

**NJSC Kazakh National Research Technical University named after K.I. Satpayev**

**"**

**Project Management Institute named after E.A. Turkebaeva**  
**Department of Business and Management**

**EDUCATIONAL PROGRAM**

**"PROJECT MANAGEMENT"**  
**(scientific and pedagogical direction (2 years))**

**Master of Economics in Educational Program**  
**"7M04101 Project Management"**

**Almaty 2020**

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Программа составлена и подписана сторонами:

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3. Председатель УМГ кафедры, А.Ф.Цеховой А.Ф.Цеховой

От работодателей:

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Утверждено на заседании Учебно-методического совета Казахского национального исследовательского технического университета им К.И. Сатпаева. Протокол №3 от 19.12.2018 г.

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**Qualification:**

Level \_\_ National Qualifications Framework:

**Professional competence:**

After completing the educational program:

**have an idea:** about the current state and trends in the development of the economy, about the foundations of scientific and pedagogical activity in the subject area and related areas; about modern scientific and innovative achievements of project management.

**know:** methodology of scientific research in the subject area, the main types and classification of project management, management methods: projects, programs, portfolios, risks, changes, communications; methods of processing and presenting professionally significant information, forms and methods of pedagogical activity; modern advances in the application of information technology in project management,

**know:** formulate innovative tasks and apply project management methods for their implementation, evaluate the quality of the project management system, analyze the effectiveness of business processes, use software products to perform project management tasks, bring the results of scientific research to practical application, carry out pedagogical activities; develop recommendations to improve the efficiency of corporate project management;

**have an idea:** project management and the formation of a portfolio of projects, in-depth analysis of business processes, scientific and pedagogical activities, independent research work, expertise and consulting in the subject area;

**be competent:** in solving complex professional problems in project planning and the main design stages, in organizing the management of work, resources, team, project communications, in the methodology for the development and implementation of innovative projects in various fields, including the field of scientific and pedagogical activity.

**Brief description of the program:**

- 1.Objectives
- 2 Types of work
- 3 Objects of professional activity

**The purpose of training:** Training of highly qualified personnel in the field of project management and innovation, capable of realizing their professional knowledge, skills and abilities in international and domestic companies, public and research organizations.

A graduate of an educational program can conduct the following types of professional activities:

- Project oriented;
- Research;
- Pedagogical;
- Management in the field of education and science.

*Objects of professional activity* Master's graduates are:

- Large international and domestic companies in various sectors of the economy and services;
- government structures;
- project management departments of research centers and universities;
- Department of project management in educational institutions;
- social spheres (education, science, culture);
- the sphere of consulting services.

**PASSPORT OF THE EDUCATIONAL PROGRAM**

**1 Scope and content of the program**

The term of study in the master's program is determined by the amount of acquired academic credits. Upon mastering the established amount of academic credits and achieving the expected learning outcomes for obtaining a master's degree, the master's educational program is considered fully mastered. In the scientific and pedagogical magistracy, at least 120 academic credits for the entire period of study, including all types of educational and scientific activities of the master student.

The planning of the content of education, the method of organizing and conducting the educational process is carried out by the university and the scientific organization independently on the basis of the credit technology of education.

The master's degree in scientific and pedagogical direction implements educational programs of postgraduate education for the training of scientific and scientific-pedagogical personnel for universities and scientific organizations with

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in-depth scientific, pedagogical and research training.

The content of the Master's degree program consists of:

- 1) theoretical training, including the study of cycles of basic and major disciplines;
- 2) practical training of undergraduates: various types of practices, scientific or professional internships;
- 3) research work, including the implementation of a master's thesis - for a scientific and pedagogical magistracy
- 4) final certification.

OP content

The program has as its goal the development of personal qualities in undergraduates and the formation of general cultural (general scientific, social-personal, instrumental) and professional competencies in the course of teaching undergraduates in basic and specialized disciplines with the achievement of the relevant competencies.

The educational program provides for the training of undergraduates in three trajectories (specializations): "Project Management", "Innovation Management" and "Business Administration".

