

## The list of academic disciplines of the university component

**7M07 - Engineering, manufacturing and construction industries**  
(Code and classification of the field of education)

**7M072 - Industrial and manufacturing branches**  
(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)

**set of 2024**

**Developed**

By the Academic Committee of the EP  
The head of the AC Nurymkhan Gulnur  
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**Reviewed**

at a meeting of the Academic Quality Committee of the Faculty of Engineering and Technology  
Protocol No. 3 dated 15.01.2024

at a meeting of the Academic Quality Committee of the Research School of Food Engineering  
Recommended for approval by the Academic Council of the University  
Protocol No. 1 , dated 06.06.2024

**Approved**

at a meeting of the University Academic Council by protocol No. 6/1 of January 19, 2024.

at a meeting of the University Academic Council by protocol No. 11 of June 28, 2024.

## Foreign language (professional)

Discipline cycle	Basic disciplines
Course	1
Credits count	3
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.

### Learning outcomes by discipline

- to know the specifics of oral and written speech in the fields of professional, scientific, socio-political relations;
  - to know the national and cultural peculiarities of the creation and organization of a text in a foreign language within the framework of professionally motivated conditions;
  - to know the stylistic features of the vocabulary of a foreign language in the field of professional communication;
- be able to perform:
- implementation of professional activity in linguistic, sociolinguistic, information-analytical and communicative aspects;
  - creating your own verbal and non-verbal order in the fields of professional and scientific socio-political relations;
  - the use of a variety of language and speech means adequate to social factors, communication conditions, the status of the interlocutor and his communicative intentions;
  - be able to organize speech activity as a representative of another culture and the nature of communication in accordance with the tasks of communication, the speech situation, individual characteristics;
- the presence of skills:
- to perceive by ear and understand the appropriate level of messages of a business, informational and vocational nature;
  - dialogical and monological communication within the framework of professional activity;
  - to get acquainted and study business and scientific and technical documentation, which provides for obtaining information from what has been read and using it in speech;
  - have the skills of systematic presentation of thoughts, thinking, information when writing letters of an official, professional nature;

### Prerequisites

Bachelor

### Postrequisites

Basic and profile disciplines of the EP

## History and philosophy of science

Discipline cycle	Basic disciplines
Course	1
Credits count	5
Knowledge control form	Examination

### Short description of discipline

Пән ғылыми ойлау мәдениетін зерттеуге бағытталған, аналитикалық мүмкіндіктер мен зерттеу дағдыларын қалыптастырады, болашақ ғалымға қажетті теориялық және практикалық білім береді. Ғылымның тарихи эволюциясын және олар қалыптастыратын философиялық перспективаларды зерттейді. Қазіргі ғылымның пайда болуы, оның әлеуметтік және институционалдық байланыстары сипатталған. Ойлау эксперименттеріне, теорияларды растау мен теріске шығаруға, сандық және жоғары сапалы зерттеу әдістерінің пайда болуы мен қолданылуына байланысты жалпы философиялық мәселелер қарастырылады.

### Purpose of studying of the discipline

магистранттарда жалпыадамзаттық мәдениеттің бір бөлігі ретінде ғылыми ойлаудың тарихы мен философиясын (теориясын) терең түсінуге негізделген пәнаралық дүниетанымды қалыптастыру.

### Learning Outcomes

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

### Learning outcomes by discipline

be able to apply fundamental scientific, pedagogical, managerial, and communicative knowledge and skills in professional activities

### Prerequisites

Bachelor

### Postrequisites

Basic and profile disciplines of the EP

## Higher Education Pedagogy

Discipline cycle	Basic disciplines
Course	1
Credits count	3
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.

### **Learning outcomes by discipline**

- Be able to solve the problems of higher pedagogical education and the prospects for its further development;
- Have the skills to consider the application of effective university technologies;
- Solve topical and psychological and pedagogical problems,

### **Prerequisites**

Bachelor

### **Postrequisites**

Teaching practicum

## **Psychology of management**

Discipline cycle	Basic disciplines
Course	1
Credits count	3
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.

### **Learning outcomes by discipline**

- be able to determine the forms and methods of effective team management;
- develop plans for the development of organizations, provide psychological support for the activities of organizations;
- possess methods of solving managerial tasks.

### **Prerequisites**

Bachelor

### **Postrequisites**

Basic and profile disciplines of the EP

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

Discipline cycle	Profiling discipline
Course	1
Credits count	11
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.

