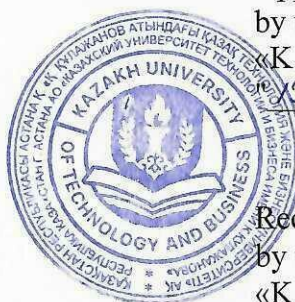


"Kazakh University of Technology and Business" named after K.Kulazhanova" JSC

EDUCATIONAL PROGRAM

6B07220 Technology of food products
code and name of the educational program

Level: *Bachelor's*



Approved
by the Board of Directors of JSC
«K.Kulazhanov KazUTB»
" 05 20 26 protocol No. 4

Recommended
by the Academic Council of JSC
«K.Kulazhanov KazUTB»
" 02 20 26 protocol No. 7

Астана - 2026

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Preface

The educational program «6B07220 Technology of Food Products» was developed in accordance with the State Compulsory Standard of Higher Education / Postgraduate Education, approved by the order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 No. 2, as well as on the basis of professional standards, approved by the order of the Deputy Chairman of the Board of the National Chamber of Entrepreneurs of the Republic of Kazakhstan «Atameken» dated 24.10.2018 № 289: «Production of prepared food and semi-finished products», 27.12.2019 № 266: «Manufacture of public catering products», Atlas of New Professions and Competencies of the Republic of Kazakhstan «Agriculture (Eco-packaging Specialist)», Regional Standards «Nutritionist-Dietitian» (West Kazakhstan Region) and «Recycling-Technologist» (Aktobe Region).

The educational program «6B07220 Technology of Food Products» was approved at the meeting of the Council on Academic Quality on 12 01 202 6, protocol No. 3
Chairman E.Askarbekov 

The educational program «6B07220 Technology of Food Products» was approved at the meeting of the Commission on Academic Quality of the Faculty on «19» 12 202 5,
protocol No. 3
Chairman Zh.Safuani 

The educational program «6B07220 Technology of Food Products» was developed and discussed at the meeting of the department «Technology and Standartization» dated «19» 12 202 5,
protocol No. 5
Head of the department S.Baitukenova 

Approval sheet

Educational program 6B07220 Technology of Food Products

AGREED:

Vice-Rector for
Administrative Affairs



B. Askarbekov

" 22 " 01
year

2025

Head of the EPD



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Chairman of the
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M. Sarsenbayev

" 19 " 12
year

2025

Student group TFP-242



Z. Duisembayeva

" 19 " 12
2025 year

1 Passport of the educational program

International Standard Classification of Education (ISCED) level	6
National Qualification Framework (NQF) level	6
Sectoral Qualifications Framework (SQF) level	6
Code and name of the field of education	6B07 Engineering, manufacturing and construction industries
Direction of training	6B072 Industrial and manufacturing branches
Number and name of the group of educational programs	B068 Food production
Code and name of the educational program (EP)	6B07220 Technology of Food Products
Educational program profile	Higher engineering education
Goal of the educational program	Training of competitive, professional personnel in the field of food production and public catering, with professional and social competencies that meet the requirements of the modern economy and market
Completion criterion of an educational program	240 academic credits
Language of instruction of the educational program	Russian, kazakh
Distinctive features of the educational program	No
Partner University	No

2 Qualification characteristics of a graduate of an educational program

Degree awarded	Bachelor of engineering and technology in the educational program «6B07220 Technology of Food Products»
Field of professional activity	- organizational and managerial - production and technological - scientific research - design
Types of professional activities	Production and technological -improvement of technological processes and organization of food production and catering; - control and evaluation of the quality of manufactured food products for compliance with the requirements of regulatory documents; Organizational and managerial - management, organization and application of technological schemes for the production of food and processing industry products at enterprises; Project information -design and reconstruction of food production and catering enterprises; Scientific research -study, analysis and application of domestic and foreign experience, information in the field of science and innovation in the food industry.

Object of professional activity	Enterprises producing meat, dairy, fish and other food products, as well as catering enterprises. Scientific research and design organizations.
Functions of professional activity	-monitoring and ensuring compliance with the parameters of technological processes of production, prompt identification and elimination of the causes of their violations; -carrying out physico-chemical quality control of raw materials, auxiliary materials, containers, semi-finished products and finished products in accordance with regulatory documentation; -control of technological processes in food production; -control of compliance with recipes and technological modes of food production in food processing plants and catering establishments; -control over the operation of technological equipment in food production and catering enterprises; -development of new technologies and a range of food products; -organization and planning of production efficiency improvement in food production and catering enterprises; -control over compliance with sanitary standards and requirements in food production and catering establishments; -development of regulatory and technical documentation for food production and catering enterprises

3 Requirements for the content of the educational program

Name of cycles and disciplines	Workload in academic credits
Cycle of general education disciplines (GED)	56
Required component	51
University component	5
Cycle of basic disciplines (BD)	94
University component	44
Component of choice	45
Professional practice	5
Cycle of major disciplines (MD)	82
University component	15
Component of choice	55
Professional practice	12
Final certification	8
Total	240

4 Additional educational programs (minor)

4.1 Minor «Modern Aspects of the Application of Artificial Intelligence»

Name of disciplines	Workload in academic credits
Introduction to Artificial Intelligence	5
Development of Artificial Neural Networks	5
Artificial Intelligence in Object Management	5
Total	15