Along the trajectory: "Project Management" the program provides for the study of the following disciplines:

- management of the content, timing, and cost of the project;
- human resource management;
- management economics;
- research methodology;
- organization and planning of research and innovation activities;
- project stakeholders management.

In the EP, when choosing the trajectory "Innovation Management", it is envisaged to study the following innovative disciplines:

- human resource management;
- organizational behavior;
- management economics;
- research methodology;
- organization and planning of research and innovation activities.

When choosing the trajectory "Business Administration", it is planned to study the following innovative disciplines:

- organizational behavior;
- management economics;
- human resource management;
- research methodology;
- organization and planning of research and innovation activities.

The educational program of the scientific and pedagogical magistracy includes two types of practices, which are carried out in parallel with theoretical training or in a separate period:

- 1) pedagogical in the DB cycle - at the university;
- 2) research in the PD cycle - at the place of the dissertation.

Pedagogical practice is carried out with the aim of developing practical skills in teaching and learning methods.

The research practice of the undergraduate is carried out with the aim of acquainting with the latest theoretical, methodological and technological achievements of domestic and foreign science, modern methods of scientific research, processing and interpretation of experimental data.

As part of the research work of the undergraduate (NIRM), the individual work plan of the undergraduate to familiarize himself with innovative technologies and new types of production provides for a mandatory scientific internship in scientific organizations and (or) organizations of the relevant industries or fields of activity.

The final result of the research work of the master student is the master's thesis.

The main results of the master's thesis are presented in at least one publication and (or) one presentation at a scientific and practical conference.

**Objectives of the educational program:**

- in-depth theoretical and practical training in the studied direction of science and pedagogical activity;
- training of specialists with a high level of professional culture, capable of formulating and solving modern scientific and practical problems, teaching in universities, successfully carrying out research and management activities;
- acquiring the skills of organizing and conducting scientific research, obtaining the necessary groundwork for continuing scientific work in doctoral studies;
- obtaining knowledge in the field of university pedagogy and psychology, and teaching experience at a university;
- training in project management and application of standards in the field of project management.

**2 Requirements for applicants**

The previous level of education of applicants is higher professional education (bachelor's degree). The applicant must have a diploma of the established sample and confirm the level of knowledge of the English language with a certificate or diplomas of the established sample.

The procedure for the admission of citizens to the magistracy is established in accordance with the "Standard rules for admission to training in educational institutions that implement educational programs of postgraduate education."

The formation of a contingent of undergraduates is carried out by placing a state educational order for the training of scientific and pedagogical personnel, as well as

paying for training at the expense of citizens' own funds and other sources. The state provides citizens of the Republic of Kazakhstan with the right to receive, on a competitive basis, in accordance with the state educational order, free postgraduate education, if they receive education of this level for the first time.

At the "entrance", a master's student must have all the prerequisites necessary for mastering the corresponding educational master's program. The list of required prerequisites is determined by the higher education institution independently.

In the absence of the necessary prerequisites, the master student is allowed to master them on a paid basis.

### **3 Requirements for completing studies and obtaining a diploma**

#### **Awarded degree / qualifications:**

The graduate of this educational program is awarded the academic degree "Master of Economic Sciences" in the direction of business and management.

A graduate who has mastered master's programs must have the following general professional competencies:

- the ability to independently acquire, comprehend, structure and use new knowledge and skills in professional activities, develop their innovative abilities;
  - the ability to independently formulate research goals, establish a sequence for solving professional problems;
  - the ability to apply in practice knowledge of fundamental and applied disciplines that determine the focus (profile) of the master's program;
  - the ability to professionally choose and creatively use modern scientific and technical equipment for solving scientific and practical problems;
  - the ability to critically analyze, represent, defend, discuss and disseminate the results of their professional activities;
  - possession of the skills of compiling and preparing scientific and technical documentation, scientific reports, reviews, reports and articles;
  - willingness to lead a team in the field of their professional activities, tolerantly perceiving social, ethnic, confessional and cultural differences;
  - readiness for communication in oral and written forms in a foreign language to solve problems of professional activity.
- A graduate who has mastered the master's program must have professional competencies corresponding to the types of professional activity that the master's program is focused on:
- research activities:
  - - the ability to form diagnostic solutions to professional problems by integrating the fundamental sections of science and specialized knowledge gained during the master's program;

