid change of task conditions, make decisions, allocate resources and manage your time. GC6.3. Ability to work with consumer requests.
GC7. Cultural awareness and self-expression	GC7.1. The ability to show ideological, civic and moral positions. GC7.2. The ability to be tolerant of the traditions and culture of other peoples of the world, to possess high spiritual qualities.
PROFESSIONAL COMPETENCIES (HARDSKILLS).	
Theoretical knowledge and practical skills specific to this field	PC1. general professional. - the ability to mutually coordinate various means and factors of design, integrate various forms of knowledge and skills in the development of design solutions, coordinate interdisciplinary goals, think creatively, initiate innovative solutions and perform leadership functions in the project process. Perform reference samples of the design and decor object.
	PC2. Artistic and creative competencies - the ability to create a unique creative using your talent, artistic taste and the necessary techniques independently and in co-creation. To carry out the process of design design taking into account modern trends in the field of textile design and decor.
	PC3. production-technological activities in textile production. -have an idea of the technology and the production of fibers from natural raw materials, be able to skillfully make technological transitions to obtain natural textile fibers, know the types of materials

	and equipment used, the types of defects that occur when each process and operation is incorrectly performed; to know the ways of rational use of wool and cotton; have an idea of the new technology and technology in the primary processing of natural fibers.
	PC4. efficient usage of raw materials and equipment -apply mathematical models to optimize the composition of the mixture of fibers in the design of the properties of yarn. Know the stages of designing parameters and spinning technology, methods for designing parameters of individual processes and their combination in production, ensuring the production of yarn of a given quality with good technical and economic indicators.
	PC5. management processes and organization in textile production - to know the structure and operation of modern spinning equipment, technological processes for the production of yarn from natural and chemical fibers, types of yarn defects, their causes and methods of elimination; know the range and purpose of the melange yarn from natural and chemical fibers, know new ways of melanging; have the skills to choose the raw materials and compile sorts for the production of melange yarn.
	PC6. information technology -analyze the causes of occurrence and eliminate defects in the produced yarn; develop technological and technical specifications for the range of produced yarn; understand the types of automatic control systems, the usage of robots and micro processor technology.
	PC7. research activities -analysis of the state and dynamics of quality indicators of objects of activity (raw materials, yarn, fabric, knitwear, nonwovens, technological processes) using the necessary methods and means of research;

3.1 Matrix of correlation of EP learning outcomes in general with modules formed by competencies

	LO 1	LO 2	LO 3	LO 4	LO 5	LO 6	LO 7	LO 8	LO 9	LO 10	LO 11	LO 12
CC 1	+											
CC 2		+										
CC 3					+			+	+			
CC 4			+									+
CC 5							+				+	
CC 6							+			+		
PC 1		+				+			+			
PC 2				+	+		+					
PC 3				+		+	+					
PC 4			+		+			+				
PC 5			+				+				+	
PC 6				+		+				+		+

4. MATRIX OF THE INFLUENCE OF DISCIPLINES ON THE FORMATION OF LEARNING OUTCOMES AND INFORMATION ABOUT LABOR INTENSITY

№	Module name	Cycle	UC/OC	Component Name	Brief course description	Number of credits	Формируемые результаты обучения (коды)										
							PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	Module of the social science	GED	OC	History of Kazakhstan	It allows us to classify the conceptual foundations of the National History, interpret the origins, continuity of the Kazakh statehood and current problems of the history of modern Kazakhstan. Analysis of the activities of the national intelligentsia in the formation of the ideology of the liberation movement and the stages of socio-economic modernization of Kazakhstan. To characterize the creation of a democratic state governed by the rule of law.	5		v										v
		GED	OC	Philosophy	The basics of the emergence of philosophy are considered, the peculiarities of the emergence of the culture of thinking are revealed, the concepts of "philosophy" "worldview", the essence and content of the concepts of "being", "consciousness"are revealed. The relationship between the concepts of "cognition" and "creativity" is considered, the essence and content of the category of philosophy of freedom are revealed, the skills of identifying the essence of a philosophical problem, critical thinking, and the skills of studying philosophical aspects, problems of practice and cognition are developed.	5												v

