NJSC SHAKARIM UNIVERSITY OF SEMEY

EDUCATIONAL PROGRAM

7M07 - Engineering, Manufacturing and Civil engineering
(Code and classification of the field of education)

7M072 - Manufacturing and processing
(Code and classification of the direction of training)

0720
(Code in the International Standard Classification of Education)

M111 - Food production
(Code and classification of the educational program group)

7M07201 - Technology of food products (by application)
(Code and name of the educational program)

Master
(Level of preparation)

Semey

Educational program

7M07 - Engineering, Manufacturing and Civil engineering
(Code and classification of the field of education)

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Master
(Level of preparation)

Semey 2023

PREFACE

Developed

The educational program 7M07201 - Technology of food products (by application) in the direction of preparation 7M072 - Manufacturing and processing on the basis of the State Compulsory Standards of Higher and Postgraduate Education approved by the Order of the Ministry of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 No 2 (as amended by the order) was developed by the Academic Committee dated 20.02.2023 No 66).

Members of the Academic Committee	Full name	Academic degree, academic title, position	Signature
Head of the Academic Committee	Nurymkhan Gulnur	Dean of the Faculty of Engineering and Technology, Candidate of Technical Sciences	
Educational program manager	Assirzhanova Zhanna	senior lecturer, Candidate of Technical Sciences	
Member of the AC	Smolnikova Farida	associate professor, Candidate of Technical Sciences	
Member of the AC	Idyryshev Berik	teacher	
Member of the AC	Shaikhova Madina	Associate Professor of the Higher College of the Kazakhstan Innovation Academy, Candidate of Technical Sciences	
Member of the AC	Kabdylzhar Baktybala	Researcher of SF LLP "Kazakh Research Institute of Processing and Food Industry", PhD	
Member of the AC	Kabaeva Karlygash	Master s student of the MFS-101.2 group	
Member of the AC	Seifullin Auez	Master s student of the MFS-101.2 group	

Reviewing

Full name of the reviewer	Position, place of work	Signature
Zharykbasova Klara	Vice-Rector for Educational and Methodological Work Educational institution "Alikhan Bokeikhan University", Doctor of Technical Sciences	

Reviewed

at the meeting of the Quality Assurance Commission of the Faculty of Engineering and Technology
Recommended for approval by the Academic Council of the University
Protocol № 4.6 "10" April 2023
Chairman of the Commission on Quality Assurance Abdilova G.

Approved at the meeting of the Academic Council of the University Protocol No. 8 "25" April 2023.

Approved

at the meeting of the Academic Council of the University
Protocol № 1 "01" of September 2023
Chairman of the Academic Council of the University Orynbekov D.R.

Content

1.Introduction

1.1.General data

The educational program 7M07201 "Technology of food products" implemented by the Shakarim University of Semey of the Faculty of Engineering and Technology of the Department "Technology of food Production and Biotechnology" in the group of educational programs M111 - "Food production" - was developed taking into account the needs of the regional labor market.
The educational program regulates the goals, expected results, content, conditions and technologies for the implementation of the educational process, assessment of the quality of graduate training in this area of training and contains characteristics of the program and areas of professional activity of the graduate, learning outcomes and acquired competencies, the organization of the educational process that ensures the quality of training of students.

1.2.Completion criteria

The main criterion for the completion of the educational process for the preparation of masters of the scientific and pedagogical direction is the development of at least 88 credits of theoretical training, including 6 credits of pedagogical practice, 13 credits of research practice, as well as at least 24 credits of research work of a master s student, including internships and the completion of a master`s thesis, at least 8 credits of the final attestations . A total of 120 credits.

1.3.Typical study duration: 2 years

2.PASSPORT OF THE EDUCATIONAL PROGRAM

2.1.EP purpose	Training of competitive specialists with skills in organizational and managerial, scientific and design activities in the field of food technology using theoretical, practice-oriented and scientific-educational approaches
2.2.Map of the training profile within the educational program	
Code and classification of the field of education	7M07 - Engineering, Manufacturing and Civil engineering
Code and classification of the direction of training	7M072 - Manufacturing and processing
Code in the International Standard Classification of Education	0720
Code and classification of the educational program group	M111 - Food production
Code and name of the educational program	7M07201 - Technology of food products (by application)
2.3.Qualification characteristics of the graduate	
Degree awarded / qualification	Master of Technical Sciences in the educational program 7M07201 - Technology of food products (by application)
Name of the profession / list of positions of a specialist	May occupy primary positions: in scientific and pedagogical training - in research institutions, universities and colleges: laboratory head, leading specialist, researcher, teacher, production technologist, manager and specialist in the administrative apparatus of food production enterprises
OQF qualification level (industry qualification framework)	7
Area of professional activity	Master of Technical Sciences in the educational program 7M07201 "Technology of food products" can work as: in scientific and pedagogical training - in research institutions, universities and colleges: head of a laboratory, leading specialist, researcher, teacher, specialist a production technologist, a manager and a specialist in the administrative apparatus of food production enterprises.
Object of professional activity	The objects of professional activity of graduates of the magistracy in the scientific and pedagogical direction are universities, colleges; gymnasium; research institutes; research and production, agricultural, design, expert, administrative institutions; enterprises of the food and processing industry; branch laboratories, subdivisions, sections, sectors, departments under local, regional and republican management structures, control and analytical service institutions, standardization and certification centers, etc.
Types of professional activity	Graduates of the Master s degree in the educational program 7M07201 "Technology food products" can perform the following types of professional activities: with scientific and pedagogical training: - conduct scientific and experimental research, carry out design and survey work, scientific and

