S.Seifullin Kazakh Agrotechnical University

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ТЕХНИКАЛЫҚ ФАКУЛЬТЕТ ДЕКАНАТЫ

CATALOG OF ELECTIVE DISCIPLINES

For students in the direction of preparation 6B072 Manufacturing and processing
Brief description of the elective disciplines of the educational program

EPG	EP	Form of education	The name of discipline	Code of subject	Discipline cycle	Component	Number of credits	Level of training	Cafedra	Course	Academic period	Pre-requisitions	Post-requisitions	Brief content of the discipline	Key learning outcomes	Name of the alternative discipline
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Electrical engineering and the basics of electronics	EOE 2237	BS	Elective subjects	4.0	Bachelor	Electro-supply	2	1	Mathematics, School course Physics	Equipment for deep processing of raw materials and biofuels production, Equipments for food products	The study of methods for calculating electrical circuits and electromagnetic fields, the ability to apply this knowledge to solve practical problems in electrical engineering, the basic laws and principles of theoretical electrical engineering and electronic technology in professional activities, the properties of conductors, semiconductors, electrical insulation, magnetic materials, methods for calculating and measuring the basic parameters of electrical, magnetic circuits.	To study the basic concepts of the laws of engineering mechanics, mechanics of materials, robotics and safety measures. To organize the production process, operation of MTP and maintenance of modern agricultural machinery with the introduction of innovative technologies and with the creation of business entities. To study the physical properties of working fluids, the structure and principle of operation of hydro- and pneumatic drives of devices and apparatuses, the basics of thermodynamics and heat engineering, elements and parameters of electrical circuits, energy conservation and energy efficiency of production	Thermal and refrigerating equipment of food production
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Thermal and refrigerating equipment of food production	THOPP 2272	BS	Elective subjects	4.0	Bachelor	Теплоэнергетика	2	1	Mathematics, School course Physics	Equipment for deep processing of raw materials and biofuels production, Equipments for food products, Processes and devices of food products, Processes and devices of processing industries	Equipment for heat and refrigeration. The role of heat transfer and mass transfer in technical processes. Thermal equipment in catering. Classification of methods of heat treatment in the OP. General principles of the device of thermal devices OP.	Make calculations in heat engineering, thermodynamics and electrical engineering; choose the correct operation of electrical and thermal equipment, analyze hazardous and harmful production factors, study the environment and life safety requirements	Electrical engineering and the basics of electronics
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Labor protection and basics of life safety	OTOBZh 2124	GER	Elective subjects	5.0	Bachelor	Mechanization of technological processes	2	2	Chemistry, Mathematics, School course Fundamentals of life safety	Design of food production enterprises, Designing plants for the processing of vegetable raw materials and the production of biofuels, Internship	The discipline contributes to the formation of students' knowledge, practical skills to create safe and harmless living conditions, to prevent the causes and prevention of dangerous situations, to protect the population and production personnel and objects of the national economy from the possible consequences of emergency situations. It also studies the peculiarities of labor protection for women and youth, supervision and control of the implementation of labor protection legislation and responsibility for violation of labor protection requirements.	Make calculations in heat engineering, thermodynamics and electrical engineering; choose the correct operation of electrical and thermal equipment, analyze hazardous and harmful production factors, study the environment and life safety requirements	Basics of anti-corruption culture, Basics of economics and law, Ecology and life safety, Innovative entrepreneurship, Introduction to leadership in education