5 Competency map of the educational program «6B07220 Technology of Food Products»

Competence map of the educational program	Learning outcome code	Learning Outcome (according to Bloom's Taxonomy)
Behavioral skills and personality traits (Softskills)	LO _{GED1}	Forms a system of general competencies that ensure the socio-cultural development of the future specialist's personality, based on the formation of their worldview, civic, and moral stance, oriented towards a healthy lifestyle.
	LO _{GED2}	Capable of communication in both oral and written forms in Kazakh, Russian, and foreign languages to solve tasks related to interpersonal, intercultural, and professional communication
	LO ₁	Develops competencies in the field of economics, law, the basics of anti-corruption culture, as well as entrepreneurship skills and financial literacy in professional activities
	LO ₂	Applies methods of mathematical analysis, general laws of mechanics and engineering for the successful study of major disciplines and use in professional activities
	LO ₃	Applies theoretical and practical skills (basic sanitary norms and regulations) to solve professional tasks in the field of food production
	LO ₄	Uses the fundamental laws of natural sciences and genres of academic writing in industrial and research activities during further education
	LO ₅	Models food production processes using artificial intelligence technologies to plan economic needs and improve the competitiveness and sustainability of the enterprise in the market.
Digital competencies (Digital skills)	LO _{GED3}	Promotes the development of information literacy through the mastery and use of modern information and communication technologies in all areas of activity.
Professional skills (Hardskills)	LO ₆	Develops customized diets and functional foods based on advanced food industry technologies, employing artificial intelligence, and evaluates and controls the quality of raw materials and finished products in accordance with regulatory requirements
	LO ₇	Uses professional and scientific skills to solve practical tasks related to improving the efficiency of food production, transportation logistics, and storage of products at food enterprises, with the application of artificial intelligence technologies

	LO 8	Organizes production and modern technological processes for the release of products at food industry and catering facilities, taking into account the recycling of waste and secondary raw material flows, the efficient use of secondary raw materials, the application of energy-efficient solutions for the restoration of ecosystems, and develops technological schemes for the production of eco-containers with elements of artificial intelligence
	LO 9	Uses professional and practical skills necessary for developing process flow diagrams and design solutions taking into account sanitary standards, production logistics and modern requirements for food enterprises, as well as effective work in the food industry and public catering

6 Learning outcomes of the educational program and modules

Key competencies	Learning Outcomes (LO) for the educational program	Name of module	Learning outcomes for the module	Name of disciplines that form learning outcomes
Behavioral skills and personality traits (Softskills)	LO _{GED1} Forms a system of general competencies that ensure the socio-cultural development of the future specialist's personality, based on the formation of their worldview, civic, and moral stance, oriented towards a healthy lifestyle.	Module 1 Man and Society – the foundation of worldview and socio-political knowledge	Applies the fundamental laws of Kazakhstan's history, philosophy, and socio-political knowledge for effective socialization and adaptation in changing socio-cultural conditions, shaping a personality capable of mobility in the modern world, critical thinking, and physical self-improvement.	History of Kazakhstan
				Philosophy
				Physical Culture
				Module of Socio-Political Knowledge (Political Science, Sociology, Cultural Studies, Psychology)
Digital competence s (Digital skills)	LO _{GED2} Capable of communication in both oral and written forms in Kazakh, Russian, and foreign languages to solve tasks related to interpersonal, intercultural, and professional communication	Module 2 Information and Communication Module	Capable of interpersonal social and professional communication in Kazakh, Russian, and foreign languages.	Foreign Language
	LO _{GED3} Promotes the development of information literacy through the mastery and use of modern in-formation and communication technologies in all areas of activity.		Possesses various types of information and communication technologies for searching, storing, processing, protecting, and disseminating information.	Kazakh (Russian) Language
				Information and Communication Technologies
Professional skills (Hardskills)	LO1 Develops competencies in the field of economics, law, the basics of anti-corruption culture, as well as entrepreneurship skills and financial literacy in professional activities	Module 1 Man and Society – the foundation of worldview and socio-political knowledge	He applies knowledge of economics and law, as well as business and financial literacy skills in his professional activities.	Module of Economics, Entrepreneurship, Law and Financial Literacy
	LO2 Applies methods of mathematical analysis, general laws of mechanics and engineering for the successful study of major	Module 3 Engineering and Mathematics Department	Applies mathematical analysis methods and general laws of mechanics and engineering to successfully study the relevant disciplines.	(Fundamentals of Economics and Entrepreneurship, Basics of Law and Anti-Corruption Culture, Basics of Financial Literacy) Higher Mathematics

	disciplines and use in professional activities		Demonstrates knowledge of the theoretical foundations of mechanics and engineering sciences, their basic concepts and laws governing mechanical processes	Engineering Graphics	Computer
	LO3 Applies theoretical and practical skills (basic sanitary norms and regulations) to solve professional tasks in the field of food production	Module 4 Training and production	Describes microbiological criteria for the safety of raw materials, semi-finished products and finished products, as well as sanitary and hygienic requirements for the maintenance of food and catering enterprises Demonstrates knowledge of the theoretical foundations of inorganic and organic chemistry	Microbiology Hygiene in Food Production / Technical Microbiology General Chemistry	
	LO4 Uses the fundamental laws of natural sciences and genres of academic writing in industrial and research activities during further education	Module 5 Natural Science	Demonstrates knowledge of the theoretical foundations of inorganic, organic, analytical and physico-colloidal, food chemistry, their basic concepts and laws, also applies the laws of physics and chemistry, processes, phenomena, theories and complex relationships between them in food production enterprises	Physical Chemistry / Inorganic Chemistry Food Chemistry	Colloid
	LO5 Models food production processes using artificial intelligence technologies to plan economic needs and improve the competitiveness and sustainability of the enterprise in the market.	Module 6 Organizational and technological	Demonstrates knowledge of the fundamentals of scientific research, and also uses the genres of academic writing in presenting information. Applies the laws of mechanics, processes, phenomena, theories and complex dependencies between them in food production enterprises to successfully study the relevant disciplines. Demonstrates knowledge of the classification and assortment of food products, characterizes the properties of food products, their changes during the movement of goods, conducts an examination of food products using regulatory documents He applies advanced physical methods and methods of engineering rheology in food production technology, and also demonstrates knowledge in the field of improving technology and methods of food processing based on theoretical and practical justification of the adequacy of the component composition and rational use of raw materials. Demonstrates knowledge of the current state of the food industry and catering, technology of food production and catering products, and also draws up a technological scheme for food production using regulatory documentation and regulations in food production.	Basics of Research Processes and Vehicles of Food Productions / Heat and Mass Exchange Processes / Introduction to Artificial Intelligence (Minor) Merchandizing of Food Products Physical Methods of Treatment of Products / Modern Methods of Food Processing General Food Technology	

