The list of academic disciplines of the university component

7M06 - Information and Communication Technologies
(Code and classification of the field of education)

7M061 - Information and communication technologies
(Code and classification of the direction of training)

0610
(Code in the International Standard Classification of Education)

M094 - Information technology
(Code and classification of the educational program group)

7M06101 - Informatics
(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 AC Nurymkhan G.N.
EP Manager Karymsakova I.B.

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 No. 4/6 "10" April 2023
Chairman of the Quality Assurance Commission G.B. Abdilova.

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)

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

ON 1 Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities.
- 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

Research work of the undergraduate, including the implementation of the masters thesis I

History and philosophy of science

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 activities.

Learning outcomes by discipline

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

Prerequisites

Bachelor

Postrequisites

Research work of the undergraduate, including the implementation of the masters thesis I

Tertiary education

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

-Knows the basic concepts and terms of pedagogy
-Demonstrates knowledge of the main categories of pedagogy as a science, methods, content and structure of pedagogical research
-Is able to organize and design a holistic pedagogical process in a higher educational institution.

Prerequisites

Bachelor

Postrequisites

Research work of the undergraduate, including the implementation of the masters thesis I

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

ON 1 Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities.
- 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

Research work of the undergraduate, including the implementation of the masters thesis I

Software Development Technologies

Discipline cycle	Profiling discipline
Course	1
Credits count	5
Knowledge control form	Examination

Short description of discipline

In the course of studying the discipline, students study object-oriented design and programming, abstraction, encapsulation, inheritance and polymorphism, methods and variables, type conversion, instanceof operator, overloading and overriding methods, constructors, access control, exception handling, use of standard templates, external libraries and frameworks, standard Java frameworks and owns the capabilities of libraries, the methodology of joint software development, implementation of a joint project.

Purpose of studying of the discipline

The purpose of the course is to teach students modern methodologies and technologies for developing software tools that allow them to develop complex software tools of high quality and significantly increase the productivity of a programmer.

Learning Outcomes

ON3 Demonstrate proficiency in the methodology of software design technology for solving professional tasks, use practical skills in software design and management.

Learning outcomes by discipline

1. Describe various paradigms of software product development in a historical context; methodology of object-oriented programming;
2. Develop computer models of real and conceptual systems based on the component-oriented programming paradigm;
3 Apply the principles of object-oriented programming.
Able to apply the methods of design and production of a software product, the principles of construction, structure and methods of working with tools that support the creation of software; methods of organizing work in teams of software developers

Prerequisites

Bachelor

Postrequisites
Programming interfaces for computer systems

Research work of the undergraduate, including the implementation of the masters thesis I

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

Short description of discipline
Undergraduate research work is a type of scientific activity that provides an opportunity to expand the knowledge gained at the postgraduate level for the initial development or application of ideas, often in the context of scientific research and practical skills for conducting scientific research.
Purpose of studying of the discipline
expand knowledge gained at the postgraduate level for the initial development or application of ideas, often in the context of scientific research and practical skills for conducting scientific research.
Learning Outcomes
ON2 To solve problems arising in the course of research activities and requiring in-depth professional knowledge.
Learning outcomes by discipline
presents scientific material in a foreign language; reads, translates original literature in the specialty with subsequent analysis of interpretations and evaluation of the extracted information; conducts business correspondence in a foreign language of professional activity
Demonstrates the ability to extend knowledge acquired at the postgraduate level for the initial development or application of ideas, often in the context of scientific research and practical skills for conducting scientific research.
Prerequisites
Basic and profile disciplines of the EP
Postrequisites
The research work of a student, including an internship and the implementation of a masters thesis III

Teaching practicum

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

Short description of discipline
The pedagogical practice of undergraduates consists in direct pedagogical activity: independent conducting of laboratory and practical classes, seminars, reading trial lectures on the proposed topic, preparing and conducting classes using modern educational technologies together with the teaching staff of the relevant department and solving current educational and methodological issues.
Purpose of studying of the discipline
The purpose of the practice is to deepen, improve and consolidate the acquired theoretical knowledge, the ability to apply them in teaching activities
Learning Outcomes
ON1 Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities.
Learning outcomes by discipline
Apply fundamental scientific, pedagogical, managerial, communicative knowledge and skills in professional activities
Able to integrate knowledge gained within different disciplines to solve research problems in new unfamiliar conditions
Prerequisites
Basic and profile disciplines of the EP
Postrequisites
The research work of a student, including an internship and the implementation of a masters thesis III

The research work of a student, including an internship and the implementation of a masters thesis II

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

Short description of discipline
Research work of a master`s student is a type of scientific activity that makes it possible to expand knowledge, obtained at postgraduate level, for the initial development or application of ideas, often in the context scientific research and practical skills in conducting scientific research.
Purpose of studying of the discipline
Systematization of theoretical knowledge, development of skills in setting tasks on the topic of research and their consistent solution
Learning Outcomes
ON2 To solve problems arising in the course of research activities and requiring in-depth professional knowledge.
Learning outcomes by discipline
Demonstrates the ability to extend knowledge gained at the postgraduate level for the initial development or application of ideas, often in the context of scientific research and practical skills in scientific research
Prerequisites
Basic and profile disciplines of the EP

Postrequisites
The research work of a student, including an internship and the implementation of a masters 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, which contributes to the acquisition and consolidation of theoretical knowledge of undergraduates obtained during training, acquisition of professional skills, deepening and consolidation of knowledge and competencies acquired in the process of theoretical training.
Purpose of studying of the discipline
integrate knowledge gained within different disciplines to solve research problems in new unfamiliar conditions
Learning Outcomes
ON3 Demonstrate proficiency in the methodology of software design technology for solving professional tasks, use practical skills in software design and management.
Learning outcomes by discipline
Able to integrate knowledge gained within different disciplines to solve research problems in new unfamiliar conditions
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 masters thesis III

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

Short description of discipline
Research work of a master`s student is a type of scientific activity that makes it possible to expand knowledge, obtained at postgraduate level, for the initial development or application of ideas, often in the context
scientific research and practical skills in conducting scientific research.
Purpose of studying of the discipline
The purpose of the master`s research work is
to ensure the ability to independently carry out research work related to solving professional problems
in the field of information technology, the main result of which will be the writing and successful defense of the final qualifying work
Learning Outcomes
ON2 To solve problems arising in the course of research activities and requiring in-depth professional knowledge.
Learning outcomes by discipline
Demonstrates the ability to extend knowledge gained at the postgraduate level for the initial development or application of ideas, often in the context of scientific research and practical skills in scientific research
Prerequisites
Basic and profile disciplines of the EP
Postrequisites
Final examination