B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Basics of economics and law	OEP 2132	GER	Elective subjects	5.0	Bachelor	Economy	2	2	Mathematics, School course Jurisprudence	Design of food production enterprises, Designing plants for the processing of vegetable raw materials and the production of biofuels, Economics and Entrepreneurship, Internship	The discipline promotes knowledge of the subject of economic theory and methods of research, the basis of public production and forms of public economy, the mechanism of functioning of the market system, production, costs and income of the firm, national economy. Give an assessment of economic growth and instability of the market economy, inflation and unemployment as manifestations of economic instability. Demonstrate knowledge and skills in the financial and monetary credit system in the national economy and economic security. To master the basics of the theory of the state and law, the basics of constitutional, administrative, civil, labor, family, criminal law.	Analyze in a logical and quantitative way the conditions for the development of production and evaluate the competitiveness of created products on the principles of engineering, study innovative entrepreneurship and anti-corruption culture, formulate inventions	Basics of anti-corruption culture, Ecology and life safety, Innovative entrepreneurship, Introduction to leadership in education, Labor protection and basics of life safety
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Introduction to leadership in education	VLO 2133	GER	Elective subjects	5.0	Bachelor	Профессиональное образование	2	2	Cultural studies and psychology, Political science and sociology	Design of food production enterprises, Designing plants for the processing of vegetable raw materials and the production of biofuels, Internship, Management	The discipline analyzes and studies the model of effective communication of the leader, methods of management in critical situations, methods of work in the management team and the principle of distribution of roles in the team, methods of effective control and motivation of training. It provides an opportunity to study the theory of leadership qualities and at the same time the concept of leadership behavior (three leadership styles (K. Levin), research at the University of Ohio, research at the University of Michigan, management system (R. Likert), management grid (Blake and Mouton), concept of reward and punishment, substitute leadership (S. Kerr and J. Germier).	To organize highly efficient operation of machines, apparatus, machinery and technological equipment in production, to show leadership qualities	Basics of anti-corruption culture, Basics of economics and law, Ecology and life safety, Innovative entrepreneurship, Labor protection and basics of life safety

B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Innovative entrepreneurship	IP 2134	GER	Elective subjects	5.0	Bachelor	Economy	2	2	Cultural studies and psychology, History of Kazakhstan, Mathematics	Design of food production enterprises, Designing plants for the processing of vegetable raw materials and the production of biofuels, Economics and Entrepreneurship, Internship	Form students' knowledge of the fundamental concepts of innovative development, modern approaches to the implementation of entrepreneurial activity in the field of new technologies to ensure the competitiveness of an innovative enterprise on the market. Understand the economic essence of innovative entrepreneurship, business planning, venture financing and know the types of firms with venture capital. Possess skills in risk management, human resource management, innovative management and innovative processes, as a condition for economic growth	Analyze in a logical and quantitative way the conditions for the development of production and evaluate the competitiveness of created products on the principles of engineering, study innovative entrepreneurship and anti-corruption culture, formulate inventions	Basics of anti-corruption culture, Basics of economics and law, Ecology and life safety, Introduction to leadership in education, Labor protection and basics of life safety
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Ecology and life safety	EBZh 2135	GER	Elective subjects	5.0	Bachelor	Ecology	2	2	Chemistry, School course Fundamentals of life safety	Design of food production enterprises, Designing plants for the processing of vegetable raw materials and the production of biofuels, Internship	The discipline studies the laws of interaction between organisms and their habitats, the laws of development, the preservation of human health and life in the technosphere, protection from the dangers of man-made and natural origin and the creation of comfortable living conditions.	Theoretical and methodological foundations of the concept of "corruption" Improving the socio-economic relations of Kazakhstan society as a condition for countering corruption Psychological features of the nature of corrupt behavior Formation of anti-corruption culture Features of the formation of anti-corruption culture of youth Ethnic features of the formation of anti-corruption culture Moral and ethical responsibility for corruption in various fields. Legal liability for corruption offenses	Basics of anti-corruption culture, Basics of economics and law, Innovative entrepreneurship, Introduction to leadership in education, Labor protection and basics of life safety
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Basics of anti-corruption culture	OAK 2136	GER	Elective subjects	5.0	Bachelor	Economy	2	2	Cultural studies and psychology, Political science and sociology	Design of food production enterprises, Designing plants for the processing of vegetable raw materials and the production of biofuels, Internship, Management	The discipline examines the theoretical and methodological foundations of the concept of "corruption" and examines the improvement of socio-economic relations of the Kazakh society as a condition for combating corruption, psychological features of the nature of corrupt behavior, formation of anti-corruption culture, features of formation of anti-corruption culture of youth, ethnic features of formation of anti-corruption culture, moral and ethical responsibility for corruption in various spheres. Discipline allows you to learn about legal responsibility for corruption offenses	Analyze in a logical and quantitative way the conditions for the development of production and evaluate the competitiveness of created products on the principles of engineering, study innovative entrepreneurship and anti-corruption culture, formulate inventions	Basics of economics and law, Ecology and life safety, Innovative entrepreneurship, Introduction to leadership in education, Labor protection and basics of life safety