		He is able to analyze the production level, evaluate the efficiency of the enterprise, develop cost planning strategies and optimize business processes to increase the competitiveness and sustainability of the enterprise in the market.	Economics and Enterprise Planning
		Demonstrates skills in food production, operation of technological equipment in the food industry and catering enterprises	Productiong Practicel
	Module 7 Research	LO6 Develops customized diets and functional foods based on advanced food industry technologies, employing artificial intelligence, and evaluates and controls the quality of raw materials and finished products in accordance with regulatory requirements	Control and Estimation of Quality of Raw Material and Food Products / Quality and Safety of Food Products
		Analyzes the physical and chemical properties of food products, regulatory and technical documentation used in certification, basic certification schemes, distinguishes between types of certification, correctly uses standards and other certification documents, identifies certified products and possesses knowledge and skills acquired through standardization, practical and laboratory research.	Standardization and Certification at Enterprises / Standardization and Technical Regulation in the Food Industry / Development of Artificial Neural Networks (Minor)
		Uses knowledge of the physico-chemical and biochemical bases of food processing, the theoretical foundations of food production technology to increase the efficiency of food production	Nutritionology / Food Additives
		Uses knowledge of the physico-chemical and biochemical bases of food raw materials for the purpose of tasting and determining the quality of food products	Food Tasting / Sensory Evaluation of Food Products
		Demonstrates knowledge of the main provisions of the laws and technical regulations of the Customs Union, regulatory documents in the field of quality and safety of food products	Food Safety / Methods of Food Analysis
	Module 8 Technological	Develops knowledge of the basics of physical, chemical and biological processes occurring in raw materials and products during storage, the influence of environmental factors (temperature, humidity, gas environment, light) on the safety of food products and has practical experience in the application of storage technologies for various types of products.	Technology of Storage of Raw Food Products / Low Temperature Food Technologies
		Has the skills to select and apply packaging technologies, evaluate their effectiveness and ensure product quality and safety at all stages. Proficiency in service organization, application of service technologies, and service quality assurance in the food service industry.	Technology of Feeding Thrush and Meaty Products with Elements of Research Intelligence / Service Technologies in the Food Industry / Artificial Intelligence in Object Management (Minor)

		Identifies and classifies by-product raw material flows, evaluates waste recycling opportunities in the meat, dairy, and canning industries, applies composting, bioconversion, and zero-waste technologies, and justifies the choice of bio-packaging and environmentally friendly waste recycling solutions.	Recycling of Food Production Waste
		Competencies are being formed in the field of organizing production flows, logistics of raw materials and finished products, as well as the introduction of modern technological solutions to increase the competitiveness of dairy and meat industry enterprises, as well as catering enterprises.	Fundamentals of Organizing Enterprises in the Dairy and Meat Industries / Organization of Production Public Catering Enterprises
		Optimizes the processes of formation and movement of logistics flows, both at the food enterprise itself and beyond	Complex Logistics of Food Enterprises
		Organizes the technological process of production in food production facilities and catering establishments. Formulates arguments and solves problems of an industrial nature at a professional level. Understands the importance of principles and culture of academic integrity in the production of high-quality food products.	Technology of National and Foreign Cuisine / Technology of National Dairy and Meat Products
		Draws up technological diagrams of food and semi-finished products production processes in food processing plants and catering establishments. Formulates arguments and solves problems of an industrial nature at a professional level. Understands the importance of principles and culture of academic integrity in the production of high-quality food products	Technology of Canned Food and Food Concentrates / Canning Technology Technology of Meat and Meat Products / Production Technology of National Meat Products
			Technology of Milk and Dairy Products / Technology of Production of Fermented Milk Products and Cheeses
		He has practical skills in the technology of catering products, understands the need to conduct technological processes from the perspective of modern ideas about the rational use of raw materials, ensuring high-quality products, their safety for the life and health of consumers	Food Service Technology / Innovative Food Technologies
		Analyzes and evaluates the degree of integration of the principles of sustainable development into national strategies and business processes, including waste recycling, ecosystem restoration, disaster risk reduction, investments in the green economy, the introduction of energy-efficient technologies, as well as the impact of these factors on the quality of life, education and compliance with international environmental standards	Sustainable Development, Ecology and Life Safety
	LO8 Organizes production and modern technological processes for the release of products at food industry and catering facilities, taking into account the recycling of waste and secondary raw material flows, the efficient use of secondary raw materials, the application of energy-efficient solutions for the restoration of ecosystems, and develops technological schemes for the production of eco-containers with elements of artificial intelligence		