	Module of Socio-political Knowledge	GED	OC	Social and Political Studies	It studies the theories of sociology, the social structure and stratification of society, explains the role and place of politics in society, examines the main stages of the formation and development of political science, including youth policy, the role of politics in the system of public life, reveals the essence of the state, reveals the relationship between the state and civil society. They develop the skills of sociological research, analysis of socio-political information	4												v
		GED	OC	Cultural Studies and Psychology	Understanding the social and ethical values of society as a product of integration processes in the systems of basic knowledge of the disciplines of the socio-cultural and psychological module; analyze the features of psychological institutions in the context of their role in the modernization of Kazakhstan's society;form programs for resolving conflict situations in society, including in professional society; be able to correctly express and defend their own opinion of social significance	4												v
	Module of Socio-ethnic Development	GED	HSC	Ecosystem and Law	Formation of integrated knowledge in the field of economics, law, anti-corruption culture, ecology and life safety, entrepreneurship, scientific research methods. Fundamentals of safe human-nature interaction, ecosystem and biosphere productivity. The entrepreneurial activity of society in conditions of limited resources, increasing the competitiveness of business	5		v										v

					and the national economy. Regulation of relations in the field of ecology and human life safety. Knowledge and compliance of Kazakhstan's law, obligations and guarantees of subjects, state regulation of public relations to ensure social progress. Application of scientific research methods.													
		BD	EC	Actual Problems and Modernization of National	The concept, features, role and significance of national consciousness. The concept and significance of competitiveness, pragmatism, state-legal ideology, national identity, the cult of knowledge, the evolutionary development of Kazakhstan. Know the ideological and spiritual basis for the consolidation of Kazakhstan's society in the context of the state program "Rukhani Zhangyru»;	3		v										v
		BD	EC	Mukhtar Study	The main dates of the life and creative activity of Mukhtar Auezov. Formation of the concept of the meaning and role of the science of mukhtartanu in the Kazakh literature. The role and significance of Auezov's works in Kazakh literature. Formation of knowledge and thinking of students by deepening their understanding of the work of M. Auezov. Know the concepts of the meaning and role of science mukhtartanu in Kazakh literature			v										v
		BD	EC	Abay Studies	Analyze the contexts of history and culture, taking into account the main methodological directions, the contexts of culture and socio-historical experience, taking into account the evolution of artistic consciousness and the			v										v

					specifics of the creative process. Possess the skills of analytical reading of works of art, which involves the vision of the problems and the identification of the main artistic means of a particular text.													
	Module of Communication and Physical Education	GED	OC	Kazakh (Russian) Language	The article considers the development of cognitive and communicative activities in the Russian (Kazakh) language in the areas of interpersonal, social, and intercultural communication; instilling the skills of discussing ethical, cultural, and socially significant norms in discussions, the ability to work in a team, interaction in a team, flexibility, and creativity; the development of practical skills in interpreting text information, explaining their style and genre specifics in various areas of communication.	10	v											
		GED	OC	Foreign Language	The study of methods and techniques of structural-semantic and semantic-linguistic analysis of a scientific text, to understand how the information of the text develops, to see and build its logical and compositional basis. Be able to extract the necessary information from the text, describe it, summarize and interpret it for use in the process of educational, professional, business and everyday communication.	10	v											
		GED	OC	Physical Training	Formation of physical culture of the individual and the ability to use a variety of means and methods of physical culture, sports for the protection and promotion of health, psychophysical training and self-preparation for future life and professional	8													v

					activity. Use the acquired knowledge and skills in practical activities and everyday life to improve performance, maintain and strengthen health.													
		BD	HSC	Professional Kazakh (Russian) Language	Formation of the communicative competence of a specialist who is able to solve the actual problems of communication in the field of professional activity by means of the Kazakh, (Russian) language. Knowledge and ability to correctly interpret statements of scientific, business, and journalistic styles on current topics in the field of professional activity.	3	v											
		BD	HSC	Professionally Oriented Foreign Language	It examines the teaching of technical terms and expressions by specialization; understand colloquial speech of medium complexity on technical topics; use a foreign language in practical classes; read technical texts of medium complexity without a dictionary and discuss them with the teacher; competently compose and write small texts of individual reports on technical topics and present them to the audience.	3	v											
		GED	OC	Information and Communication Technologies (in English)	Knowledge of computer systems, software. Development of skills in using information resources for searching and storing information, working with spreadsheets, working with databases. Application of methods and means of information protection; design and creation of websites, multimedia presentations. Skills in using e-government and e-textbooks, various cloud-based mobile technologies, SMART technology management.	5	v		v							v		