	organizational activities at food production enterprises; - to carry out scientific and pedagogical activities in universities, colleges and other educational institutions of the education system; - methodical, working as methodologists in education departments. A master s student who has completed a specialized master s degree can engage in scientific and pedagogical activities only if he has mastered a cycle of disciplines of a pedagogical profile and has passed pedagogical practice. This cycle is mastered during an additional academic period, at the end of which he is issued a corresponding certificate to the main one diploma.
Graduate Model	- Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities. - To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products - Develop and improve technological processes for the production of food products of plant and animal origin - Develop measures to improve the technological processes of food production - Design and carry out comprehensive research to analyze the qualitative characteristics of food products. Apply the methodological foundations of laboratory research using modern equipment and computer systems. - To carry out technological quality control of finished products - Process current production information, analyze the received data and use them in product quality management - To apply professional knowledge and skills in the implementation of innovation policy objectives The uniqueness lies in the opportunity for students to participate in scientific programs, startup projects, to realize their creative possibilities through scientific research, creative projects, sports events.

3.Modules and content of the educational program

Sociolinguistic and scientific-pedagogical activity

Foreign language (professional)

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	30700 (3011910)
Course	1
Term	1
Credits count	3
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	20hours
Independent work of the student	40hours
Total	90hours
Knowledge control form	Examination

Short description of discipline

Mastery of general cultural, professional and special competencies for the implementation of professional activities, involving teaching free reading of original literature of the relevant branch of knowledge in a foreign language; development of oral communication skills in monological and dialogical form in the specialty; development of written scientific communication skills on topics related to the scientific work of a graduate student, as well as familiarization with the forms and types of international cooperation in the scientific field.

Purpose of studying of the discipline

The purpose of studying the discipline "Foreign language (professional)" in the master`s degree program is the systematic deepening of communicative competence within the framework of international standards of foreign language education on the basis of further development of skills and abilities of active language proficiency in the professional activity of the future master.

Learning Outcomes

ON1 Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities.

Prerequisites

Bachelor

Postrequisites

Final examination

History and philosophy of science

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	30701 (3011912)
Course	1
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The discipline is aimed at studying the culture of scientific thinking, forms analytical capabilities and research skills, provides theoretical and practical knowledge necessary for a future scientist. Explores the historical evolution of the sciences and the philosophical perspectives they form. The origins of modern science, its social and institutional connections are described. General philosophical issues related to thought experiments, confirmation and refutation of theories, the origin and application of quantitative and high-quality research methods are considered.

Purpose of studying of the discipline

the formation of an interdisciplinary worldview among undergraduates, based on a deep understanding of the history and philosophy (theory) of scientific thinking, as part of a universal culture.

Learning Outcomes

ON1 Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities.

Prerequisites

Bachelor

Postrequisites

Final examination

Tertiary education

Discipline cycle	Basic disciplines
Discipline component	University component

SubjectID	30703 (3011913)
Course	1
Term	1
Credits count	3
Lections	15hours
Practical and seminar classes	15hours
Independent work of a student under the guidance of a teacher	20hours
Independent work of the student	40hours
Total	90hours
Knowledge control form	Examination

Short description of discipline
The course is aimed at studying the main directions, principles and patterns of higher education. During the course of the course, the basic concepts of modern pedagogy, concepts and theories of teaching and upbringing, didactics of higher education will be considered. The master`s student will master the skills of designing the organization of the educational process, techniques of individual and group reflection, will be able to correctly formulate pedagogical goals, apply educational technologies in the educational process. in the process, to design work programs of disciplines.

Purpose of studying of the discipline
The purpose of mastering the discipline is to master the system of knowledge about higher education, its content, structure, principles of educational process management and mastering modern technologies in the field of management and organization of the educational process

Learning Outcomes
ON1 Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities.

Prerequisites
Bachelor

Postrequisites
Teaching practicum

Psychology of management

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	30702 (3011911)
Course	1
Term	1
Credits count	3
Lections	15hours
Practical and seminar classes	15hours
Independent work of a student under the guidance of a teacher	20hours
Independent work of the student	40hours
Total	90hours
Knowledge control form	Examination

Short description of discipline
The content of the course is aimed at mastering the approaches and directions of management psychology, psychological laws of management, features of planning and solving management problems. Students will get acquainted with the psychological methods of resolving conflict situations, master the ways of motivating work, the methods of using effective management styles. Skills will be formed to analyze the psychological causes underlying the decline in the effectiveness of the management process.

Purpose of studying of the discipline
The purpose of the discipline "Psychology of Management" is the formation of scientifically based ideas about the system of mental phenomena, psychological variables of behavior and conscious human activity in modern conditions and allows undergraduates to form skills of applying the acquired psychological knowledge in educational activities

Learning Outcomes
ON1 Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities.

Prerequisites
Bachelor

Postrequisites
Final examination

Teaching practicum

Discipline cycle	Basic disciplines
Discipline component	University component
SubjectID	31028 (3011880)
Course	2
Term	1
Credits count	6
Pedagogical practics	180hours
Total	180hours

Knowledge control form	Total mark on practice

Short description of discipline
General familiarization with the system in higher educational institutions, the peculiarity of teaching specialized disciplines in these institutions, directions - educational, educational and scientific. Systematic analysis of practical activities. Methodology and evaluation of laboratory and practical classes. Application of innovative and modern technologies and teaching techniques. Performing classes according to the schedule and plan. Contact with the audience. Creation of teaching materials.