			Applies knowledge of the organization and management of technological processes of various branches of the food industry in professional activities	Production Practice 2
LO9 Uses professional and practical skills necessary for developing process flow diagrams and design solutions taking into account sanitary standards, production logistics and modern requirements for food enterprises, as well as effective work in the food industry and public catering	Module 9 Production technological and		Analyzes the composition and properties of ingredients, models and optimizes formulations of multicomponent products using artificial intelligence and food combinatorics methods, justifies the choice of raw materials. Operates the equipment of food production and catering establishments in compliance with safety regulations	Food Combinatorics Using Artificial Intelligence Methods
			Participates in the design, reconstruction and equipping of food production and catering enterprises	Technological Equipment for Food Production / Technological Equipment of a Public Catering Enterprise
			He has the skills to analyze and determine the production costs of food production and catering enterprises	Designing Dairy and Meat Industry Facilities / Designing Catering Facilities
			Demonstrates skills in organizing work at food industry and catering enterprises	Fundamentals of Technological Calculations at Dairy and Meat Industry Enterprises / Basics of Calculating Public Catering Products
			Understands the goals, methodology and methods of professional activity of a technologist, engineer and head of a food production and catering company, and also applies scientific research in the field of improving food production technologies. Applies the acquired skills in preparation for continuing further education in the profile of the educational program being studied.	Pre-graduate Practice/Production Practice Final Assessment
	Module 10 Final Certification			
LO10 Applies theoretical and practical learning skills to independently solve professional tasks at the exit and while continuing education at subsequent levels, as well as in professional activities in the food industry.				

7 The relationship between the attainability of the formed learning outcomes according to the educational program and academic disciplines

№	Name of the discipline	Brief description of the discipline	Num ber of credit s	Formed learning outcomes (codes)												
				LO GED1	LO GED2	LO GED3	LO 1	LO 2	LO 3	LO 4	LO 5	LO 6	LO 7	LO 8	LO 9	
Cycle of general education disciplines University component/Elective component																
1	History of Kazakhstan	The purpose of the discipline shall be to give objective knowledge about the main stages in the development of the history of Kazakhstan from ancient times to the present. The	5	+												

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

8 Alignment of planned learning outcomes with assessment technologies and teaching methods within the module

Learning Outcomes (LO) Number	Planned learning outcomes for the module	Assessment technologies (tools)	Methods of learning and teaching
LO GED1	Applies the fundamental laws of Kazakhstan's history, philosophy, and socio-political knowledge for effective socialization and adaptation in changing socio-cultural conditions, shaping a personality capable of mobility in the modern world, critical thinking, and physical self-improvement.	Educational and research project, content analysis, abstract, report, creative work, essay justification, research project, case analysis, testing, and others.	Interactive lecture (problem lecture, discussion lecture, conference lecture, consultation lecture, "Press conference" lecture, "Questions-answers-discussion" lecture), seminar and others.
LO GED2	Capable of interpersonal social and professional communication in Kazakh, Russian, and foreign languages.	Simulator, case task, creative task, project, testing, etc.	Interactive lecture, seminar (seminar "Problem identification", seminar "Problem solving", seminar "Problem solving application") and others.
LO GED3	Possesses various types of information and communication technologies for searching, storing, processing, protecting, and disseminating information.	Business and/or role-playing, creative assignment, testing, etc.	Communicative and activity-based approach to language acquisition, practical methods, interactive lecture, seminar, etc.
LO 1	He applies knowledge of economics and law, as well as business and financial literacy skills in his professional activities.	An essay, creative assignments, a test, a presentation, a business game, etc.	Interactive lecture, seminar (seminar "Problem identification", seminar "Problem solving", seminar "Problem solving application"), analysis of texts of different genres and others.
LO 2	Applies mathematical analysis methods and general laws of mechanics and engineering to successfully study the relevant disciplines. Demonstrates knowledge of the theoretical foundations of mechanics and engineering sciences, their basic concepts and laws governing mechanical processes	Colloquium, multi-level tasks and assignments, testing, etc.	Case task (analysis of specific situations), project method (development and transformation of one's own experience and competence) and others
LO 3	Describes microbiological criteria for the safety of raw materials, semi-finished products and finished products, as well as sanitary and hygienic requirements for the maintenance of food and catering enterprises Demonstrates knowledge of the theoretical foundations of inorganic and organic chemistry	Multi-level tasks and assignments, laboratory work with physical or virtual equipment	Understanding and interpreting the meanings of a text based on cognitive modeling of its content and the context of its functioning and a test, a blitz survey, etc.
LO 4	Demonstrates knowledge of the theoretical foundations of inorganic, organic, analytical and physico-colloidal, food chemistry, their basic	Laboratory work with physical or virtual equipment, colloquium, testing, and others.	Competence-based learning, role-playing games and educational discussions in