	Module of Bases of Natural Mathematical and Engineering Sciences	BD	ES	Mathematics	Elements of linear algebra and analytic geometry are considered. Develop the ability to calculate the limit of a function. Acquisition of knowledge of the differential and integral calculus of a function of a single variable. Knowledge of the concepts of functions of several variables. Argumentation of the optimal variant of solutions of differential equations. Skills in finding multiple integrals. Acquisition of theoretical knowledge on the theory of numerical, functional and power series and their convergence.	5		v	v									
		BD	ES	Physics	Formation of students ' basic scientific thinking, physical concepts and theories. Evaluate the degree of reliability of the results of theoretical and experimental studies, plan a physical and technical experiment and process its results using the methods of dimension theory, similarity theory and mathematical statistics. Students will learn how to formulate and select algorithms for solving specific problems from various fields of physics.	4		v	v									
		BD	ES	Chemistry	It examines the basic laws and concepts of chemistry, the structure of matter and the atom, the types of intra-and intermolecular bonds, the patterns of chemical reactions, the energy and kinetics of chemical processes, solutions and dispersed systems, and electrochemical processes. Handle chemical reagents, instruments and equipment, perform mathematical calculations, plan and	4		v										v

					conduct the necessary experiment.													
		BD	ES	Textile Machine Parts	The processes of changing and converting energy in mechanical systems are examined; mechanical systems are calculated for strength under various types of force action; structural analysis of mechanisms is carried out; calculations of machine parts are performed using reference material and independently design machine parts for the required purpose according to the specified data.	4					v		v					
		BD	ES	Theoretical and Applied Mechanics	Mastering the main provisions of theoretical mechanics. Formation of scientific engineering thinking, that is, the ability to see in each mechanical system its design model. Make design schemes for structural elements, have an understanding of the application of the laws and principles of mechanics for the analysis of mechanical processes of formalized material systems						v		v					
		BD	ES	Engineering Computer Graphics	The main provisions of descriptive geometry, engineering graphics, practical implementation of general technical and specialized drawings in accordance with GOST, skills of working with modern computer programs in the environment of computer-aided design AutoCAD, 3D modeling are considered. Skills in reading technical drawings.	4			v									
		BD	ES	Bases of Mathematical Modeling of Technological	Fundamentals of mathematical modeling of technical processes is the formation of students ' competencies in the process of forming the ability to navigate the flow of	4		v	v									

				Processes	information in the conditions of continuous development of science and technology, to learn how to use computer modeling to explain technological processes.													
		BD	ES	Standardization, Certification and Metrology	It examines the systems of technical regulation, standardization, ensuring the uniformity of measurements, legislative and regulatory documents, types and categories of standards; application of standardization methods, certification schemes, requirements of technical regulations of the CU/Evra ES; analyzes compliance with the requirements for standardization, certification, metrological norms and rules by market participants; evaluates the economic efficiency of work on interstate and international standardization, certification, metrology	4									v		v	
		BD	ES	Technical regulation and standardization	It examines the systems of technical regulation, standardization, ensuring the uniformity of measurements, legislative and regulatory documents, types and categories of standards; application of standardization methods, certification schemes, requirements of technical regulations of the CU/EvraES; analyzes compliance with the requirements for standardization, certification, metrological norms and rules by market entities; evaluates the economic efficiency of work on interstate and international standardization, certification, metrology										v		v	
	Module of Bases	BD	ES	Introduction to the Specialty	Know the relevance and prospects of using extile materials and products in a market	4							v					v

	specialty				economy; Have an idea of your future profession, the types of textile enterprises and a wide range of textile materials and products. Apply in practice technical means for measuring quality indicators to obtain reliable information about the properties of textile materials and products; The formation of creative, creative thinking and the development of professional skills for the development of textile materials													
		BD	ES	Bases of Academic Writing	Skills of creative writing of written works (essays, reports, term papers, theses) using existing knowledge in the field of textile materials research, taking into account the generally accepted requirements for the structure of text construction, the choice of presentation style, and design using scientific literature. The ability to logically correctly, argumentatively and clearly build oral and written speech, including in a foreign language.							v					v
		BD	ES	Текстильное материаловедение	The range of textile materials for the manufacture of textile and light industry products, new types of fibers and threads: heat-resistant, non-flammable, high-modulus, and others. Study the structure and properties of fibers and threads. Assortment and quality assessment of fibers and threads, fabrics, knitwear and nonwovens.	6				v		v						
		ChD	ES	Textile Materials Study	Know all types and properties of textile materials, their structure; - fundamentals of the spinning processes of natural and chemical fibers; - basics of weaving and					v		v						