Purpose of studying of the discipline
Practical consolidation of theoretical knowledge, skills and abilities of undergraduates, acquisition of practical experience in the field of future professional activity

Learning Outcomes
ON1 Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities.

Prerequisites
Basic and profile disciplines of the EP

Postrequisites
Practice research

Technology of food production

Methodology of designing food products with the required set of indicators of nutritional value

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	30616 (3011881)
Course	1
Term	1
Credits count	10
Lections	45hours
Practical and seminar classes	45hours
Independent work of a student under the guidance of a teacher	70hours
Independent work of the student	140hours
Total	300hours
Knowledge control form	Examination

Short description of discipline
Study of the methodology of food design. Features of the technology of production of herodietic food products. The basics of nutrition for various contingents and their significance. The nutritional and biological value of functional food products. To study the features of technological processing of products for population groups in need of functional nutrition. Production and technologies of functional food products, processing modes of food products.

Purpose of studying of the discipline
Mastering the methodology of designing food products with the necessary indicators of nutritional value

Learning Outcomes
ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites
Bachelor

Postrequisites
High-tech production of functional foods Progressive technics and technology in the branch of food industry Resource saving technology in food industry The research work of a student, including an internship and the implementation of a master s thesis (I) Improving the biotechnological foundations of multicomponent meat products technology

Development of biologically active nutrients have corrective and medicinal properties

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	30707 (3011882)
Course	1
Term	1
Credits count	10
Lections	45hours
Practical and seminar classes	45hours
Independent work of a student under the guidance of a teacher	70hours
Independent work of the student	140hours
Total	300hours
Knowledge control form	Examination

Short description of discipline
Types of biologically active substances. The scope of their application. Characteristics and influence of nutrients on the quality and shelf life of products. Selection of raw mate-rials and development of recipes, technological instructions. The main directions and goals of the

development of biologically active nutrients. An innovative approach to the production of food products, the study of quality indicators of products with biologically active substances that have corrective, therapeutic properties.

Purpose of studying of the discipline

Mastering the development of biologically active nutrients with corrective and therapeutic properties

Learning Outcomes

ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites

Bachelor

Postrequisites

Nutraceuticals, bioceutics and healthy nutrition Methods of research and innovation in the processing industries Specialized theory, basics and food technology The research work of a student, including an internship and the implementation of a master s thesis (I)

The development of new types of pasta combined with innovative technology

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	30705 (3011883)
Course	1
Term	1
Credits count	10
Lections	45hours
Practical and seminar classes	45hours
Independent work of a student under the guidance of a teacher	70hours
Independent work of the student	140hours
Total	300hours
Knowledge control form	Examination

Short description of discipline

Study of the state and prospects of development of the food industry. Scientific and innovative fundamentals of pasta production. Directions and goals of scientific activity. Modern methods of research and devel- opment of innova- tive technologies in processing industries. Improvement of technologies for the production of products using biologically active additives. Production and examination of combined pasta, expansion and updating of the range of pasta.

Purpose of studying of the discipline

Mastering the development of new types of combined pasta products using innovative technologies

Learning Outcomes

ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites

Bachelor

Postrequisites

Innovative technologies of functional and specialized food products Wasteless technology in poultry processing industry Innovative technology of processing industries The research work of a student, including an internship and the implementation of a master s thesis (I)

Theoretical and practical aspects of creating combined foods

Discipline cycle	Profiling discipline
Discipline component	University component
SubjectID	30704 (3011884)
Course	1
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

Rules of scientific and technical creation of combined food products. Modern orientation in the manufacture of functional nutrition products, for children, sports, therapeutic and vegetarian purposes. Improvement of micronutrient products based on vegetables and milk: research methods and practical solutions. The role of plant protein systems for the purpose of enriching meat products, as well as improving products with macro, microelements, polyunsaturated fatty acids, vitamins.

Purpose of studying of the discipline

Mastering theoretical and practical aspects in the field of scientific fundamentals of meat production

Learning Outcomes

ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites

Bachelor

Postrequisites

High-tech production of functional foods Progressive technics and technology in the branch of food industry Resource saving technology in food industry The research work of a student, including an internship and the implementation of a master s thesis (I) Improving the biotechnological foundations of multicomponent meat products technology

High-tech production of functional foods

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	30712 (3011885)
Course	1
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

Determination of the main directions of development of food and processing sectors of the agro-industrial complex; identification and implementation of specific areas of scientific and technological progress in the industry, aimed at the creation and production of new-generation food products - functional and specialized nutrition products; development and implementation of new product technologies

Purpose of studying of the discipline

Mastering knowledge in the field of high-tech production of functional food products

Learning Outcomes

ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites

Methodology of designing food products with the required set of indicators of nutritional value Theoretical and practical aspects of creating combined foods The research work of a student, including an internship and the implementation of a master s thesis (I)

Postrequisites

Teaching practicum Microstructure analysis of food products Physico-chemical and structure-mechanical analysis of food products The research work of a student, including an internship and the implementation of a master s thesis (II) Modeling of the technological process of food products

Innovative technologies of functional and specialized food products

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	31018 (3011887)
Course	1
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

Conceptual conditions for the emergence of functional and specialized food products, the alternative of the material as the cause of functional components, the complexity of strengthening the technological process, the formation of the quality of food products and catering products of functional and specialized orientation. Rules for creating innovative technologies, analyzing the nutritional value of the material, catering products and glutenfree products, as well as checking for harmlessness and quality.