	concepts and laws, also applies the laws of physics and chemistry, processes, phenomena, theories and complex relationships between them in food production enterprises Demonstrates knowledge of the fundamentals of scientific research, and also uses the genres of academic writing in presenting information. Applies the laws of mechanics, processes, phenomena, theories and complex dependencies between them in food production enterprises to successfully study the relevant disciplines. Demonstrates knowledge of the classification and assortment of food products, characterizes the properties of food products, their changes during the movement of goods, conducts an examination of food products using regulatory documents He applies advanced physical methods and methods of engineering rheology in food production technology, and also demonstrates knowledge in the field of improving technology and methods of food processing based on theoretical and practical justification of the adequacy of the component composition and rational use of raw materials. Demonstrates knowledge of the current state of the food industry and catering, technology of food production and catering products, and also draws up a technological scheme for food production using regulatory documentation and regulations in food production. He is able to analyze the production level, evaluate the efficiency of the enterprise, develop cost planning strategies and optimize business processes to increase the competitiveness and sustainability of the enterprise in the market. Demonstrates skills in food production, operation of technological equipment in the food industry and catering enterprises Uses various methodologies, studies and determines the quality of raw materials and semi-finished products in order to ensure the production of high-quality food products Analyzes the physical and chemical properties of food products, regulatory and technical documentation used in certification, basic certification schemes, distinguishes between types of certification, correctly uses standards and other certification documents, identifies certified products and possesses knowledge and skills acquired through standardization, practical and laboratory research. Uses knowledge of the physico-chemical and biochemical bases of food processing, the theoretical foundations of food production technology to increase the efficiency of food production	various formats, and others. Project method, case analysis and interactive lecture, brainstorming
LO 5		A project, laboratory work with physical or virtual equipment, a colloquium, tests, etc.
LO 6		Report, communication, educational and research project, creative work, research project, case analysis, analytical review, testing, others A case task (analyzing specific situations), a project method (building on and transforming one's own experience), and others.

	Uses knowledge of the physico-chemical and biochemical bases of food raw materials for the purpose of tasting and determining the quality of food products Demonstrates knowledge of the main provisions of the laws and technical regulations of the Customs Union, regulatory documents in the field of quality and safety of food products Develops knowledge of the basics of physical, chemical and biological processes occurring in raw materials and products during storage, the influence of environmental factors (temperature, humidity, gas environment, light) on the safety of food products and has practical experience in the application of storage technologies for various types of products. Has the skills to select and apply packaging technologies, evaluate their effectiveness and ensure product quality and safety at all stages. Proficiency in service organization, application of service technologies, and service quality assurance in the food service industry. Demonstrates knowledge of the basics of refrigeration and technologies in food production using artificial intelligence technologies Identifies and classifies by-product raw material flows, evaluates waste recycling opportunities in the meat, dairy, and canning industries, applies composting, bioconversion, and zero-waste technologies, and justifies the choice of bio-packaging and environmentally friendly waste recycling solutions. Competencies are being formed in the field of organizing production flows, logistics of raw materials and finished products, as well as the introduction of modern technological solutions to increase the competitiveness of dairy and meat industry enterprises, as well as catering enterprises. Optimizes the processes of formation and movement of logistics flows, both at the food enterprise itself and beyond	Laboratory work with physical or virtual equipment, blitz survey, testing, etc.	Project method, case analysis, interactive lecture, seminar (seminar "Problem identification", seminar "Problem solving", seminar "Problem solving application"), practical methods, interactive lecture, seminar and others.
LO 7	Organizes the technological process of production in food production facilities and catering establishments. Formulates arguments and solves problems of an industrial nature at a professional level. Understands the importance of principles and culture of academic integrity in the production of high-quality food products. Draws up technological diagrams of food and semi-finished products production processes in food processing plants and catering establishments. Formulates arguments and solves problems of an industrial nature at a professional level. Understands the importance of principles and culture of academic integrity in the production of high-quality food products He has practical skills in the technology of catering products, understands the need to conduct technological processes from the perspective of modern	Multi-level tasks and assignments, colloquium, laboratory work with physical or virtual equipment, oral interview, tests, and others.	Interactive lecture, seminar, brainstorming and project method, case study
LO 8			

	ideas about the rational use of raw materials, ensuring high-quality products, their safety for the life and health of consumers Analyzes and evaluates the degree of integration of the principles of sustainable development into national strategies and business processes, including waste recycling, ecosystem restoration, disaster risk reduction, investments in the green economy, the introduction of energy-efficient technologies, as well as the impact of these factors on the quality of life, education and compliance with international environmental standards Applies knowledge of the organization and management of technological processes of various branches of the food industry in professional activities		
LO 9	Analyzes the composition and properties of ingredients, models and optimizes formulations of multicomponent products using artificial intelligence and food combinatorics methods, justifies the choice of raw materials. Operates the equipment of food production and catering establishments in compliance with safety regulations Participates in the design, reconstruction and equipping of food production and catering enterprises He has the skills to analyze and determine the production costs of food production and catering enterprises Demonstrates skills in organizing work at food industry and catering enterprises	Report, communication, educational and research project, creative work, research project, case analysis, analytical review, testing, others	Analytical review, testing, seminar, brainstorming and interactive lecture.
LO 10	Understands the goals, methodology and methods of professional activity of a technologist, engineer and head of a food production and catering company, and also applies scientific research in the field of improving food production technologies. Applies the acquired skills in preparation for continuing further education in the profile of the educational program being studied.	Report, communication, educational and research project, creative work, research project, and others.	Case analysis, analytical review, testing.