ON4 Design and implement complex studies to analyze the quality characteristics of food products. Apply methodological principles for performing laboratory studies using modern equipment

ON8 Apply professional knowledge and skills in implementing the tasks of innovative policy in the field of food security

### **Learning outcomes by discipline**

- to carry out a detailed review of the literature on the topic of the dissertation research, which is based on current research publications and contains an analysis of the main results and provisions obtained by leading experts in the field of research, an assessment of their applicability within the framework of the dissertation research
- analyze and process scientific, technical and patent information on the subject of research using specialized databases and information technologies, including Internet technologies

- selection and study of research methods, materials on the topic of the dissertation

### **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 (II)

## **Teaching practicum**

Discipline cycle	Basic disciplines
Course	2
Credits count	6
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.

### **Learning outcomes by discipline**

- to study the current state of the educational process at the university, advanced pedagogical experience, improve skills in determining specific educational tasks based on the general goals of education, taking into account the age, professional and individual characteristics of undergraduate students and socio-psychological characteristics of the team, find ways to solve them and predict the expected results

- to consolidate, deepen and enrich pedagogical special knowledge in the process of their use in solving specific learning tasks

- to create professionally significant personality qualities among undergraduates, to develop professional knowledge and skills; to develop a creative, research approach to pedagogical activity

### **Prerequisites**

Basic and profile disciplines of the EP

### **Postrequisites**

Practice research

## **Innovative technologies processing - meat, milk, fish**

Discipline cycle	Profiling discipline
Course	2
Credits count	5
Knowledge control form	Examination

### **Short description of discipline**

The discipline examines innovative technologies for processing meat, milk, and fish. It studies new technologies for storing meat raw materials. Methods of meat processing: electrical contact, ultrasound. New methods of meat processing. Nanotechnology in the meat industry. New technologies for the production of milk and cream, cheeses, fermented milk products, curds, cottage cheese and dairy products for children, fish and fish products. Technology of products from aquatic organisms: obtained by salting, drying, curing, smoking.

### **Purpose of studying of the discipline**

Develop knowledge of modern technologies for animal raw material processing.

### **Learning Outcomes**

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

ON5 Develop measures to improve technological processes for food production

### **Learning outcomes by discipline**

- use innovative technologies for raw material processing.

- analyze the efficiency of methods.

- develop products with advanced technologies.

### **Prerequisites**

Technology of artificial food products      Modeling of technological processes of food production      Organization and planning of experiments      Methodology of scientific research

### **Postrequisites**

Final examination

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

Discipline cycle	Profiling discipline
Course	2
Credits count	4
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.*

*ON4 Design and implement complex studies to analyze the quality characteristics of food products. Apply methodological principles for performing laboratory studies using modern equipment*

*ON8 Apply professional knowledge and skills in implementing the tasks of innovative policy in the field of food security*

### **Learning outcomes by discipline**

*- apply methods of conducting independent research and interpreting their results*

*- processing, interpretation and analysis of the obtained research results, evaluation of the predicted results from the point of view of scientific and practical significance*

*- apply modern methods of studying the properties of raw materials, semi-finished products and finished products, advanced techniques and technologies in research work and conduct experimental work on the topic of the dissertation*

### **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
Course	2
Credits count	13
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 Apply professional knowledge and skills in implementing the tasks of innovative policy in the field of food security*

### **Learning outcomes by discipline**

*- to apply methods of conducting experiments, to determine the nutritional and biological value of raw materials and finished products; microstructure on an electron microscope; optical and spectral characteristics on a spectrometer; rheological parameters on a "Struotometer" device*

*- to master the methods of determination of physico-chemical, structural-mechanical, organoleptic and toxicological parameters of raw materials, materials and finished products*

*- assistance in the formation of skills to work with educational, scientific and methodological literature, to be able to independently carry out research to solve research and production tasks using modern equipment and methods for studying the properties of raw materials, semi-finished products and finished products*

### **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
Course	2
Credits count	9
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.*

*ON4 Design and implement complex studies to analyze the quality characteristics of food products. Apply methodological principles for performing laboratory studies using modern equipment*

*ON8 Apply professional knowledge and skills in implementing the tasks of innovative policy in the field of food security*

### **Learning outcomes by discipline**

- *apply modern information technologies, methods of analysis and processing of experimental data*
- *publication of abstracts of reports, scientific articles based on the results of scientific research*
- *prepare the final text of the master`s thesis*

**Prerequisites**

*Basic and profile disciplines of the EP*

**Postrequisites**

*Final examination*