Purpose of studying of the discipline

Mastering innovative technologies in the field of functional and specialized food products

Learning Outcomes

ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites

The development of new types of pasta combined with innovative technology Theoretical and practical aspects of creating combined foods

Postrequisites

Teaching practicum Management systems in ensuring the quality and safety of food products Research of microbiological and toxicological indicators of biological raw material Technological control of food production The research work of a student, including an internship and the implementation of a master s thesis (II)

Nutraceuticals, bioceutics and healthy nutrition

Discipline cycle	Basic disciplines
Discipline component	Electives
SubjectID	31017 (3011886)
Course	1
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The discipline gives an understanding of the principles of nutrition: preventive and curative, dietary and rational. The rules for creating products using nutraceuticals and bioceuticals are considered. Possession of skills and abilities to review sanitary and epidemiological conditions of hazards at all stages of production, storage, transportation and sale of food products and perform functions: inspection, supervisory and expert at food industry production facilities.

Purpose of studying of the discipline

Mastering knowledge in the field of healthy nutrition using nutraceuticals and bioceuticals

Learning Outcomes

ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites

Development of biologically active nutrients have corrective and medicinal properties Theoretical and practical aspects of creating combined foods

Postrequisites

Teaching practicum Product Development and Sensory Assessment International requirements for food safety Model for quality assurance in the food industry The research work of a student, including an internship and the implementation of a master s thesis (II)

Wasteless technology in poultry processing industry

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31021 (3011890)
Course	1
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

Technologies without waste. The use of secondary material for further processing in the creation of functional products from poultry meat. Waste treatment. Blood treatment. Pen processing. Equipment used in processing. Description of the secondary material used in the creation of functional poultry meat products. Storage of poultry meat products of functional orientation. Changes that occur during the storage of functional poultry meat products.

Purpose of studying of the discipline

Mastering waste-free technology in the poultry processing industry

Learning Outcomes

ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use

of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites

Methodology of designing food products with the required set of indicators of nutritional value Theoretical and practical aspects of creating combined foods

Postrequisites

Teaching practicum Product Development and Sensory Assessment International requirements for food safety Model for quality assurance in the food industry The research work of a student, including an internship and the implementation of a master s thesis (II)

Innovative technology of processing industries

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31024 (3011893)
Course	1
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

Innovative technologies in processing production. Creation and introduction of innovative technology of high-quality cereals and other therapeutic and preventive products from oilseeds, legumes, cereals, resource-saving technologies of bread, pasta, flour, confectionery products of functional orientation from berry, vegetable fruit crops and with the use of progressive processing methods. In the processing of crop production by ion-zone and hydroionzone nano-technology, the creation of new technologies and technical solutions.

Purpose of studying of the discipline

Mastering innovative technologies of processing industries

Learning Outcomes

ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites

The development of new types of pasta combined with innovative technology Theoretical and practical aspects of creating combined foods

Postrequisites

Teaching practicum Product Development and Sensory Assessment International requirements for food safety Model for quality assurance in the food industry The research work of a student, including an internship and the implementation of a master s thesis (II)

Methods of research and innovation in the processing industries

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31020 (3011889)
Course	1
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

Scientific and innovative foundations of processing industries. Directions and goals of scientific activity. Modern research methods in processing industries. Improving the technology of production of products. Means of product quality assessment. A systematic approach in science and technology. Information approach in research and modeling. The complexity of choice in scientific research. Analysis and presentation of research results. Study of methods of measurement, observation and compilation of descriptions of ongoing research.

Purpose of studying of the discipline

Mastering the methods of scientific research and innovative activities in food and processing industries

Learning Outcomes

ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.

ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites

The development of new types of pasta combined with innovative technology Theoretical and practical aspects of creating combined foods

Postrequisites

Teaching practicum Management systems in ensuring the quality and safety of food products Research of microbiological and toxicological indicators of biological raw material Technological control of food production The research work of a student, including an internship and the implementation of a master s thesis (II)

The research work of a student, including an internship and the implementation of a master s thesis (I)

Discipline cycle	Profiling discipline
Discipline component	University component
SubjectID	31047 (3011905)
Course	1
Term	2
Credits count	11
The research work	330hours
Total	330hours
Knowledge control form	Total mark on practice

Short description of discipline

Development of the ability to independently carry out activities in the field of education and science related to solving complex professional tasks in innovative conditions using modern research methods and methods, the latest achievements of techniques and technologies in research work

Purpose of studying of the discipline

Planning and organization of research work, including the study of the direction of scientific research, determination and justification of the relevance of the chosen research topic, analysis of literary data on the chosen topic

Learning Outcomes

ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON5 Design and carry out comprehensive research to analyze the qualitative characteristics of food products. Apply the methodological foundations of laboratory research using modern equipment and computer systems.
ON8 To apply professional knowledge and skills in the implementation of innovation policy objectives.

Prerequisites

Basic and profile disciplines of the EP

Postrequisites

The research work of a student, including an internship and the implementation of a master s thesis (III)

Scientific bases of meat foods production

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31026 (3011895)
Course	1
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

Combined food products: scientific concepts of origin. Important ways in the creation of food products: functional, children`s, for the elderly, therapeutic, dietary, sports directions. Concentration of meat and dairy products with mineral elements: scientific combinations and practical conclusions. The role of protein systems of plant origin in the direction of concentration of meat products. The concentration of products by a complex combination of micronutrients, multivitamins, polyunsaturated fatty acids.