9 Correlation of learning outcomes of the educational program with the labor functions of professional standards

Name of the professional standards used	Professions at level 6 and/or 7 of the SQF	Labor functions	Tasks	Learning outcomes for the educational program
Production of prepared food and semi-finished products	Food production process engineers	LF1. Development and improvement of technological processes	Skill 1: Development and improvement of technological processes	LO 8 Organizes production and modern technological processes for the release of products at food industry and catering facilities, taking into account the recycling of waste and secondary raw material flows, the efficient use of secondary raw materials, the application

24.10.2018 № 289			Skill 2: Improvement and optimization of technological equipment	of energy-efficient solutions for the restoration of ecosystems, and develops technological schemes for the production of eco-containers with elements of artificial intelligence
	LF2. Product quality and safety control		Skill 1: Organization of production control Skill 2: Quality control of raw materials, semi-finished products and finished products	LO 7 Uses professional and scientific skills to solve practical tasks related to improving the efficiency of food production, transportation logistics, and storage of products at food enterprises, with the application of artificial intelligence technologies
	LF3. Organization of the production process and personnel management		Skill 1: Planning and organization of the site work Skill 2: Personnel management and training of employees	LO 9 Uses professional and practical skills necessary for developing process flow diagrams and design solutions taking into account sanitary standards, production logistics and modern requirements for food enterprises, as well as effective work in the food industry and public catering
Manufacture of public catering products 27.12.2019 № 266			Requirements for personal competencies: Responsibility Business understanding Punctuality Flexibility of thinking Accuracy Motivation Search information analysis Working in MS Office Critical thinking Leadership	LO _{GED1} Forms a system of general competencies that ensure the socio-cultural development of the future specialist's personality, based on the formation of their worldview, civic, and moral stance, oriented towards a healthy lifestyle.
	Food safety technologist		LF1. Organize and manage production LF1. Organize activities for safe work execution	LO 8 Organizes production and modern technological processes for the release of products at food industry and catering facilities, taking into account the recycling of waste and secondary raw material flows, the efficient use of secondary raw materials, the application of energy-efficient solutions for the restoration of ecosystems, and develops technological schemes for the production of eco-containers with elements of artificial intelligence LO 7 Uses professional and scientific skills to solve practical tasks related to improving the efficiency of food production, transportation logistics, and storage of products at food enterprises, with the application of artificial intelligence technologies
			Requirements for personal competencies: Integrity Leadership Ability to make quick decisions Ability to work in a team Purposefulness Project thinking	LO _{GED1} Forms a system of general competencies that ensure the socio-cultural development of the future specialist's personality, based on the formation of their worldview, civic, and moral stance, oriented towards a healthy lifestyle.

10 Graduate model

GRADUATE MODEL			
	Competencies (soft skills, digital skills)		
	Attributes of a graduate	knowledge	Skills
Professional standard 24.10.2018 № 289: «Production of prepared food and semi-finished products», 27.12.2019 № 266: «Manufacture of public catering products» Atlas of New Professions and Competencies of the Republic of Kazakhstan «Agriculture (Eco-packaging Specialist)», Regional Standards «Nutritionist-Dietitian» (West Kazakhstan Region) and «Recycling-Technologist» (Aktobe Region)	Strives for continuous personal development and professional development; I am ready to justify the adoption of a specific technical solution in the development of new technological processes for food production; Analyzes and evaluates the effectiveness of the production activity control system; Knows how to plan the development strategy of a catering company, taking into account multiple factors; Owns the regulatory framework in the field of production; Able to show leadership skills; He is able to conduct research according to a given methodology and analyze the results of experiments.; Carries out the search, selection and use of new information in the field of food industry development; Evaluates the effectiveness of marketing activities to promote products to the market	Guidance materials on production planning and operational production management, fundamentals of labor legislation of the Republic of Kazakhstan, SanPIN requirements, labeling and product storage. Organization of production planning at enterprises. Product nomenclature, types of work performed: fundamentals of production technology. Current standards and technical specifications for the technical documentation being developed, and the procedure for their registration. Economics and organization of production, labor and management. Specialization of workshops, sites, and production links between them. The main technological equipment and the principles of its operation. Organization of production warehouses, transportation and loading and unloading operations at the enterprise.	Manage the development of production plans and schedules for sites, workshops and production in general, as well as their adjustments during the planned period. Organization of measures to improve production planning and process. Physico-chemical control of raw materials, finished products and technological process. Ensuring compliance of manufactured products with established quality standards. Maintaining established production and laboratory documentation. To organize operational control over the provision of production with technical documentation, materials, equipment, tools, etc. Monitor the state of completeness of work-in-progress, finished products, compliance with established inventory standards and calendar schedules in the work of workshops and sites. Monitor employees' compliance with labor protection rules and regulations, industrial and labor discipline, and internal labor regulations.
Professional skills (Hardskills)			

	Uses professional and scientific skills to solve practical tasks related to improving the efficiency of food production, transportation logistics, and storage of products at food enterprises, with the application of artificial intelligence technologies. Organizes production and modern technological processes for the release of products at food industry and catering facilities, taking into account the recycling of waste and secondary raw material flows, the efficient use of secondary raw materials, the application of energy-efficient solutions for the restoration of ecosystems, and develops technological schemes for the production of eco-containers with elements of artificial intelligence. Uses professional and practical skills necessary for developing process flow diagrams and design solutions taking into account sanitary standards, production logistics and modern requirements for food enterprises, as well as effective work in the food industry and public catering.
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ОКУ ЖҰМЫС ЖОСПАРЫ / РАБОЧИЙ УЧЕБНЫЙ ПЛАН / WORKING CURRICULUM

Технологиялық факультеті факультеті
Факультет Технологический факультет
Faculty Technological
Курс / Year 0
на / for 2025-2026 оқу жылына / учебный год / academic year

Топ / группа / group –
Топ / группа / group

Қазақ бөлімі / Kazakh group: 0 білім алушы / обучающийся / students
 Орыс бөлімі / Russian group: 0 білім алушы / обучающийся / students

ОКУ ПРОЦЕСІВНІХ ЖОСПАРЫ
ПЛАН УЧЕБНОГО ПРОЦЕСА
PLAN OF EDUCATIONAL PROCESS

[illegible]

