# The list of academic disciplines of the university component

7M05 - Natural Sciences, Mathematics and Statistics
(Code and classification of the field of education)

7M051 - Biological and related sciences
(Code and classification of the direction of training)

0510
(Code in the International Standard Classification of Education)

M080 - Biology
(Code and classification of the educational program group)

7M05101 - Biology
(Code and name of the educational program)

Master
(Level of preparation)

set of 2023

Semey 2023

## Developed
By the Academic Committee of the EP
The head of the AC Nurymkhan G.
EP Manager Mirasheva G.

## 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" April2023
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.

## Foreign language (professional)

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|---|---|
| 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 activity.*

### 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 Final examination The research work of a student, including an internship and the implementation of a master s thesis I 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 III*

## History and philosophy of science

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|---|---|
| Discipline cycle | Basic disciplines |
| Course | 1 |
| Credits count | 5 |
| 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 activity.*

### Learning outcomes by discipline
*Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activity.*

### Prerequisites
*Bachelor*

### Postrequisites
*Basic and profile disciplines of the EP Final examination The research work of a student, including an internship and the implementation of a master s thesis I 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 III*

## Tertiary education

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|---|---|
| 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 activity.*
*ON2 Possess the methodology and algorithm of planning, organization of research and scientific-pedagogical activities.*

### Learning outcomes by discipline
*• Solves the problems of higher pedagogical education and the prospects for its further development;*
*• Considers the application of effective university technologies;*
*• Solves topical and psychological and pedagogical problems,*

### Prerequisites
*Bachelor*

### Postrequisites
*Final examination Pedagogical practice Methods of teaching biology at the present level*

## Psychology of management

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|---|---|
| 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 activity.*
*ON2 Possess the methodology and algorithm of planning, organization of research and scientific-pedagogical activities.*

### Learning outcomes by discipline
*- they are 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 Final examination The research work of a student, including an internship and the implementation of a master s thesis I 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 III*

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

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|---|---|
| Discipline cycle | Profiling discipline |
| Course | 1 |
| Credits count | 11 |
| Knowledge control form | Total mark on practice |

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

### Purpose of studying of the 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, ensuring the development of professional research thinking of undergraduates, forming a clear idea of their main professional tasks, ways to solve them, carrying out bibliographic work with the involvement of modern information technologies.*

### Learning Outcomes
*ON1 Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activity.*
*ON2 Possess the methodology and algorithm of planning, organization of research and scientific-pedagogical activities.*
*ON3 Conduct fundamental and applied scientific research in the field of biology.*
*ON5 Possess the theoretical and methodological foundations of scientific research in biology, methods of introducing research results into practical and pedagogical activities.*
*ON8 Carry out scientific experiments in laboratory and field conditions, use systematized theoretical and practical knowledge of natural sciences in solving scientific, applied and educational problems.*
### Learning outcomes by discipline
*-Master the methods of conducting independent research and interpreting their results;*
*-make your own original contribution to the development of this discipline (dissertation);*
*- demonstrate originality and creativity in the implementation of their scientific and professional activities.*
### Prerequisites
*Basic and profile disciplines of the EP Modern methods and organization, planning of scientific research*
### Postrequisites
*Final examination Research practice 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 III*

## Pedagogical practice

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|---|---|
| Discipline cycle | Basic disciplines |
| Course | 2 |
| Credits count | 6 |
| Knowledge control form | Total mark on practice |

### Short description of discipline
*General acquaintance with the structure of the university, educational, educational scientific process. Study of curricula, individual work plans of the teaching staff, educational work plans, research work plans. Drawing up a schedule of classes during practice.*
### Purpose of studying of the discipline
*The purpose of pedagogical practice is the practical consolidation of theoretical knowledge, skills and abilities of students, the 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 activity.*
*ON5 Possess the theoretical and methodological foundations of scientific research in biology, methods of introducing research results into practical and pedagogical activities.*
### Learning outcomes by discipline
*Analyze and critically comprehend socially and professionally significant experience, communicate effectively in an intercultural environment orally and in writing, including in a foreign language, work in a team and organize the work of small teams, develop their physical, spiritual and moral qualities.*
*Apply the knowledge of pedagogy and psychology of higher education for the implementation of educational and pedagogical activities on credit technology training.*
### Prerequisites
*Psychology of management Tertiary education*
### Postrequisites
*Final examination*