Purpose of studying of the discipline

Mastering knowledge in the field of scientific fundamentals of meat products production

Learning Outcomes

ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites

Methodology of designing food products with the required set of indicators of nutritional value Theoretical and practical aspects of creating combined foods

Postrequisites
Teaching practicum Product Development and Sensory Assessment International requirements for food safety Model for quality assurance in the food industry The research work of a student, including an internship and the implementation of a master s thesis (II)

Progressive technics and technology in the branch of food industry

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31019 (3011888)
Course	1
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
The discipline studies a complete description of the modernized hardware mechanisms and models of equipment and innovative technologies of food production. The impact of the degree of mechanization and automation of sections and lines, scientific confirmation and the use of alternative technologies that save resources for deep processing of food products (meat, milk, grain, eggs, etc.), improvement of energy-saving refrigeration equipment and technologies in the food industry.

Purpose of studying of the discipline
Mastering the latest technologies introduced into the food industry, advanced types of machinery and equipment, processes occurring during technological operations, methods for determining the properties of raw materials and finished products

Learning Outcomes
ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites
Methodology of designing food products with the required set of indicators of nutritional value Theoretical and practical aspects of creating combined foods

Postrequisites
Teaching practicum Microstructure analysis of food products Physico-chemical and structure-mechanical analysis of food products The research work of a student, including an internship and the implementation of a master s thesis (II) Modeling of the technological process of food products

Resource saving technology in food industry

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31022 (3011891)
Course	1
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
Theory of technological flow generation, high-quality final products of the food industry, the main stages of production processing. New actual physical methods of food processing (high, very high, electromagnetic frequency, acoustic, vibration processing, heat treatment, etc.). IR radiation sources. Their classification. Primary processing of industrial raw materials for the production of food products, while physical and chemical processes are taking place. Quality indicators of products and raw materials, assortment.

Purpose of studying of the discipline
Mastering resource-saving technologies and equipment of food production, processing of secondary raw materials of production, waste-free technologies

Learning Outcomes
ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites

Methodology of designing food products with the required set of indicators of nutritional value Theoretical and practical aspects of creating combined foods

Postrequisites

Teaching practicum Microstructure analysis of food products Physico-chemical and structure-mechanical analysis of food products The research work of a student, including an internship and the implementation of a master s thesis (II) Modeling of the technological process of food products

Improving the biotechnological foundations of multicomponent meat products technology

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31027 (3011908)
Course	1
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

Biotechnological processes and their foundations. Genetically modified products. The proteins are artificial. Meat products: their technology with the use of vegetable, food, biologically active additives. The use of food additives in the technology of meat multicomponent products. Specialpurpose prod-ucts and their classification; a list of functional ingredients and methods of enriching meat products with them; regulatory documents: raw materials and finished products - quality requirements.

Purpose of studying of the discipline

Mastering knowledge in the field of improving the biotechnological foundations of the technology of multicomponent meat products

Learning Outcomes

ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites

Methodology of designing food products with the required set of indicators of nutritional value Theoretical and practical aspects of creating combined foods

Postrequisites

Teaching practicum Microstructure analysis of food products Physico-chemical and structure-mechanical analysis of food products The research work of a student, including an internship and the implementation of a master s thesis (II) Modeling of the technological process of food products

Specialized theory, basics and food technology

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31023 (3011892)
Course	1
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

Nutrition science and its basics, food products and their chemical composition, signs of the main components in food technologies, fundamentals of technological processes of food production, main and additional raw materials of food production, characteristics of raw materials. Biochemical and physico-chemical properties of raw materials, semi-finished products and finished products during thermal and mechanical processing. Principles, methods of harmlessness of food materials and products. Technology of different food products.

Purpose of studying of the discipline

Mastering specialized theories, fundamentals and technologies of food products

Learning Outcomes

ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.

Prerequisites
The development of new types of pasta combined with innovative technology Theoretical and practical aspects of creating combined foods
Postrequisites
Teaching practicum Product Development and Sensory Assessment International requirements for food safety Model for quality assurance in the food industry The research work of a student, including an internship and the implementation of a master s thesis (II)

Multicomponent meat product technology

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31025 (3011894)
Course	1
Term	2
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
Technological processes: their improvement. Balanced foods: their creation. Increasing the fruitfulness of the application of the results of the effectiveness of scientific and scientific- technical. Design of research work. Improvement of technologies for processing secondary reserves in the food industry. Technology for obtaining food additives from secondary raw materials in the food industry. The use of dairy and vegetable proteins in the production of meat products. Products of grain processing in the technology of meat products. Food additives. Methods of calculating economic efficiency.
Purpose of studying of the discipline
Mastering knowledge in the field of technology of multicomponent meat products
Learning Outcomes
ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON3 Develop and improve technological processes for the production of food products of plant and animal origin.
ON4 Develop measures to improve the technological processes of food production.
Prerequisites
Methodology of designing food products with the required set of indicators of nutritional value Theoretical and practical aspects of creating combined foods
Postrequisites
Teaching practicum Product Development and Sensory Assessment International requirements for food safety Model for quality assurance in the food industry The research work of a student, including an internship and the implementation of a master s thesis (II)

Microstructural analysis, modeling and food quality control

Research of microbiological and toxicological indicators of biological raw material

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31032 (3011900)
Course	2
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
Mastering the hygienic description of important components of raw materials and products of animal origin, methods for checking signs of harmlessness of food raw materials and products. The main ways of contamination of products and materials. Contamination of raw materials and food products with xenobiotics of chemical and biological origin. Measures of toxicity of substances. The additives are different and the food is artificial. Systematics and morphology of microorganisms, list of names, metabolism in microorganisms.
Purpose of studying of the discipline
Mastering knowledge in the field of research of microbiological and toxicological indicators of biological raw materials and materials
Learning Outcomes
ON5 Design and carry out comprehensive research to analyze the qualitative characteristics of food products. Apply the methodological foundations of laboratory research using modern equipment and computer systems.
ON6 To carry out technological quality control of finished products.