Модуль / Module	2	Технік експертів опрацює мікробіологічний санітарний жоніт експерта Microbiology Sanitation and Hygiene in Food Production	БІ (КБ) BD (UC)	1	5	150	45	15	30	15	90	1+2+0	Екзамен Examination	Друге More
Барьяты модуль баянны / Итого по модулю / Total for module				5	150	45	15	30	0	15	90			
Модуль / Module № 3	1	Аналітичеські жоніт функціональнеські жоніт Analytical and Functional Chemistry	БІ (КБ) BD (UC)	3	5	150	45	15	15	15	90	1+1	Екзамен Examination	Бася Друге More
Модуль / Module № 4	1	Опісательнеські жоніт функціональнеські жоніт Descriptive and Functional Chemistry	БІ (КБ) BD (UC)	4	5	150	45	15	30	15	90	1+2+0	Екзамен Examination	Бася Друге More
Модуль / Module № 5	1	Жоніт функціональнеські жоніт Functional Chemistry	БІ (КБ) BD (UC)	5	150	45	15	30	0	15	90			
Модуль / Module № 6	1	Технік експертів опрацює мікробіологічний санітарний жоніт експерта Microbiology Sanitation and Hygiene in Food Production	БІ (КБ) BD (UC)	5	150	45	15	30	15	15	90	1+2+0	Екзамен Examination	Бася Друге More
Модуль / Module № 7	1	Технік експертів опрацює мікробіологічний санітарний жоніт експерта Microbiology Sanitation and Hygiene in Food Production	БІ (КБ) BD (UC)	5	150	45	15	30	15	15	90	1+2+0	Екзамен Examination	Бася Друге More
Модуль / Module № 8	1	Технік експертів опрацює мікробіологічний санітарний жоніт експерта Microbiology Sanitation and Hygiene in Food Production	БІ (КБ) BD (UC)	5	150	45	15	30	15	15	90	1+2+0	Екзамен Examination	Бася Друге More
Модуль / Module № 9	1	Технік експертів опрацює мікробіологічний санітарний жоніт експерта Microbiology Sanitation and Hygiene in Food Production	БІ (КБ) BD (UC)	5	150	45	15	30	15	15	90	1+2+0	Екзамен Examination	Бася Друге More
Модуль / Module № 10	1	Технік експертів опрацює мікробіологічний санітарний жоніт експерта Microbiology Sanitation and Hygiene in Food Production	БІ (КБ) BD (UC)	5	150	45	15	30	15	15	90	1+2+0	Екзамен Examination	Бася Друге More

[illegible]

[illegible]

**«Қ. Құлажанов атындағы Қазақ технология және бизнес
университеті» АҚ**
**6B07220 – Азық-түлік өнімдері технологиясы білім беру
бағдарламасына 2026–2027 оқу жылына арналған**

Сараптама пікірі

6B07220 Азық-түлік өнімдері технологиясы білім беру бағдарламасы Қазақстан Республикасы Ғылым және жоғары білім министрлігінің қолданыстағы жоғары білімнің мемлекеттік жалпыға міндетті стандартының талаптарына сәйкес әзірленген және жоғары білім беру саласындағы нормативтік-құқықтық актілердің талаптарына толық жауап береді.

Білім беру бағдарламасы кәсіптік қызметті реттейтін нормативтік құжаттар мен жұмыс берушілердің салалық бірлестіктері әзірлеген кәсіби стандарттардың талаптарын ескере отырып қалыптастырылған.

Бағдарламаның мазмұны тамақ және қайта өңдеу өнеркәсібінің қазіргі даму үрдістеріне, ғылым мен технологияның соңғы жетістіктеріне, еңбек нарығының сұраныстарына және жұмыс берушілердің қажеттіліктеріне сәйкес келеді. Бағдарлама білім алушылардың кәсіби құзыреттерін қалыптастыруға, өндірістік-технологиялық, ұйымдастырушылық және зерттеу қызметтерін тиімді жүзеге асыруға бағытталған.

Білім беру бағдарламасын меңгерудің жалпы еңбек сыйымдылығы 240 академиялық кредитті құрайды. Оқу жоспары бойынша бөлінген кредиттер көлемі білім алушылардың теориялық даярлығын, практикалық машықтарын және кәсіби құзыреттерін қалыптастыруға жеткілікті деңгейде қамтамасыз етеді.

2026–2027 оқу жылына арналған білім беру бағдарламасын жетілдіру мақсатында еңбек нарығының заманауи талаптарына сәйкес «Жасанды интеллект элементтері бар сүт және ет өнімдерін орау технологиясы», «Тамақ өндірісінің қалдықтарын қайта өңдеу», «Жасанды интеллект әдістеріне негізделген азық-түлік комбинаторикасы», «Азық-түлік өнімдерінің инновациялық технологиялары» пәндері енгізілді. Бұл пәндер білім алушылардың кәсіби даярлығын күшейтіп, өндірістегі цифрландыру, сапаны басқару және инновациялық технологияларды қолдану салаларындағы құзыреттерін дамытуға бағытталған.

Білім беру бағдарламасының жұмыс оқу жоспары жалпы білім беретін, базалық және бейіндеуші пәндер циклдерін қамтитын модульдік оқыту қағидаты негізінде әзірленген. Бағдарлама білім алушылардың жалпы мәдени, кәсіби және зерттеушілік құзыреттерін қалыптастыруға мүмкіндік береді.