B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Theoretical foundations of food products technologies	TOTPP 2255	BS	Elective subjects	10.0	Bachelor	Agricultural and grain processing machines	2	2	Chemistry and biochemistry of food	Commodity of food products, Fundamentals of Scientific Research Food products, Processes and devices of food products	General information about nutrition. Metabolism. The main food and biologically active substances. Characteristics, structure and properties, the value of nutrition, the need and characteristics of absorption by the body of the consumer. The main quality characteristics, food, biological and energy value. The concept of quality, quality indicators. Organoleptic, physico-chemical indicators of food quality. Food Safety Indicators. Quality control. Rationing quality. Basics of technological processes.	Use the basics of processing, storage and processing technology to improve the efficiency of the processing industry and food production	Grain science and theoretical foundations of processing industries
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Grain science and theoretical foundations of processing industries	ZTOPP 2275	BS	Elective subjects	10.0	Bachelor	Agricultural and grain processing machines	2	2	Chemistry and biochemistry of food	Elevator-warehousing, processing and storage of crop production, Processes and devices of processing industries, Technology of post-harvest processing of grain and grain drying	Be able to take a grain sample, compile combined and daily grain samples; determine the quality indicators of grain and its processed products; determine the content of weed and grain impurities, moisture, nature, size, glassy equalization, contamination and other indicators; conduct analyses to determine mandatory general, additional and special quality indicators of finished products of grain processing enterprises.	Use the basics of processing, storage and processing technology to improve the efficiency of the processing industry and food production	Theoretical foundations of food products technologies
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Equipments for food products	OPPP 3209	BS	Elective subjects	7.0	Bachelor	Agricultural and grain processing machines	3	1	Applied mechanics, Descriptive geometry and engineering graphics, Theoretical foundations of food products technologies, Thermal and refrigerating equipment of food production	Design of food production enterprises, Technology of meat and meat products, Technology of milk and dairy products, The technology of public catering	"Food production equipment" provides for the acquisition by students of theoretical knowledge and practical skills in technological installations of meat and dairy industries, necessary for the preparation of a bachelor of food production. Studies the basic technological calculations and design as well as the main characteristics of machines and apparatuses of the meat and dairy industry. Parameters of their operation, features of operation, ways to improve existing equipment, possibilities of mechanization and automation of technological processes and their management.	Be able to operate various types of technological equipment in professional activities in accordance with safety requirements	Equipment for deep processing of raw materials and biofuels production

B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Equipment for deep processing of raw materials and biofuels production	ODGPSPB 3263	BS	Elective subjects	7.0	Bachelor	Agricultural and grain processing machines	3	1	Applied mechanics, Descriptive geometry and engineering graphics, Electrical engineering and the basics of electronics, Theoretical foundations of food products technologies	Designing plants for the processing of vegetable raw materials and the production of biofuels, Flour technology cereals and feed, Technology of bread and pasta products	The study of classifications, structures, basic elements, the principle of operation of equipment for the deep processing of vegetable raw materials and the production of biofuels, as well as their rational use in technological schemes for processing products.	Be able to operate various types of technological equipment in professional activities in accordance with safety requirements	Equipments for food products
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Processes and devices of food products	PAPP 3212	BS	Elective subjects	6.0	Bachelor	Agricultural and grain processing machines	3	1	Applied mechanics, Chemistry, Chemistry and biochemistry of food, Electrical engineering and the basics of electronics, Microbiology	Design of food production enterprises, Physico-chemical methods of food processing, Technology of meat and meat products, Technology of milk and dairy products	The main properties of food and raw materials. Principles of analysis and calculation of processes and devices. Hydrostatics. Hydrodynamics. Pumps. Separation of heterogeneous systems. Settling and precipitation. Filtration. Separation of gas inhomogeneous systems. Fluidization.Stirring Heat transfer. Heating, evaporation, cooling and condensation. Evaporation. Basics of mass transfer. Absorption. Distillation and rectification. Extraction in the "Liquid-liquid" system. Extraction in the system "Solid-liquid". Adsorption. Drying. Crystallization. Grinding. Pressing.	Demonstrate the ability to develop measures to improve the technological processes of production and be able to use the laws of mathematical modeling of processes in the design and conduct of research	Processes and devices of processing industries
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Processes and devices of processing industries	PAPP 3264	BS	Elective subjects	6.0	Bachelor	Agricultural and grain processing machines	3	1	Applied mechanics, Descriptive geometry and engineering graphics, Mathematics, Physics	Designing plants for the processing of vegetable raw materials and the production of biofuels, Flour technology cereals and feed, Technochemical control, quality assessment and safety of crop products	Classification of processes and devices used for primary and deep grain processing. The theory of hydraulic and pneumatic processes and design features, the principle of operation, the basic calculations of the apparatus for the implementation of these processes. The theory of hydromechanical processes and design features, the principle of operation, the basic calculations of the apparatus for carrying out these processes. The theory of heat and mass transfer processes and design features, the principle of operation, the basic calculations of the apparatus for carrying out these processes. The theory of mechanical and biochemical processes and design features, the principle of operation, the basic calculations devices for the implementation of these processes.	Demonstrate the ability to develop measures to improve the technological processes of production and be able to use the laws of mathematical modeling of processes in the design and conduct of research	Processes and devices of food products