					knitting production; - fundamentals of nonwovens production. Ability to make technological schemes of textile production processes; To choose the technological chain of equipment taking into account: the development of a given product range; calculation of speed modes and machine performance; technological transitions of textile production. Independently determine the technological parameters of the main processes of spinning, weaving, knitwear and nonwovens;													
		ChD	ES	The Technology of Primary Processing of Textile Raw Materials	Cotton gins and schemes of technological processes of primary processing of textile raw materials. Technical control at the cotton gin plant and cotton harvesting point. Equipment of auxiliary technological workshops. To study the sequence of technological processes for producing textile fibers. Use reference literature when determining the physical and chemical properties of textile raw materials; know the modes of primary processing of textile raw materials	5				**v**			**v**					
		ChD	ES	Bases Pproduction of Textile Raw Materials	Know the modes of primary processing of textile raw materials; calculation of equipment for primary processing of textile raw materials. Definition by (standards), standards for the classification of textile fibers To study the mechanization of labor-intensive work and automation of production processes. Justify the basic rules of safety					**v**			**v**					

					and fire prevention measures. Consider the optimal process for processing textile fibers													
		BD	HSC	Educational Practice	Familiarization with the main activities of the student in various structures of the textile enterprise, training in the methods of searching and collecting information on the topic of interest with the help of information and bibliographic manuals. Have an idea about your future profession, about the types of textile enterprises. Know the safety regulations for those working in the textile industry.	2				v			v		v			
	Module of Technology and Equipments of Textile Production	BD	EC	Technical Documentation of Textile Products	The main regulatory documents that form the basis of regulatory support for textile production. Laws, state standards, technical regulations, rules and recommendations, standards of the unified system of design documentation, the unified system of technological documentation, product classifiers. List the main regulatory documents that form the basis of regulatory support for textile production;	4		v						v				
		BD	EC	Normative and Technical Documentation in the Quality Management of Textile Products	The main issues of implementation and further development of standards and processes, criteria for evaluating the effectiveness of their application in the textile industry. solve problems of typification and unification of production processes of textile materials, check the compliance of product quality indicators with the established requirements of regulatory documentation; consider the types and categories of standards and analyze them on the basis of technical			v						v				

					documents													
		BD	EC	Production Technology of Natural and Chemical Fibers	The role and importance of natural and chemical fibers in the national economy and the most recent achievements in engineering and technology. Assortment of natural fibers. Technology of production of fibers of plant origin. Production processes of bast and coarse-stemmed fibers. Technology for the production of animal fibers. Possess standard methods of physical and chemical analysis of natural and chemical fibers	5				**v**								
		BD	EC	Production Technology of Fiber-forming polymer	Review of the latest achievements in the technique and technology of production of fiber-forming polymers. The main types and classification of fiber-forming polymers. The main technological processes of the production of artificial fibers. Structure and test methods of chemical fibers. Physical and chemical properties of fiber-forming polymers. Discuss modern technological processes for the production of chemical fibers and recommend optimal methods taking into account the specified production conditions					**v**								
		BD	EC	Technology of Spinning Production	General scheme of spinning production. Spinning systems. Processes carried out on the baking-cleaning unit. Selecting fibers and moving fibers between machines. Mixing of components. Flapping of the fibrous mass. Preparation of the carding tape. Belt machines of the world's leading manufacturers. Preparation of the combed tape. Methods of spinning. Compare the	4				**v**	**v**		**v**					

					quality of the finished product for compliance with the technical requirements provided for in the standards and technical specifications													
		BD	EC	Spinning of Cotton and Chemical Fibers	Features of modern pneumomechanical spinning machines. Rotary spinning. Aeromechanical spinning. Friction spinning. Spinning wool. Wool spinning systems. Spinning machines for wool. Production of yarn from bast fibers. Spinning flax. Processing of chemical fibers and yarns. Production of textured threads. Product quality control. Determine the parameters that affect the quality of the finished product					**v**	**v**		**v**					
		BD	EC	Mechanical Technology of Textile Materials	Fundamentals of knowledge on the study of processes and equipment that ensure the production of yarn, twisted yarns, fabrics, knitwear, non-woven and other textiles and the formulation of conclusions when performing practical work in a group and individually. Determine the interweaving of textile materials and products, the direction of the warp and weft threads in the fabric	6				**v**		**v**	**v**					
		BD	EC	Technology Equipment of the Industry	Production of yarn and yarns. Preparation of yarn for weaving. Structure and analysis of the tissue. Weaving - the formation of fabric. Knitwear production. Independently perform technological calculations to determine the physical and mechanical characteristics of yarn, fabric, knitwear and linen, the consumption of yarn and threads, the geometric characteristics of yarn						**v**	**v**	**v**					