- - the ability to independently conduct scientific experiments and research in the professional field, generalize and analyze experimental information, draw conclusions, formulate conclusions and recommendations;
- - the ability to create and research models of the studied objects based on the use of in-depth theoretical and practical knowledge in the field of business and management;
- - research and production activities:
- - the ability to independently carry out production and research and production field, laboratory and interpretation work in solving practical problems;
- - the ability to professionally operate modern field and laboratory equipment and instruments in the field of the mastered master's program;
- - the ability to use modern methods of processing and interpreting complex information to solve production problems;
- - project activities:
- - the ability to independently compose and submit projects of research and development work;
- - readiness to design complex research and development work in solving professional problems;
- - organizational and management activities:
- - the willingness to use the practical skills of organizing and managing research and development work in solving professional problems;
- - readiness for the practical use of regulatory documents in the planning and organization of scientific and production work;
- - scientific and pedagogical activity:
- - the ability to conduct seminars, laboratory and practical classes;
- - the ability to participate in the management of scientific and educational work of students in the field of business and management.
- When developing a master's program, all general cultural and general professional competencies, as well as professional competencies related to those types of professional activities that the master's program is focused on, are included in the set of required results of mastering the master's program.



## 4 Working curriculum of the educational program

### 4.1. The term of study is 2 years

Сәтбаев Университеті														
						Утверждаю Ректор НАО "КазНИТУ им. К.И. Сатпаева" _____ Бейсембетов И.К. " ____ " _____ 201__ г.								
WORK CURRICULUM														
Educational program "PROJECT MANAGEMENT"														
recruitment 2019 - 2020 school year														
Academic degree: Master of Science														
Duration of study: 2 years														
Year of study	Code	Name of the discipline	Component	Credits		Lc/Lb/Pr	Prerequisites	Code	Name of the discipline	Component	Credits		Lc/Lb/Pr	Prerequisites
				ECTS	S						RK	ECTS		
1	1 semester						2 semester							
	LNG205	Foreign language (professional)	БД ВК	5	3	2/0/1		HUM201	History and philosophy of science	БД ВК	4	2	2/0/1	
	MNG 219	Quality management in projects	ПД КВ	4	2	1/0/2		HUM207	Higher Education Pedagogy	БД ВК	4	2	2/0/1	
	MNG215	Research methodology	ПД ВК	5	3	1/0/1		HUM204	Psychology of management	БД ВК	4	2	1/0/1	
	MNG242	Managerial economics	БД КВ	5	3	1/0/1			Optional component	БД КВ	5	3	1/0/1	
	MNG 246	Strategic management	ПД КВ	5	3	1/0/1			Optional component	БД КВ	5	3	1/0/1	
	MNG 254	Project management	ПД ВК	5	3	2/0/1		AAP226	Master's research work	НИРМ	7	2		
	AAP225	Teaching practice	БД КВ	3	3									
	<b>Total:</b>			<b>32</b>	<b>20</b>			<b>Total:</b>		<b>29</b>	<b>14</b>			
2	3 semester						4 semester							
		Optional component	ПД КВ	5	3	2/0/1		AAP234	Master's research work	НИРМ	9	2		
		Optional component	ПД КВ	5	3	2/0/1		AAP236	Research practice	ПД	9	2		
		Optional component	ПД КВ	5	3	2/0/1		ECA203	Design and defense of a master's thesis	ИА	12	3		
		Optional component	ПД КВ	5	3	2/0/1								
		Optional component	ПД КВ	4	2	1/0/1								
		AAP227	Master's research work	НИРМ	8	2								
	<b>Total:</b>			<b>32</b>	<b>16</b>			<b>Total:</b>		<b>30</b>	<b>7</b>			
	<b>Total:</b>							<b>Total:</b>		<b>123</b>	<b>57</b>			

**ИТОГО:**  
 БД (ВК, в т.ч. Пед.пр.) = 20 кр.  
 БД = 18 кр.  
 ПД (ВК, КВ, в т.ч. Иссл.пр.) = 46 кр.  
 НИРМ = 24 кр.  
 ИА = 12 кр.