B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Commodity of food products	TPP 3221	BS	Elective subjects	3.0	Bachelor	Agricultural and grain processing machines	3	1	Chemistry and biochemistry of food, Microbiology	Physico-chemical methods of food processing, Technology of meat and meat products, Technology of milk and dairy products	The student must know the basics and methods of commodity science, methods of quality control of goods, chemical composition, consumer merits of food products, physical properties of food products, food storage conditions, classification and range of food products; possess the skills of organization and conduct of commodity assessment of food products, based on the use of modern methods and technologies	Organize the technological process at the enterprises of the food and processing industry, make organizational and managerial decisions, perform work on standardization and preparation of products for the conformity assessment procedure in the field of professional activity	Elevator-warehousing, processing and storage of crop production
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Elevator-warehousing, processing and storage of crop production	ESHOHPR 3266	BS	Elective subjects	3.0	Bachelor	Agricultural and grain processing machines	3	1	Chemistry, Chemistry and biochemistry of food, Grain science and theoretical foundations of processing industries, Microbiology	Designing plants for the processing of vegetable raw materials and the production of biofuels, Flour technology cereals and feed, Lifting and transporting equipment and ventilation systems for grain storage and processing enterprises, Technology of post-harvest processing of grain and grain drying	Classification of grains and requirements for them, mechanics of bulk materials, site for construction, master plan for grain-receiving enterprises, post-harvest processing of crop products, grain warehouses and mechanized work towers, elevators, operational calculation of the elevator, technological features of modern elevators, shops and factories seed processing, warehouses for the storage of grain by-products, the operation of elevators and grain-receiving enterprises.	Use the basics of processing, storage and processing technology to improve the efficiency of the processing industry and food production	Commodity of food products
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Fundamentals of Scientific Research Food products	ONIPP 3217	BS	Elective subjects	6.0	Bachelor	Agricultural and grain processing machines	3	2	Commodity of food products, Standardization, metrology and certification of food branch	Design of food production enterprises, Graduate project, Graduate work, Technochemical control, quality assessment and safety of meat and dairy products	General information about science and research. Epistemological basis of scientific research. Organization of scientific research. Processing of scientific information. theoretical studies. Experimental studies. Experimental factor mathematical models. Plans for experiments and their properties. processing the results of the experiment. Registration of the results of scientific work and ways to inform the scientific community.	Demonstrate the ability to develop measures to improve the technological processes of production and be able to use the laws of mathematical modeling of processes in the design and conduct of research	Lifting and transporting equipment and ventilation systems for grain storage and processing enterprises
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Lifting and transporting equipment and ventilation systems for grain storage and processing enterprises	PTUVUPP HPZ 3267	BS	Elective subjects	6.0	Bachelor	Agricultural and grain processing machines	3	2	Equipment for deep processing of raw materials and biofuels production	Designing plants for the processing of vegetable raw materials and the production of biofuels, Graduate project, Graduate work	The role of lifting and transporting devices and pneumatic conveyors in the development of industry and agriculture. The main components of lifting and transporting machines. Devices, components and bases of calculation of load-lifting and transporting machines. General information about ventilation. Ventilation and aspiration systems. Ventilation and pneumatic conveying installations of elevators and grain processing enterprises	Be able to operate various types of technological equipment in professional activities in accordance with safety requirements	Fundamentals of Scientific Research Food products