	Module of General Technology and Service of Textile Production	BD	EC	Technology of Textile Production	Basic knowledge of processing of fibers of vegetable, animal and other origin, production and finishing of fabrics, knitwear and nonwovens, as well as the study of processes and equipment for the production of yarn, fabric, knitwear, nonwovens. Choose the desired structure of the fabric, as well as determine the conditions for its production on the loom	6				v		v	v					
		BD	EC	Innovative Technology of Textile Production	Know the development of the trends of innovative textile production technologies. 3D printing-getting the finished model from a special printer.Three-dimensional design technology. Creation of environmentally friendly technologies for dyeing and processing textile materials, using modern wastewater treatment systems. The formation of students to conduct purposeful research on the creation and artistic shaping of innovative textiles. Know the properties of innovative materials, systematize and classify the types of modern textiles and other fabrics in accordance with the areas of their use.					v		v	v					
		BD	EC	General Technology of Cotton Production	To discuss in the group modern technologies of cotton production; to consider the main properties of cotton fiber and the relationship between the properties of natural fiber; to analyze the economic effect in the production of cotton fibers; to classify the technologies of cotton production; to explain the general technology of producing cotton materials.	4							v					
		BD	EC	Bases of	Consider the assortment of textile materials								v					

				Knitwear and Nonwovens Technology	for the manufacture of textile and light industry products; determine the structure and properties of textile materials in laboratory conditions; Discuss the latest achievements in the technology and technology of production of knitwear and nonwovens; know the production processes and methods for obtaining knitwear and nonwovens; The main technological processes for the production of knitwear and nonwovens.													
		ChD	EC	Bases of Resource-Saving Technologies of Textile Production	New in the technique and technology of spinning. Design features of modern carding, roving, ring-spinning machines. Belt machines from leading manufacturers. Modern machines for the preparation of canvases. Foreign combing machines. Features of modern pneumomechanical spinning machines. Progressive ways of spinning. analyze the composition of regenerated spinning waste used for the production of medical gauze in order to comply with the quality indicators of cotton fiber	4							v		v			
		ChD	EC	Generl Technology of Textile Materials	Describe the technological process of spinning Weaving production. Preparation of yarn for weaving. Structure and analysis of the tissue. Weaving - the formation of fabric. Knitwear production. Structure and properties of knitwear. Loop formation processes. Production of single knitwear and basic knitwear. Production of double cross-knit knitwear. Production of hosiery.								v		v			

					Production of nonwovens. Product quality management.													
		BD	EC	Service and Operation of Textile Equipments	The current state of textile equipment enterprises. Specifics of technological processes of light industry enterprises. Organization of operation, repair and installation of equipment. Safety precautions for the maintenance and operation of textile equipment. Use methods of disassembly, assembly and installation of equipment, methods of adjusting the actuators of machines	5					v			v	v			
		BD	EC	Repair and Adjustment of Textile Machines	Technical characteristics of the equipment used in the weaving process. The main parts of the automatic loom: lamel, remiz, berdo Mechanisms of tension and supply of the base with navoi. Main brakes. Know the rules of operation and maintenance of the operated textile equipment and the safety rules of the main regulators. Worm main regulator. Wear of equipment parts, methods for detecting defects in parts.						v			v	v			
		ChD	HSC	Industrial Practice I	Have an understanding of technological processes, textile production equipment, the location of workshops and their relationship, product quality control, testing methods of textile materials and products, vehicles, economics, organization and management of production, standardization and quality control of products and technical and economic indicators of production.	4						v					v	v
	Module of Assortment	ChD	EC	Assortment and Quality	The range of threads for technical purposes; the range, properties and evaluation of the	4				v	v	v						

	, Design and Finishing of Textile Materials and Products			Assessment of Textile Materials and Products	quality of twisted yarn and threads. Justify the procedure for conducting quality assessment, the sequence of operations for the formation of an average sample, determining the quality indicators of fabrics and fabrics; identify defects and damage to goods, establish and													
		ChD	EC	Assortment Mobility of Textile Production	Classification of multicomponent textile threads. Promising directions for expanding the range of multicomponent textile yarns. Analysis of new technological processes for obtaining multi-component yarns. Know the range of products for which the designed yarn is intended and summarize the knowledge of resource-saving technologies in the textile industry. Development of a method for predicting the breaking load of yarn obtained by the ring spinning method.					v	v	v						
		BD	EC	Design and Projecting of Textile Materials	The origins of the textile ornament, the design of the "art textile" ornament, the basics of the construction of the ornament and the development of the artistic design of the textile pattern, the automated method of designing drawings using. Choose harmonious combinations of colors when designing textile materials, independently design the ornament of textile materials	5						v						v
		BD	EC	Artistic Decoration of Textile Materials and Products	General issues of decoration of textile products. Definition of the concept of "design". Drawing of the design orientation. Modern representation and design of textile drawing. Product range and quality. Properties of fibrous materials, coloring							v						v