**ИТОГО: 120 кр.**  
 \* 1 акад.кредит равен 30 акад.часам

Решение Ученого совета Сәтбаев университеті. Протокол № \_\_\_\_ от " \_\_\_\_ " \_\_\_\_\_ 201\_\_ г.

Решение Ученого совета Института \_\_\_\_ Протокол № \_\_\_\_ от " \_\_\_\_ " \_\_\_\_\_ 201\_\_ г.

Проректор по научно-образовательной деятельности  
 Директор Института

Д.К. Наурызбаева  
 А.А.Алдашев

**MODULAR CURRICULUM**

Education program: **7M04101 – Project Management**

Form of study: full  
economic sciences

Duration of training: 2 years

*Academic degree: Master of*

The cycle	code	Name of disciplines	Semester	Acad. credits	lec.	lab.	prac	IWS	Type of control	Chair
<b>Profile training module</b>										
<b>Basic disciplines (BD) (40 credits)</b>										
<b>University component (22 credits)</b>										
BD 1.1.1	HUM201	History and philosophy of science	1	4	1	0	1	2	Exam	SD
BD 1.2.1	HUM207	Higher school pedagogy	1	4	1	0	1	2	Exam	SD
BD 1.3.1	LNG202	Foreign language (professional)	2	6	0	0	3	3	Exam	EL
BD 1.4.1	HUM204	Management psychology	2	4	1	0	1	2	Exam	SECPM
<b>Practice-oriented module</b>										
1.5.2	AAP244	Pedagogical practice	2	4	0	0	2	2	Report	SECPM
<b>Choice component (18 credits)</b>										
<b>Module Principals project management (12 credits)</b>										
BD 1.6.3.1	MNG254	Project Management	1	6	2	0	1	3	Exam	SECPM
BD 1.7.3.2	MNG312	Models and methods in project management								
BD 1.8.3.3	MNG221	Management of stakeholders and project's communication								
<b>Module Business research</b>										
BD 1.9.4.1	MNG321	Qualitative research methods	2	6	2	0	1	3	Exam	SECPM
BD 1.10.4.2	MNG320	Quantitative research methods								
BD 1.11.4.3	MNG250	Business research								
<b>Major disciplines (MD) (49 credits)</b>										
<b>Choice component (UC)</b>										
<b>Module Research (12 credits)</b>										
MD 2.12.1.1	MNG313	Research methods								
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MD 2.13.1.2	MNG2 09	Quantitative and qualitative research methods	1	6	2	0	1	3	Exam	SEC PM
MD 2.14.1.3	MNG2 52	Econometrics								
<b>Module Advanced project Management</b>										
MD 2.15.2.1	MNG2 53	Flexible project management evaluation	2	6	2	0	1	3	Exam	SEC PM
MD 2.16.2.2	MNG3 06	Project and program portfolio management								
MD 2.17.2.3	MNG2 43	Project content, timing and cost evaluation								
<b>Module Management (18 credits)</b>										
MD 2.18.3.1	MNG2 46	Strategic management	3	6	2	0	1	3	Exam	SEC PM
MD 2.19.3.2	MNG2 69	Performance Management								
MD 2.20.3.3	MNG2 61	Risk Management								
MD 2.21.3.4	MNG2 47	Innovation management								
MD 2.22.3.5	MNG2 68	Leadership and motivation								
MD 2.23.3.6	MNG2 67	Change management								
<b>Module Financial management (6 credits)</b>										
MD 2.24.4.1	MNG2 73	Financial and management accounting	3	6	2	0	1	3	Exam	SEC PM
MD 2.25.4.2	MNG2 23	Financial analysis and project evaluation								
MD 2.26.4.3	MNG2 76	Corporate finance								
<b>Practice-oriented module</b>										
MD 2.27.5	AAP236	Research practice	4	7	0	0	3	4	Report	SEC PM
<b>Research Module (24 credits)</b>										
MSSR	AAP242	Master's student scientific research, including an intership and a master's thesis.	1	6	0	0	3	3	Report	SEC PM
MSSR	AAP242	Master's student scientific research, including an intership and a master's thesis.	2	6	0	0	3	3	Report	SEC PM
MSSR	AAP242	Master's student scientific research, including an intership and a master's thesis.	3	6	0	0	3	3	Report	SEC PM