B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Physico-chemical methods of food processing	FHMOPP 3259	BS	Elective subjects	6.0	Bachelor	Agricultural and grain processing machines	3	2	Chemistry and biochemistry of food, Equipments for food products, Processes and devices of food products	Design of food production enterprises, Graduate project, Graduate work	The student must know the electrophysical, structural-mechanical and thermophysical properties; features of the use of modern physical processing methods in various technological processes; installations and devices for the physical processing of food raw materials and finished products. Possess the skills of choosing physical methods of food processing, determining the properties, the influence of technological factors on the properties of finished products.	Organize and carry out quality control, parameters of technological processes and methods of processing raw materials and finished products	Technology of post-harvest processing of grain and grain drying
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Technology of post-harvest processing of grain and grain drying	TPOZZ 3270	BS	Elective subjects	6.0	Bachelor	Agricultural and grain processing machines	3	2	Chemistry and biochemistry of food, Elevator-warehousing, processing and storage of crop production, Equipment for deep processing of raw materials and biofuels production, Grain science and theoretical foundations of processing industries, Processes and devices of processing industries	Designing plants for the processing of vegetable raw materials and the production of biofuels, Graduate project, Graduate work	Grain like storage facility; characteristic of grain masses; the main operations with grain and seeds performed at the granaries; grain as a commodity and object of consumption; weighing equipment, weighing procedure and operation of scales; grain cleaning technology; grain drying and aeration installations; mine and chamber zernosushilki; recycling grain dryers; mobile grain dryers; continuous technological lines of granaries; features of technological lines for processing grain of various crops; equipment of environmental protection and fire and explosion safety.	Use the basics of processing, storage and processing technology to improve the efficiency of the processing industry and food production	Physico-chemical methods of food processing
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Technology of milk and dairy products	TMMP 3302	AS	Elective subjects	8.0	Bachelor	Agricultural and grain processing machines	3	3	Chemistry, Chemistry and biochemistry of food, Theoretical foundations of food products technologies	Design of food production enterprises, Graduate project, Graduate work	Microbiology of milk and dairy products.Biochemistry of milk and dairy products, milk components, chemical, physical and technological properties of milk; changes in the chemical composition and properties of milk under the influence of various factors; biochemical and physico-chemical changes in the constituent parts of milk during storage and processing, in the production of fermented milk products and ice cream.	To implement new technologies that provide rational use of raw resources, to receive a wide range of new food products	Technology of bread and pasta products