					substances intended for textile products. Rules for building a rapport composition. Apply the general rules of competent composition construction based on the use of visual means of graphics													
		ChD	EC	Finishing and Dyeing of Textile Materials and Products	To justify the sequence of location of the main and auxiliary equipment of finishing production; to evaluate the influence of various technological factors on the quality of coloring of products; to use technical means and methods to measure the main parameters of the technological process, the properties of raw materials and products; to justify special types of finishing.	5				**v**	**v**							
		ChD	EC	Chemicalization of Technological Processes of Textile Production	The main directions of chemicalization of technological processes of the textile industry, polymer materials and fibers used in the manufacture of textile products; to justify the composition of chemicals for the chemicalization of textile products and materials; to observe safety precautions when working with chemicals; to consider technological parameters for the chemicalization of textile materials and products;					**v**	**v**							
	Design of Textile Materials and Production module	ChD	EC	Design of Fibrous Materials	Parameters of the structure of fibers and yarn. General and additional indicators of the quality of fibers and yarn. The range of yarns and types of fibers used in cotton spinning. Design of the composition of fiber mixtures and cotton spinning technology for all technological processes. Know the methods of designing fibers and yarns according to the	4				**v**		**v**		**v**				

					specified parameters and properties of fibers and yarns.													
		ChD	EC	Design of Yarns and Threads	Increasing the yield of yarn without compromising its quality by improving the efficiency of fiber cleaning processes, the effect of fiber properties on yarn properties, the spinning ability of the fiber; yarn yield from the mixture; properties of yarn from fibers of various origins; mixing; preparation of single yarn; spinning machines; Perform all stages of technological design and calculation of parameters of textile products					v		v	v					
		ChD	EC	Design of Cotton-Spinning Factories	The concept of choosing the place of construction of enterprises. Technical and economic indicators of plants for the primary processing of fibers and yarn, and their analysis. General design scheme of cotton spinning production technology. Is able to select and apply advanced resource-saving technologies aimed at reducing the operations of technological processes, the consumption of raw materials, increasing labor productivity and be able to choose the optimal solution	5			v					v			v
		ChD	EC	Design of Mills for Primary Processing of Natural and Chemical Fibers	The use of chemical fibers mixed with natural fibers in order to improve the consumer properties of textiles. Technological processes of production of melange yarn. Technological processes of production of flax-containing yarn. The use of new methods of forming multicomponent yarn. Evaluation of the quality of heterogeneous textile threads.Have fixed				v					v			v

					theoretical and practical knowledge gained in the study of the disciplines of specialization													
	Module of Modern Technologies and Ecological Problems of Textile Production	ChD	EC	Ecological Safety of Textile Production	Calculate the maximum permissible concentrations of harmful substances contained in the air in textile production. Study the process of industrial wastewater treatment and disposal. Review of modern methods of environmental certification of textile products and environmental labeling in the textile industry.	5								v	v			
		ChD	EC	Ecological Problems of Weaving Production	Describe the current environmental problems of the textile industry. Justify measures to prevent harmful emissions and environmental pollution by improving technological processes. Calculate the proportion of dust on the technological process and the principle of operation of the equipment. Substantiate the methods of wastewater treatment: neutralization, oxidation, reduction and removal of heavy metal ions.									v	v			
		ChD	EC	Modern Technologies of Textile Fibers	Dynamics of the development of the production of chemical fibers. Release at the turn of the third millennium.General-purpose fibers and filaments. Modified types of fibers.Fire-proof fibers. High-strength technical threads. To study the development of multi-tonnage types of fibers and yarns, the production of medium-and low-tonnage chemical fibers. Heavy-duty and ultra-high-modulus initi fibers. Heat-resistant and flame-resistant fibers based on aromatic polymers.	5					v					v		
		ChD	EC	Innovative	Purpose, range and use of twisted textiles, the						v				v			