MSSR	AAP242	Master's student scientific research, including an internship and a master's thesis.	4	6	0	0	3	3	Report	SEC PM
<b>Module of final attestation (12 credits)</b>										
FA	ECA205	Registration and defense of the master's thesis	4	12	0	0	6	6	Defense of dissertation	SEC PM
<b>Total</b>			<b>125</b>							

Vice-Rector for Research and Academic Affairs

D.K. Nauryzbayeva

Chair of the APC

K.B. Tulegenova

Director of the IPM

M.A. Subalova

Director of the SEC PM

A.P. Salina

## 5 Descriptors of the level and amount of knowledge, abilities, skills and competencies

The requirements for the level of preparation of a master's student are determined on the basis of the Dublin descriptors of the second level of higher education (master's) and reflect the acquired competencies, expressed in the achieved learning outcomes.

Learning outcomes are formulated both at the level of the entire educational program of the master's program, and at the level of individual modules or academic discipline.

Descriptors reflect learning outcomes that characterize the student's abilities:

- 1) demonstrate developing knowledge and understanding in the studied area of business and management, based on advanced knowledge of the field of business and management, when developing and / or applying ideas in the context of research;
- 2) apply at a professional level their knowledge, understanding and ability to solve problems in a new environment, in a broader interdisciplinary context;
- 3) collect and interpret information to form judgments, taking into account social, ethical and scientific considerations;
- 4) clearly and unambiguously communicate information, ideas, conclusions, problems and solutions, both to specialists and non-specialists;
- 5) learning skills necessary for self-continued further education in the studied area of business and management.

## 6 Completion Competencies

6.1 Requirements for the key competencies of graduates of the scientific and pedagogical magistracy must:

1) have an idea:

- about the role of science and education in public life;
- about current trends in the development of scientific knowledge;
- on topical methodological and philosophical problems of natural (social, humanitarian, economic) sciences;
- about the professional competence of a higher school teacher;
- about the contradictions and socio-economic consequences of globalization processes;

2) *know*:

- methodology of scientific knowledge;
- principles and structure of the organization of scientific activity;
- the psychology of students' cognitive activity in the learning process;
- psychological methods and means of increasing the efficiency and quality of education;

3) *be able to:*

- use the knowledge gained for the original development and application of ideas in the context of scientific research;
- critically analyze existing concepts, theories and approaches to the analysis of processes and phenomena;
- integrate the knowledge gained in different disciplines to solve research problems in new unfamiliar conditions;
- by integrating knowledge, make judgments and make decisions based on incomplete or limited information;
- to apply the knowledge of pedagogy and psychology of higher education in their teaching activities;
- apply interactive teaching methods;
- to carry out information-analytical and information-bibliographic work with the involvement of modern information technologies;
- think creatively and be creative in solving new problems and situations;
- be fluent in a foreign language at a professional level, allowing for research and teaching of special disciplines at universities;
- to summarize the results of research and analytical work in the form of a dissertation, scientific article, report, analytical note, etc .;

4) *have skills:*

- research activities, solving standard scientific problems;
- implementation of educational and pedagogical activities on credit technology of education;
- methods of teaching professional disciplines;
- the use of modern information technologies in the educational process;
- professional communication and intercultural communication;
- oratory, correct and logical formulation of their thoughts in oral and written form;
- expanding and deepening the knowledge necessary for daily professional activities and continuing education in doctoral studies.

5) *be competent:*

- in the field of research methodology;
- in the field of scientific and scientific-pedagogical activities in higher educational institutions;
- in matters of modern educational technologies;
- in the implementation of scientific projects and research in the professional field;

- in ways to ensure constant updating of knowledge, expansion of professional skills and abilities.

B - Basic knowledge, abilities and skills

B1 modern standards in project management.