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

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|---|---|
| Discipline cycle | Profiling discipline |
| Course | 2 |
| Credits count | 4 |
| Knowledge control form | Total mark on practice |

### Short description of discipline
*The master s research work is focused on solving the tasks set on the topic of the master s thesis. Setting up a research experiment, using organoleptic, physico-chemical, microbiological research methods in assessing the quality of raw materials and finished products. The research work of a master s student is carried out by conducting scientific work at the department.*
### Purpose of studying of the 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, ensuring the development of professional research thinking of undergraduates, forming a clear idea of their main professional tasks, ways to solve them, carrying out bibliographic work with the involvement of modern information technologies.*
### Learning Outcomes
*ON2 Possess the methodology and algorithm of planning, organization of research and scientific-pedagogical activities.*
*ON5 Possess the theoretical and methodological foundations of scientific research in biology, methods of introducing research results into practical and pedagogical activities.*

### Learning outcomes by discipline
*-Master the methods of conducting independent research and interpreting their results;*
*-make your own original contribution to the development of this discipline (dissertation);*
*- demonstrate originality and creativity in the implementation of their scientific and professional activities.*
### Prerequisites
*Modern methods and organization, planning of scientific research The research work of a student, including an internship and the*

*implementation of a master s thesis I*

### Postrequisites

*Final examination The research work of a student, including an internship and the implementation of a master s thesis III*

## Research practice

| | |
|---|---|
| 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 graduate student. Research practice is focused on the solution of tasks on the topic of the thesis of a graduate student. The formulation of a research experiment, the use of organoleptic, physico-chemical, microbiological 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 literature, modern methods of scientific research, processing and interpretation of experimental data*

### Learning Outcomes

*ON2 Possess the methodology and algorithm of planning, organization of research and scientific-pedagogical activities.*
*ON3 Conduct fundamental and applied scientific research in the field of biology.*
*ON6 Demonstrate fundamental knowledge in the field of general biology, cellular and molecular biology, genetics, microbiology, biotechnology when conducting scientific research, developing innovative technologies, including in the educational practice of higher education.*
*ON8 Carry out scientific experiments in laboratory and field conditions, use systematized theoretical and practical knowledge of natural sciences in solving scientific, applied and educational problems.*

### Learning outcomes by discipline

*To determine the relevance of the problem of scientific research in the framework of a master`s thesis;*
*Formulate the goals and objectives of research, research methods;*
*Analyze and critically evaluate the results of their own scientific research and formulate the theoretical and practical significance of the results of the study*

### Prerequisites

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

### Postrequisites

*Final examination*

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

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|---|---|
| Discipline cycle | Profiling discipline |
| Course | 2 |
| Credits count | 9 |
| Knowledge control form | Total mark on practice |

### Short description of discipline

*The master s research work is focused on solving the tasks set on the topic of the master s thesis. Setting up a research experiment, using organoleptic, physico-chemical, microbiological research methods in assessing the quality of raw materials and finished products. The research work of a master s student is carried out by conducting scientific work at the department.*

### Purpose of studying of the 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, ensuring the development of professional research thinking of undergraduates, forming a clear idea of their main professional tasks, ways to solve them, carrying out bibliographic work with the involvement of modern information technologies.*

### Learning Outcomes

*ON2 Possess the methodology and algorithm of planning, organization of research and scientific-pedagogical activities.*
*ON3 Conduct fundamental and applied scientific research in the field of biology.*
*ON8 Carry out scientific experiments in laboratory and field conditions, use systematized theoretical and practical knowledge of natural sciences in solving scientific, applied and educational problems.*

### Learning outcomes by discipline

*Master the methods of conducting independent research and interpreting their results;*
*make your own original contribution to the development of this discipline (dissertation);*
*demonstrate originality and creativity in the implementation of their scientific and professional activities.*

### Prerequisites

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

### Postrequisites

*Final examination*