				Technology of Spinning Production	influence of the intensity of twisting on the properties of yarn. Analyze the work and feasibility study of the advantages of innovative twisting equipment, double-twisting methods, reels, utopia of self-twisting yarn fixing methods. Theoretical analysis of the principle of two-stage torsion, analysis of the operation of machines of a two-stage yarn torsion system													
	Module of Planning Technological Processes of Textile Production	ChD	EC	Optimization and Intensification of Spinning Production Processes	Types of optimization and intensification tasks. Intensification of the main processes of textile production. Ensuring the efficiency of technological processes of textile production The main directions of scientific and technological progress in weaving: automation of production, the use of high-speed machines, the use of large packages, the creation of fundamentally new processing methods and machine designs, etc. List and explain the methods of intensification of technological processes	5				**v**			**v**					
		ChD	EC	Optimization and Intensification of Natural and Chemical Fibers Production Processes	Intensification of the main processes of production of natural and chemical fibers and yarns. Ensuring the efficiency of technological processes of production of both natural and chemical fibers, and yarn, their mutual influence on the quality of finished products. Intensification of the technological process of formation of natural and chemical fibers and yarn on modern equipment. Perform optimization of mechanical and technological processes					**v**			**v**					
		ChD	EC	Optimization	Purpose, range and use of twisted textiles, the	5				**v**			**v**					

				and Intensification of Weaving Production Processes	influence of the intensity of twisting on the properties of yarn. Analyze the work and feasibility study of the advantages of innovative twisting equipment, double-twisting methods, reels, utopia of self-twisting yarn fixing methods. Theoretical analysis of the principle of two-stage torsion, analysis of the operation of machines of a two-stage yarn torsion system.														
		ChD	EC	Computerization of Technological Processes of Textile Production	Computer technology in the textile industry. Automatic systems of primary processing of raw materials of fibers. Computer calculation of the composition of complex yarn. Digital technology in determining the structure and analysis of yarn. Analysis of yarn hairiness. Manage the yarn manufacturing process using computer programs Analysis of the composition of mixed yarns. Determination of yarn quality on digitally controlled devices. Software tools for computer modeling.					**v**			**v**					
		BD	ES	Scientific Research Work	Types of research work in the textile industry. The main features of the mechanical and technological processes of research. Stages of research work. Know the basic concepts, terms and their definitions in the field of commodity science of textile and knitted goods; factors that form and preserve quality; the nomenclature of consumer properties and quality indicators; the main procedures for the control and examination of the quality of textile and knitted goods	6										**v**	**v**	
		BD	ES	Experimental	Choosing a topic for research work.											**v**	**v**	

				Research Work	Preparatory stage of research.Preliminary experiment. Preparation and conduct of a preliminary experiment. Tasks of primary processing of the results of the preliminary experiment.Independently use testing equipment, measuring instruments and in the control and examination of the quality of textile and knitwear products													
		ChD	HSC	Industrial Practice II	The student must understand the goals, methodology and methods of professional activity of the technologist, be able to organize, conduct and control the technological process at the enterprises of the textile industry, carry out the formulation and solve design, operational experimental and research tasks, be able to independently control and analyze the technological process at the enterprises of the textile industry; Consolidate the theoretical and practical knowledge gained by students in the study of the disciplines of specialization.	6										**v**	**v**	
	Module acquisition of new professional competencies	BD	ES	Subjects in the Additional Educational Program	Students acquire knowledge about the main existing methods of hand-painting fabrics in the batik technique and further apply them in their creative activities. Identification of individual creative abilities of students, development of their imaginative thinking and imagination, as well as improvement of their aesthetic taste and artistic culture.	12				**v**	**v**					**v**		
	Module of Final Attestation	ChD	HSC	Pre-Degree or Industrial Practice	Methodologically correct representation of the structure and importance of textile industry enterprises; describe the production process of the enterprise; discuss with the	8					**v**					**v**	**v**	

					head of the practice the use of improved methods and modern equipment at the enterprise to obtain high-quality textile products; analyze the current state of the textile industry in the country and abroad;													
				Writing and Defending a Thesis a Graduate Work or Preparing and Passing a Comprehensive Exam	Choose the research methodology, find a solution to the problems and questions that have arisen with your own responsibility; explain the applied technological processes for the production of textile materials and products, advantages and disadvantages; consider the task, identify the problem and formulate the task of the thesis;	12					v					v	v	v
	Total					**240**												

5. Summary table reflecting the volume assimilated credits of education program modules

Course of Study	Semester	The number of mastered modules	The number of studied disciplines			Number of KZ credits					Total hours Compulsory component	Total KZ credits University component	The number of	
			Compulsory component	University component	Optional component	Theoretical training	Physical education	Учебная практика	Производственная, преддипломная практика	Итоговая аттестация			Optional component	Theoretical training
1	1	3	3	2	1	28	2				900	30	6	1
	2	3	3	2	1	26	2	2			900	30	6	2
2	3	5	3	2	1	28	2				900	30	6	2
	4	5	-	1	4	24	2		4		900	30	5	2
3	5	5		-	6	30					900	30	6	-
	6	3			5	24			6		900	30	3	1
4	7	4			4	20					600	20	4	
	8	2		-	4	20					600	20	4	-
	9					-			8	12	600	20		1
Total		**31**	**9**	**7**	**26**	**200**	**8**	**2**	**18**	**12**	**7200**	**240**	**40**	**9**