6B07220 Азық-түлік өнімдері технологиясы білім беру бағдарламасы жұмыс берушілердің, білім беру бағдарламасы комитетінің және кафедраның профессорлық-оқытушылық құрамының ұсыныстары мен пікірлерін ескере отырып жаңартылған.

Жалпы алғанда, 6B07220 Азық-түлік өнімдері технологиясы білім беру бағдарламасы заманауи талаптарға сәйкес келеді және техника және технология бакалаврларын даярлау барысында оқу процесінде пайдалануға ұсынылады.

Сын-пікір беруші:

«Шәкәрім университеті» КеАҚ,
техника ғылымдарының кандидаты,
қауымдастырылған профессор



С. Толеубекова

_____ қолын растаймын

“ 01 ” 04 2026 ж.

ЭКСПЕРТНОЕ ЗАКЛЮЧЕНИЕ
зарубежного эксперта
на образовательную программу бакалавриата
«6B07220 – Технология продовольственных продуктов»
АО «Казахский университет технологии и бизнеса имени К.
Кулажанова»
2026–2027 учебный год

В ходе проведения экспертной оценки была рассмотрена образовательная программа бакалавриата «6B07220 – Технология продовольственных продуктов», реализуемая АО «Казахский университет технологии и бизнеса имени К. Кулажанова».

Анализ представленных материалов показал, что структура образовательной программы соответствует современным требованиям к подготовке специалистов пищевой отрасли и ориентирована на достижение результатов обучения, отвечающих международным подходам к инженерному образованию. Программа обеспечивает последовательное формирование профессиональных знаний, практических навыков и исследовательских компетенций обучающихся.

Содержание образовательной программы отражает современные тенденции развития пищевой промышленности и включает дисциплины, направленные на подготовку специалистов в области технологий производства мясной, молочной продукции и продукции общественного питания. Особое внимание уделено вопросам обеспечения качества и безопасности пищевой продукции, организации технологических процессов, внедрения инновационных решений и совершенствования производственных технологий.

Положительной особенностью образовательной программы является ее регулярная актуализация с учетом рекомендаций работодателей, развития отрасли и современных образовательных подходов. В учебный план включены дисциплины, связанные с инновационными технологиями производства пищевых продуктов, переработкой отходов пищевых производств, а также применением цифровых технологий и методов искусственного интеллекта в профессиональной деятельности технологов пищевой промышленности.

Следует отметить практико-ориентированный характер подготовки обучающихся. Учебный процесс предусматривает выполнение лабораторных работ, прохождение различных видов практики и освоение современных методов технологического контроля, что способствует формированию профессиональных компетенций, востребованных на предприятиях пищевой и перерабатывающей промышленности.

Учебно-методическое, информационное и материально-техническое обеспечение образовательной программы позволяет реализовать заявленные результаты обучения на высоком уровне. Представленные учебно-методические материалы соответствуют современным требованиям

организации образовательного процесса и создают необходимые условия для подготовки квалифицированных специалистов.

По результатам проведенной экспертизы можно сделать вывод, что образовательная программа «6B07220 – Технология продовольственных продуктов» отвечает требованиям современного высшего образования, учитывает актуальные потребности пищевой индустрии и соответствует тенденциям развития инженерно-технологического образования.

Заключение: образовательная программа «6B07220 – Технология продовольственных продуктов» рекомендуется к реализации в образовательном процессе и может быть использована для подготовки бакалавров, обладающих профессиональными компетенциями, востребованными как на национальном, так и на международном рынке труда.

Зарубежный академический консультант:

Кандидат технических наук,
доцент
Ошский технологический
университет имени М.М. Адышева
Кыргызская Республика



Ж.К. Ирмадова



**International Academic Advisor Confirmation/ Шетелдік кеңесшінің қатысуы/
Участие зарубежного консультанта**

Educational Program/ Білім беру бағдарламасы/ Образовательная программа	6B07220 Technology of food products / 6B07220 Азық-түлік өнімдері технологиясы / 6B07220 Technology of food products
Level/ Дәрежесі/ Уровень	6
International Academic Advisor/ Шетелдік академиялық кеңесші/ Зарубежный консультант	Plotkin Yuriy Romanovich / Плоткин Юрий Романович / Плоткин Юрий Романович
Academic degree/ Ғылыми дәреже/ Ученая степень	Doctor of Engineering Sciences / Техника ғылымдарының докторы / Доктор инженерных наук
Position/ Лауазымы/ Должность	Professor / Профессор / Профессор
University/ Университет/ Университет	Hochschule für Wirtschaft und Recht Berlin / Берлин экономика және құқық мектебі / Берлинская высшая школа экономики и права
Country/ Ел/ Страна	Germany / Германия / Германия

Approved/ Келісілді/ Согласовано

The educational program has been reviewed and approved. The updated content of the educational program, the sequence of courses, and the revised learning outcomes (LO) have been developed in accordance with modern academic approaches.

Білім беру бағдарламасы қарастырылып, келісілді. Білім беру бағдарламасының жаңартылған мазмұны, пәндерді оқу реттілігі және жаңартылған оқу нәтижелері (ОН) заманауи академиялық тәсілдерге сәйкес әзірленді.

Образовательная программа рассмотрена и согласована. Актуализированное содержание образовательной программы, последовательность изучения дисциплин и обновленные результаты обучения (РО) сформированы с учетом современных академических подходов.

International Academic Advisor/ J. Plotkin /
Шетелдік академиялық кеңесші/ Ю.Плоткин /
Зарубежный консультант Ю.Плоткин

Seal/ MO/ МП

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