

The list of academic disciplines of the university component

7M01 - Pedagogical sciences

(Code and classification of the field of education)

7M015 - Training of teachers in Natural science subjects

(Code and classification of the direction of training)

0114

(Code in the International Standard Classification of Education)

M013 - Preparation of teachers of chemistry (kazakh, russian, english language)

(Code and classification of the educational program group)

7M01504 - Chemistry

(Code and name of the educational program)

Master

(Level of preparation)

set of 2024

Developed

By the Academic Committee of the EP 7M01504 Chemistry
The head of the AC Mukaev Zhandos
EP Manager Kobegenova Aigul

Reviewed

At the meeting of the Quality Assurance Commission Natural and Mathematical of the faculty
Record N3 "09" January 2024 y.

At the meeting of the Commission on Academic Quality
Recommended for approval by the Academic Council of the University
Protocol No. 1 "06" June 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

Research practice

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

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

Prerequisites

Bachelor

Postrequisites

Research practice

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

Research practice

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

School course

Postrequisites

Research practice

Research activities of students in chemistry

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

Short description of discipline

This course provides for the organization of design and research activities of students in educational institutions. Undergraduates consider the system of research methods in chemistry, methods of working with chemical information and literature, the main stages of scientific research. Undergraduates will also analyze the best practices of teachers on the organization of research activities.

Purpose of studying of the discipline

To study the organization of design and research activities of students in educational institutions.

Learning Outcomes

ON7 To design a system of evaluation criteria for various educational technologies used in educational institutions.

ON8 To link educational material on all issues of the university program of chemical disciplines for daily professional activities

Learning outcomes by discipline

- ☒ carry out information-analytical and information-bibliographic work with the involvement of modern information technologies;
- ☒ creative approach to solving new problems and situations;
- ☒ to mentor students in conducting design studies of chemistry;

Prerequisites

Higher Education Pedagogy

Postrequisites

Pedagogical practice

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

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

Short description of discipline

Research practice is aimed at developing creative thinking and independence in undergraduate students, deepening and consolidating the received theoretical and practical knowledge, identifying the most gifted and talented undergraduates, using their creative and intellectual potential to solve urgent problems of science and technology.

Purpose of studying of the discipline

Formation of students' research competencies necessary for conducting scientific research and solving professional problems.

Learning Outcomes

ON8 To link educational material on all issues of the university program of chemical disciplines for daily professional activities

Learning outcomes by discipline

- make a review of the literature, revealing the theoretical aspects of the issue under study, primarily scientific monographs, articles for the last 3-5 years.

- complete at least 40% of the volume of theoretical and experimental work of the dissertation research

- publish at least at least 1 publication in the collection of the scientific and practical conference.

Prerequisites

Basic and profile disciplines of the EP

Postrequisites

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

Pedagogical practice

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

Short description of discipline

The pedagogical practice of a master student is an important practical component of the second stage of higher education. Consolidation, deepening and development of theoretical knowledge gained at the university, development of professional skills and specific (pedagogical) thinking, formation professional and personal qualities.

Purpose of studying of the discipline

To study the basics of educational and methodological work in higher educational institutions, mastering the pedagogical skills of conducting certain types of training sessions in the disciplines of the profile of master's programs.

Learning Outcomes

Learning outcomes by discipline

☒ develop the content of educational material at the modern scientific and methodological level;

☒ conduct various types of training sessions (lectures, practical, seminars and laboratory classes);

☒ prepare a scientific and methodological report and analysis of the classes

Prerequisites

Basic and profile disciplines of the EP

Postrequisites

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

he 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

Research is aimed at developing undergraduates' creative thinking and independence, deepening and consolidating the received theoretical and practical knowledge, identifying the most gifted and talented undergraduates, using their creative and intellectual potential to solve urgent problems of science and technology.

Purpose of studying of the discipline

The purpose of the research work is the integration of the educational process with the development of the professional field of activity in the areas of master's training to ensure the formation of students' research competencies necessary for conducting research and solving professional problems.

Learning Outcomes

Learning outcomes by discipline

- analyze the main results and provisions, evaluate their effectiveness in the framework of the study.

- complete at least 70% of the volume of theoretical and experimental work of the dissertation research

- publish at least 2 publications in the collection of the scientific-practical conference, in a scientific journal.

Prerequisites

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

Postrequisites

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

The research practice of a master student is an important practical component of the second stage of higher education. Research practice contributes to the consolidation and deepening of the theoretical knowledge of undergraduates (doctoral students) obtained during training, the ability to set tasks, analyze the results and draw conclusions. Research practice is of great importance for the dissertation. Research practice ensures that the trainee acquires the skills necessary for future professional activities.

Purpose of studying of the discipline

The purpose of the research practice is to gain experience in the study of an actual scientific problem, to expand the professional knowledge gained by undergraduates in the learning process, and to form practical skills for conducting independent scientific work.

Learning Outcomes

Learning outcomes by discipline

- ☒ make reasonable conclusions based on the results of ongoing research and arrange them in the form of scientific reports and publications;
- ☒ abstract and review scientific publications;
- ☒ formulate and solve problems that arise in the course of writing an analytical review;

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

Research is aimed at developing undergraduates` creative thinking and independence, deepening and consolidating the received theoretical and practical knowledge, identifying the most gifted and talented undergraduates, using their creative and intellectual potential to solve urgent problems of science and technology.

Purpose of studying of the discipline

The purpose of research is to develop in students the research competencies necessary for conducting scientific research and solving professional problems.

Learning Outcomes

Learning outcomes by discipline

- to issue and prepare for the defense of the master`s thesis.
- complete 100% of the volume of theoretical and experimental work of the dissertation research
- publish at least 2 publications in the collection of the scientific and practical conference, in a scientific publication

Prerequisites

he 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

Postrequisites

Final examination