ON7 Process current production information, analyze the received data and use them in product quality management.

Prerequisites

Basic and profile disciplines of the EP

Postrequisites

The research work of a student, including an internship and the implementation of a master s thesis (III)

International requirements for food safety

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31033 (3011901)
Course	2
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

Development of safety control sys- tems for food products and means of minimizing the possibilities of danger. International codex committees on individual food products, expert committees on food additives, on the use of radiation in the food industry, Codex Alimentarius Commissions of the World Food Organiza-tion/The World Health Organization, the European Food Safety Authority (EFSA). Overview of the main advantages of the strategy of equip-ping food safety, the basics of scientific introduction and digitalization of a certain order of traceability of products.

Purpose of studying of the discipline

Mastering knowledge in the field of international food safety requirements

Learning Outcomes

ON5 Design and carry out comprehensive research to analyze the qualitative characteristics of food products. Apply the methodological foundations of laboratory research using modern equipment and computer systems.
ON6 To carry out technological quality control of finished products.
ON7 Process current production information, analyze the received data and use them in product quality management.

Prerequisites

Basic and profile disciplines of the EP

Postrequisites

The research work of a student, including an internship and the implementation of a master s thesis (III)

Microstructure analysis of food products

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31159 (3011896)
Course	2
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline

The structure of products: meat, dairy, fish. Important indicators of the structure of food products. Methods of establishing the microstructure of raw materials and food products. Conditions affecting the creation of the structure. Technological parameters: their influence on the appearance of microstructure. Microscopes: their classification. Nutrients, raw materials, finished products: their innovative microscopy methods. Equipment used for microstructure surveys. In microstructural research, methods of technological histology are used. Objects of microstructural surveys.

Purpose of studying of the discipline

Mastering knowledge in the field of microstructural analysis of food products

Learning Outcomes

ON5 Design and carry out comprehensive research to analyze the qualitative characteristics of food products. Apply the methodological foundations of laboratory research using modern equipment and computer systems.
ON6 To carry out technological quality control of finished products.
ON7 Process current production information, analyze the received data and use them in product quality management.

Prerequisites

Basic and profile disciplines of the EP

Postrequisites

The research work of a student, including an internship and the implementation of a master s thesis (III)

Model for quality assurance in the food industry

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31034 (3011902)
Course	2
Term	1
Credits count	10
Lections	45hours
Practical and seminar classes	45hours
Independent work of a student under the guidance of a teacher	70hours
Independent work of the student	140hours
Total	300hours
Knowledge control form	Examination

Short description of discipline

Quality equipment models. Quality management: composite and functional schemes. Requirements for the composition and essence of the parts of the quality structure, their overview. State standards, ISO. Normative and technical documents, their role in the formation of quality. A single sign of quality. Equipping the quality of products, their concept. Enterprise structure: construction and management. Methods for identifying the causes that degrade quality and their exclusion. Forms of quality control at enterprises.

Purpose of studying of the discipline

Mastering knowledge in the field of quality assurance models in the food industry

Learning Outcomes

ON5 Design and carry out comprehensive research to analyze the qualitative characteristics of food products. Apply the methodological foundations of laboratory research using modern equipment and computer systems.
ON6 To carry out technological quality control of finished products.
ON7 Process current production information, analyze the received data and use them in product quality management.

Prerequisites

Basic and profile disciplines of the EP

Postrequisites

The research work of a student, including an internship and the implementation of a master s thesis (III)

Modeling of the technological process of food products

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31036 (3011909)
Course	2
Term	1
Credits count	10
Lections	45hours
Laboratory works	45hours
Independent work of a student under the guidance of a teacher	70hours
Independent work of the student	140hours
Total	300hours
Knowledge control form	Examination

Short description of discipline

The general procedure for creating mathematical models. Systematization of mathematical schemes of technological processes. Dynamic programming models. Modeling of heating and cooling processes. Processing of tabular data. Interpolation and approximation of the function. Ways to resolve nonlinear equalities. Ways to resolve differential equalities. Optimization methods. Software tools for engineering calculations. (Excel, MathCad, Mathlab packages. Mathematica). Processing of data from production, an overview of the information received.

Purpose of studying of the discipline

Mastering knowledge in the field of modeling technological processes of food production

Learning Outcomes

ON5 Design and carry out comprehensive research to analyze the qualitative characteristics of food products. Apply the methodological foundations of laboratory research using modern equipment and computer systems.
ON6 To carry out technological quality control of finished products.
ON7 Process current production information, analyze the received data and use them in product quality management.

Prerequisites

Basic and profile disciplines of the EP

Postrequisites

The research work of a student, including an internship and the implementation of a master s thesis (III)

The research work of a student, including an internship and the implementation of a master s thesis (II)

Discipline cycle	Profiling discipline

Discipline component	University component
SubjectID	31045 (3011906)
Course	2
Term	1
Credits count	4
The research work	120hours
Total	120hours
Knowledge control form	Total mark on practice

Short description of discipline
Development of the ability to independently carry out activities in the field of education and science related to solving complex professional tasks in innovative conditions using modern research methods and methods, the latest achievements of techniques and technologies in research work

Purpose of studying of the discipline
Conducting research work within the framework of the chosen topic, including experimental research, data processing and analysis, final formulation of a research problem, development and analysis of methods for its solution

Learning Outcomes
ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON5 Design and carry out comprehensive research to analyze the qualitative characteristics of food products. Apply the methodological foundations of laboratory research using modern equipment and computer systems.
ON8 To apply professional knowledge and skills in the implementation of innovation policy objectives.