6. LEARNING STRATEGIES AND METHODS, MONITORING AND EVALUATION

Learning strategies	Student–centered learning: The student is the center of teaching/learning and an active participant in the learning and decision-making process. Practice-oriented learning: focusing on the development of practical skills.
Teaching methods	Conducting lectures, seminars, various types of practices: • using innovative technologies: • problem-based learning; • case study; • work in a group and creative groups; • discussions and dialogues, intellectual games, olympiads, quizzes; • reflection methods, projects, benchmarking; • Bloom's taxonomies; • presentations; • rational and creative use of information sources: • multimedia training programs; • electronic textbooks; • digital resources. Organization of independent work of students, individual consultations.
Monitoring and evaluation of the achievability of learning outcomes	Current control on each topic of the discipline, control of knowledge in classroom and extracurricular classes (according to syllabus). Assessment forms: • survey in the classroom; • testing on the topics of the discipline; • control jobs; • protection of independent creative works; • discussions; • trainings; • colloquiums; • essays, etc. Boundary control at least twice during one academic period within the framework of one academic discipline. Intermediate certification is carried out in accordance with the working curriculum, academic calendar. Forms of holding: • exam in the form of testing; • oral exam; • written exam;

	• combined exam; • project protection; • protection of practice reports. Final state certification.

7. EDUCATIONAL AND RESOURCE SUPPORT OF THE EP

Information Resource Center	Information and educational portal "PROFESSOR" www.portal.ukgu.kz , provides information about the educational process at SKU. Thanks to an effective search system, it is possible to obtain information related to the student personally, such as lists of classes, exam schedules for semesters, academic performance, UMKD of the current semester, and in general for the university (data on faculties, teachers, etc.). Library web site http://lib.ukgu .kz is an indicator of the level of information service. The reference and bibliographic apparatus of the library, bulletins of new arrivals, novelties of publishing houses, virtual exhibitions, news feed and other services are widely presented on the site. Thematic collections of Internet resources are formed at the request of students and teachers. For teachers, students there is a section "Information for scientists", which presents the requirements for educational, scientific and reference publications in accordance with GOST standards; rules for the design of literature lists; a list of periodicals and scientific and technical publications of the Republic of Kazakhstan, recommendations for determining the citation index. A modern reference and bibliographic apparatus is provided to the services of users: an electronic catalog, an electronic file of articles, an electronic file of dissertations abstracts. Work with catalogs is carried out in two types: electronic and traditional (card). The total volume of the electronic catalog is 151513 bibliographic entries. The electronic catalog of the OIC is presented on the website http://lib.ukgu.kz . For university users, the Educational and Information Center (Library) has created up-to-date full-text databases of its own generation: "Works of the teaching staff of M.Auezov SKSU", "Electronic Archive", "AlmaMater", etc., which since 2017 for the convenience of searching combined into a single search engine. On-line access to databases is open: "SpringerLink", "Scopus", "Envoy", "Thomson Reuters ISI Web of Science", "ScienceDirect", "EBSCO", to Kazakhstan databases: "KazPatent", "Epigraph", "Zan", "RMEB".
Material and technical base	The educational program 6B07260 "Technology and

	design of textile materials" is equipped in accordance with the requirements of the necessary classroom fund, educational laboratories, computer classes, instruments and equipment for laboratory scientific experiments. Laboratories are equipped with a large number of equipment and devices: automatic hosiery knitting machines "Haisen china HS 808 M", "Haisen china HS 808 P", automatic glove knitting machine "Haisen china HS 305", comb-carding machine firm 1603 "Textima", tape machine "LMSH–220–1T", wrapping machine "Merrylock", sewing machine "Bernette", knitting machine "Silver" SK-280, bursting machine RM 3-1, electronic laboratory scales Adventurer, microscope HSZ-137V, drying cabinet SHS-80, centralfuga VUS MT 250, moisture meter VUS MT 250, drying cabinet SHS-80, aspiration psychrometer MV-4M, torso scales WT, analytical scales, thermostats, refrigerator, water baths..Laboratories are equipped with personal protective equipment, first aid kits, fire extinguishing equipment (fire extinguisher), equipped with fume hoods.