B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Technology of bread and pasta products	THMI 3339	AS	Elective subjects	8.0	Bachelor	Agricultural and grain processing machines	3	3	Chemistry and biochemistry of food, Equipment for deep processing of raw materials and biofuels production, Grain science and theoretical foundations of processing industries, Processes and devices of processing industries	Designing plants for the processing of vegetable raw materials and the production of biofuels, Graduate project, Graduate work	Technologies of bread, flour confectionery and pasta: theoretical knowledge in the field of technology of baking, confectionery and pasta production; analysis of modern technologies and evaluation of their effectiveness; chemical composition, organoleptic and physico-chemical properties of raw materials and its baking quality; modern methods of finished product quality; ways to improve the quality and nutritional value of products; range of bread and pasta, their nutritional value; technological processes of obtaining bakery and pasta products.	To implement new technologies that provide rational use of raw resources, to receive a wide range of new food products	Technology of milk and dairy products
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Fundamentals of technologies for deep processing of secondary raw materials of animal origin	OTGPVSZhP 3258	BS	Elective subjects	6.0	Bachelor	Agricultural and grain processing machines	3	3	Equipments for food products, Processes and devices of food products	Design of food production enterprises, Graduate project, Graduate work, The technology of public catering	Students should know the basic technological techniques, features and principles of technologies for deep processing of raw materials of animal origin for further application of competencies in the study of post-requirements disciplines. Students should be able to classify raw materials by their component composition and choose the appropriate types of pre- and final processing to obtain a particular type of product with high added value. Students should have the skills to independently apply various techniques to establish changes in composition and processing at the stages of deep processing, as well as have the skills to use different strains of microorganisms for enzymatic processing in obtaining final products.	Use the basics of processing, storage and processing technology to improve the efficiency of the processing industry and food production	Fundamentals of technologies for deep processing of raw materials and biofuels production
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Fundamentals of technologies for deep processing of raw materials and biofuels production	OTPGPSPB 3271	BS	Elective subjects	6.0	Bachelor	Agricultural and grain processing machines	3	3	Equipment for deep processing of raw materials and biofuels production, Processes and devices of processing industries	Designing plants for the processing of vegetable raw materials and the production of biofuels, Graduate project, Graduate work, Technology of vegetable oils	The student must be able to make technological schemes, layout of equipment and carry out calculations taking into account the peculiarities of production technologies for deep processing of raw materials and biofuels. The student must have the skills for self-preparation of technological schemes and rational organization of production, development of recommendations to improve the profitability of products for deep processing of plant raw materials and biofuel production.	Use the basics of processing, storage and processing technology to improve the efficiency of the processing industry and food production	Fundamentals of technologies for deep processing of secondary raw materials of animal origin

B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Technology of meat and meat products	TMMP 4304	AS	Elective subjects	8.0	Bachelor	Agricultural and grain processing machines	4	1	Chemistry and biochemistry of food, Fundamentals of Scientific Research Food products, Microbiology, Physico-chemical methods of food processing	Design of food production enterprises, Graduate project, Graduate work	Improvement of knowledge and professional competence of future specialists, as well as expanding the horizons about the technology of meat and meat products, technology of production of semi-finished products, management of existing technological processes, development of techniques of economic calculations in the design of enterprises.	To implement new technologies that provide rational use of raw resources, to receive a wide range of new food products	Flour technology cereals and feed
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Flour technology cereals and feed	TMKK 4342	AS	Elective subjects	8.0	Bachelor	Agricultural and grain processing machines	4	1	Elevator-warehousing, processing and storage of crop production, Equipment for deep processing of raw materials and biofuels production, Grain science and theoretical foundations of processing industries, Processes and devices of processing industries, Technology of post-harvest processing of grain and grain drying	Designing plants for the processing of vegetable raw materials and the production of biofuels, Graduate project, Graduate work	When studying the discipline, special attention should be paid to the principles and methods of flour technology, cereals and mixed feeds, theoretical positions on which the engineering variants of technological operations of cleaning processes, preparation and grinding of grain and flaking of cereal crops are based, which can be used in their subsequent work. Modes of cleaning and preparation of grain for processing. The requirements of milling and cereal plants to raw materials. Rules for the organization and conduct of technological processes in mills, cereals and feed mills.	To implement new technologies that provide rational use of raw resources, to receive a wide range of new food products	Technology of meat and meat products
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Technochemical control, quality assessment and safety of meat and dairy products	TKOKBMMP 4261	BS	Elective subjects	9.0	Bachelor	Agricultural and grain processing machines	4	1	Chemistry and biochemistry of food, Descriptive geometry and engineering graphics, Processes and devices of food products, Thermal and refrigerating equipment of food production	Design of food production enterprises, Graduate project, Graduate work, The technology of public catering	Organization of food quality control. Methods and means of quality control. Quality control of raw milk, drinking milk and cream. Quality evaluation of ice cream. Classification of cheeses. Requirements for raw materials for cheese. Schemes of TX and microbiological control of production. Organization of TCS in the meat industry. Control and measuring devices. Quality control of finished sausages. Control of salting process and quality of salted and smoked products.	Organize and carry out quality control, parameters of technological processes and methods of processing raw materials and finished products	Technochemical control, quality assessment and safety of crop products