Prerequisites
Basic and profile disciplines of the EP

Postrequisites
The research work of a student, including an internship and the implementation of a master s thesis (III)

Product Development and Sensory Assessment

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31030 (3011898)
Course	2
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
Research of new products, increased food and biological value, through tasting - production and organization - scientific and practical motivation. Innovation. Sensory features in the system of product quality indicators, the system of terms of organoleptic quality indicators, psycho-physiological foun-dations of organoleptics, the results of organoleptic and instrumental research and the correlation between them, scientifically based methods of sensory research, expert methodology - important rules, the use of qualimetry for quantitative measurement of organoleptic indicators of product quality.

Purpose of studying of the discipline
Mastering knowledge in the field of product development and sensory evaluation

Learning Outcomes
ON5 Design and carry out comprehensive research to analyze the qualitative characteristics of food products. Apply the methodological foundations of laboratory research using modern equipment and computer systems.
ON6 To carry out technological quality control of finished products.
ON7 Process current production information, analyze the received data and use them in product quality management.
ON8 To apply professional knowledge and skills in the implementation of innovation policy objectives.

Prerequisites
Basic and profile disciplines of the EP

Postrequisites
The research work of a student, including an internship and the implementation of a master s thesis (III)

Management systems in ensuring the quality and safety of food products

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	33713 (3011897)
Course	2
Term	1
Credits count	5
Lections	15hours

Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours
Knowledge control form	Examination

Short description of discipline
Equipping the quality of food raw materials and products; internal and external conditions - affecting the harmlessness and quality of products. Quantitative criteria for evaluating technological systems of food production according to their quality parameters; methods of qualitative and quantitative research of the risk of violations of the functioning of technological systems. Means of coordinating the quality and safety of food products based on HACCP, international standards of the 9000 and 22000 series.

Purpose of studying of the discipline
Mastering knowledge in the field of management systems in ensuring the quality and safety of food products

Learning Outcomes
ON5 Design and carry out comprehensive research to analyze the qualitative characteristics of food products. Apply the methodological foundations of laboratory research using modern equipment and computer systems.
ON6 To carry out technological quality control of finished products.
ON7 Process current production information, analyze the received data and use them in product quality management.
ON8 To apply professional knowledge and skills in the implementation of innovation policy objectives.

Prerequisites
Basic and profile disciplines of the EP

Postrequisites
The research work of a student, including an internship and the implementation of a master s thesis (III)

Technological control of food production

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31035 (3011903)
Course	2
Term	1
Credits count	10
Lections	45hours
Practical and seminar classes	45hours
Independent work of a student under the guidance of a teacher	70hours
Independent work of the student	140hours
Total	300hours
Knowledge control form	Examination

Short description of discipline
At the stages of the technological process of production - a review of the observation of the quality of products and raw materials, a review and unification of various methodological approaches to equipping the quality and harmlessness of products. QMS, HACCP, GMP standard – their overview of the integrated structure of quality supervision and management. Creation of various criteria for evaluating raw materials in production. Conditions affecting and ensuring the quality and harmlessness of products at the sales stage.

Purpose of studying of the discipline
Mastering knowledge in the field of technological control of food production

Learning Outcomes
ON5 Design and carry out comprehensive research to analyze the qualitative characteristics of food products. Apply the methodological foundations of laboratory research using modern equipment and computer systems.
ON6 To carry out technological quality control of finished products.
ON7 Process current production information, analyze the received data and use them in product quality management.

Prerequisites
Basic and profile disciplines of the EP

Postrequisites
The research work of a student, including an internship and the implementation of a master s thesis (III)

Physico-chemical and structure-mechanical analysis of food products

Discipline cycle	Profiling discipline
Discipline component	Electives
SubjectID	31031 (3011899)
Course	2
Term	1
Credits count	5
Lections	15hours
Practical and seminar classes	30hours
Independent work of a student under the guidance of a teacher	35hours
Independent work of the student	70hours
Total	150hours

Knowledge control form	Examination

Short description of discipline
The study of the scientific foundations of engineering physico-chemical mechanics. The device types, variances types. A system of rheological bodies and important structural and mechanical properties of materials and finished products and other technological factors. Methods and devices for measuring the structural and mechanical characteristics of food products. Description of shift distinctive properties, advantages of food products. Liquid and solid products: their shear descriptions. Density. Influence on the compression characteristics of various technological conditions.

Purpose of studying of the discipline
Mastering knowledge in the field of physico-chemical and structural mechanical studies of food products

Learning Outcomes
ON5 Design and carry out comprehensive research to analyze the qualitative characteristics of food products. Apply the methodological foundations of laboratory research using modern equipment and computer systems.
ON6 To carry out technological quality control of finished products.
ON7 Process current production information, analyze the received data and use them in product quality management.

Prerequisites
Basic and profile disciplines of the EP

Postrequisites
The research work of a student, including an internship and the implementation of a master s thesis (III)

Practice research

Discipline cycle	Profiling discipline
Discipline component	University component
SubjectID	31037 (3011904)
Course	2
Term	2
Credits count	13
Working practice	390hours
Total	390hours
Knowledge control form	Total mark on practice

Short description of discipline
Research practice is part of the research work of a master`s student. The research practice is focused on solving the tasks set on the topic of the master`s thesis. Setting up a research experiment, using organoleptic, structural-mechanical, physico-chemical research methods in assessing the quality of raw materials and finished products. The practice is carried out by conducting scientific work at the department.

Purpose of studying of the discipline
Familiarization with the latest theoretical, methodological and technological achievements of domestic and foreign science, with modern methods of scientific research, processing and interpretation of experimental data

Learning Outcomes
ON8 To apply professional knowledge and skills in the implementation of innovation policy objectives.

Prerequisites
Basic and profile disciplines of the EP

Postrequisites
Final examination

The research work of a student, including an internship and the implementation of a master s thesis (III)

Discipline cycle	Profiling discipline
Discipline component	University component
SubjectID	31038 (3011907)
Course	2
Term	2
Credits count	9
The research work	270hours
Total	270hours
Knowledge control form	Total mark on practice

Short description of discipline
Development of the ability to independently carry out activities in the field of education and science related to solving complex professional tasks in innovative conditions using modern research methods and methods, the latest achievements of techniques and technologies in research work

Purpose of studying of the discipline
Collection of factual material, processing, analysis and systematization of information for the dissertation work, assessment of their reliability and sufficiency to complete the work on the dissertation

Learning Outcomes
ON2 To use scientific and methodological approaches in the development and improvement of food production technology with the use of modern progressive techniques in the field of food products.
ON5 Design and carry out comprehensive research to analyze the qualitative characteristics of food products. Apply the methodological foundations of laboratory research using modern equipment and computer systems.

ON8 To apply professional knowledge and skills in the implementation of innovation policy objectives.

Prerequisites

Basic and profile disciplines of the EP

Postrequisites

Final examination

Final Assessment

Master`s dissertation

Credits count	8

4.Summary table on the scope of the educational program «7M07201 - Technology of food products (by application)»

Name of discipline	Cycle/ Component	Term	Number of credits	Total hours	Lec	SPL	LC	IWST	IWS	Knowledge control form
Sociolinguistic and scientific-pedagogical activity										
Foreign language (professional)	BS/US	1	3	90		30		20	40	Examination
History and philosophy of science	BS/US	1	5	150	15	30		35	70	Examination
Tertiary education	BS/US	1	3	90	15	15		20	40	Examination
Psychology of management	BS/US	1	3	90	15	15		20	40	Examination
Teaching practicum	BS/US	3	6	180						Total mark on practice
Technology of food production										
Methodology of designing food products with the required set of indicators of nutritional value	BS/CCh	1	10	300	45	45		70	140	Examination
Development of biologically active nutrients have corrective and medicinal properties	BS/CCh	1	10	300	45	45		70	140	Examination
The development of new types of pasta combined with innovative technology	BS/CCh	1	10	300	45	45		70	140	Examination
Theoretical and practical aspects of creating combined foods	AS/US	1	5	150	15	30		35	70	Examination
High-tech production of functional foods	BS/CCh	2	5	150	15	30		35	70	Examination
Innovative technologies of functional and specialized food products	BS/CCh	2	5	150	15	30		35	70	Examination
Nutraceuticals, bioceutics and healthy nutrition	BS/CCh	2	5	150	15	30		35	70	Examination
Wasteless technology in poultry processing industry	AS/CCh	2	5	150	15	30		35	70	Examination
Innovative technology of processing industries	AS/CCh	2	5	150	15	30		35	70	Examination
Methods of research and innovation in the processing industries	AS/CCh	2	5	150	15	30		35	70	Examination
The research work of a student, including an internship and the implementation of a master s thesis (I)	AS/US	2	11	330						Total mark on practice
Scientific bases of meat foods production	AS/CCh	2	5	150	15	30		35	70	Examination
Progressive technics and technology in the branch of food industry	AS/CCh	2	5	150	15	30		35	70	Examination
Resource saving technology in food industry	AS/CCh	2	5	150	15	30		35	70	Examination
Improving the biotechnological foundations of multicomponent meat products technology	AS/CCh	2	5	150	15	30		35	70	Examination
Specialized theory, basics and food technology	AS/CCh	2	5	150	15	30		35	70	Examination
Multicomponent meat product technology	AS/CCh	2	5	150	15	30		35	70	Examination

Microstructural analysis, modeling and food quality control										
Research of microbiological and toxicological indicators of biological raw material	AS/CCh	3	5	150	15	30		35	70	Examination
International requirements for food safety	AS/CCh	3	5	150	15	30		35	70	Examination
Microstructure analysis of food products	AS/CCh	3	5	150	15	30		35	70	Examination
Model for quality assurance in the food industry	AS/CCh	3	10	300	45	45		70	140	Examination
Modeling of the technological process of food products	AS/CCh	3	10	300	45		45	70	140	Examination
The research work of a student, including an internship and the implementation of a master s thesis (II)	AS/US	3	4	120						Total mark on practice
Product Development and Sensory Assessment	AS/CCh	3	5	150	15	30		35	70	Examination
Management systems in ensuring the quality and safety of food products	AS/CCh	3	5	150	15	30		35	70	Examination
Technological control of food production	AS/CCh	3	10	300	45	45		70	140	Examination
Physico-chemical and structure-mechanical analysis of food products	AS/CCh	3	5	150	15	30		35	70	Examination
Practice research	AS/US	4	13	390						Total mark on practice
The research work of a student, including an internship and the implementation of a master s thesis (III)	AS/US	4	9	270						Total mark on practice
Final Assessment										
Master`s dissertation		4	8	240						