B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Technochemical control, quality assessment and safety of crop products	TKOKBPR 4265	BS	Elective subjects	9.0	Bachelor	Agricultural and grain processing machines	4	1	Chemistry and biochemistry of food, Elevator-warehousing, processing and storage of crop production, Fundamentals of technologies for deep processing of raw materials and biofuels production, Grain science and theoretical foundations of processing industries, Lifting and transporting equipment and ventilation systems for grain storage and processing enterprises	Designing plants for the processing of vegetable raw materials and the production of biofuels, Graduate project, Graduate work, Technology of vegetable oils	The technical requirements for grain processing enterprises; indicators of quality and safety of agricultural raw materials and products of its processing; own methods of quality control of raw materials and processed products at all stages of the process; methods of improving existing processes based on the analysis of the quality of raw materials and requirements for the final product	Organize and carry out quality control, parameters of technological processes and methods of processing raw materials and finished products	Technochemical control, quality assessment and safety of meat and dairy products
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	The technology of public catering	TPOP 4301	AS	Elective subjects	8.0	Bachelor	Agricultural and grain processing machines	4	2	Chemistry, Chemistry and biochemistry of food, Microbiology, Theoretical foundations of food products technologies	Design of food production enterprises, Graduate project, Graduate work	Folk cuisine and professional cooking. Modern trends in the development of catering. The development of the theoretical foundations of food technology products. Technological properties of raw materials, methods of culinary processing of food products, Classification and range of culinary products. Menu. Organization of production in restaurants and bars. Types and characteristics of commercial premises restaurants and bars.	To implement new technologies that provide rational use of raw resources, to receive a wide range of new food products	Technology of vegetable oils
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Technology of vegetable oils	TRM 4343	AS	Elective subjects	8.0	Bachelor	Agricultural and grain processing machines	4	2	Equipment for deep processing of raw materials and biofuels production, Fundamentals of Scientific Research Food products, Fundamentals of technologies for deep processing of raw materials and biofuels production, Processes and devices of processing industries, Technochemical control, quality assessment and safety of crop products	Designing plants for the processing of vegetable raw materials and the production of biofuels, Graduate project, Graduate work	To have the skills to choose the most rational modes of storage of oilseeds, taking into account its quality and purpose; to determine the possible purpose of oilseeds for the most rational use and implementation; to know the theoretical foundations of the production of vegetable oil, to organize the production process of high-quality vegetable oils; to apply the best practices of science to organize the production of vegetable oils.	To implement new technologies that provide rational use of raw resources, to receive a wide range of new food products	The technology of public catering

B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Design of food production enterprises	PPPP 4306	AS	Elective subjects	8.0	Bachelor	Agricultural and grain processing machines	4	3	Commodity of food products, Equipments for food products, Labor protection and basics of life safety		Food industry design. Designing objects of food industry enterprises and enterprises of low meat and milk processing capacity. Feasibility studies for the construction or reconstruction of enterprises of the meat industry, the selection and justification of technical schemes, grocery calculation, calculation and selection of technological equipment, the layout of workshops and industrial buildings.	Evaluate the quality of services in the field of design and reconstruction of food industry enterprises	Designing plants for the processing of vegetable raw materials and the production of biofuels
B068 - «Food production»	6B07201 - «Food science»	Full-time (bachelor 4 years) trimester	Designing plants for the processing of vegetable raw materials and the production of biofuels	PPPPRSPB 4336	AS	Elective subjects	8.0	Bachelor	Agricultural and grain processing machines	4	3	Equipment for deep processing of raw materials and biofuels production, Labor protection and basics of life safety, Lifting and transporting equipment and ventilation systems for grain storage and processing enterprises		The main stages, design principles of technological schemes for the storage, processing of vegetable raw materials and the production of biofuels are considered. The methods of calculation and selection of the main technological and transport equipment, the calculation of the quantitative balance of the technological process of production, the design of intra-shop communications are given.	Evaluate the quality of services in the field of design and reconstruction of food industry enterprises	Design of food production enterprises

The catalog of elective disciplines was approved by the Council of the Technical Faculty Protocol No. 10(E) of June 29, 2022.

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