B2 methodology for the search and formation of algorithms and mechanisms for solving problems in various areas of knowledge of project and program management

B3 on the organization of research activities

P - Professional competencies:

P1 to formulate and solve modern scientific and practical problems of the company's innovative development

P2 Analysis of the subject area, definition of goals and ways to achieve them;

P3 Formalization of the task, prioritization of implementation;

P4 Identification of stakeholders of the project, programs;

P5 Planning the stages of the project;

P6 Analysis of the market for new technologies, products and services;

P7 Application of modern IT technologies;

*O - Human, socio-ethical competences*

O1 Ability to conduct project / operational activities

O2 Ability to work in a team

A3 Possession of ethics and communication culture

*C - Special and managerial competencies:*

C1 Ability to organize the work of the project team

C2 Ability to organize work on the collection, storage and processing of information used in the field of professional activity

C3 Ability to conduct scientific research

6.2 Requirements for the research work of a master student in a scientific and pedagogical magistracy:

- 1) corresponds to the profile of the master's educational program, according to which the master's thesis is performed and defended;
- 2) is relevant and contains scientific novelty and practical significance;
- 3) is based on modern theoretical, methodological and technological achievements of science and practice;
- 4) carried out using modern scientific research methods;
- 5) contains research (methodological, practical) sections on the main protected provisions;
- 6) is based on international best practices in the relevant field of knowledge.

6.3 Requirements for organizing practices:

The educational program of the scientific and pedagogical magistracy includes two types of practices that are conducted in parallel with theoretical training or in a separate period:

- 1) pedagogical in the DB cycle - at the university;
- 2) research in the PD cycle - at the place of the dissertation.

Pedagogical practice is carried out with the aim of developing practical skills in teaching and learning methods. At the same time, undergraduates are involved in conducting classes in a bachelor's degree at the discretion of the university.

The research practice of the undergraduate is carried out with the aim of acquainting with the latest theoretical, methodological and technological achievements of domestic and foreign science, modern methods of scientific research, processing and interpretation of experimental data.

### **7 ECTS Diploma Supplement**

The application was developed according to the standards of the European Commission, Council of Europe and UNESCO / CEPES. This document is for academic recognition only and is not an official proof of education. Not valid without a university degree. The purpose of completing the European Annex is to provide sufficient

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information about the holder of the diploma, the qualification obtained, the level of this qualification, the content of the study program, the results, the functional purpose of the qualification, as well as information about the national education system. The application model that will be used to translate grades uses the European Credit Transfer or Transfer System (ECTS).

The European Diploma Supplement provides an opportunity to continue education at foreign universities, as well as to confirm national higher education for foreign employers. When going abroad for professional recognition, additional legalization of the educational diploma is required. The European Diploma Supplement is completed in English upon individual request and is issued free of charge.

### **Foreign language (professional)**

Professional English for Project Managers

CODE– LNG205

CREDIT – 3 (0/0/3)

PRE-REQUISIT–Academic English, Business English, IELTS 5.0-5.5

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#### **PURPOSE AND OBJECTIVES OF THE COURSE**

The aim of the course is to develop students' knowledge of the English language for their ongoing academic research and improve their performance in the field of project management.

#### **SHORT DESCRIPTION OF THE COURSE**

The course is aimed at building vocabulary and grammar for effective communication in the field of project management and improving reading, writing, listening and speaking skills at the "Intermediate" level. Students are expected to develop their Business English vocabulary and learn grammatical structures that are often used in a management context. The course consists of 6 modules. The 3rd module of the course ends with an intermediate test, and the 6th module is followed by a test at the end of the course. The course ends with a final exam. Master students also need to study independently (MIS). MIS is an independent work of undergraduates under the guidance of a teacher.

#### **LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE**

Upon successful completion of the course, students are expected to be able to recognize the main message and message as well as specific details while listening to monologues, dialogues and group discussions in the context of business and management; understand written and spoken English on topics related to management; write management texts (reports, letters, emails, minutes of meetings) following a generally accepted structure with a higher degree of grammatical accuracy and using business words and phrases, speak about various business situations using appropriate business

vocabulary and grammatical structures - in pairs and groups discussions, meetings and negotiations.

### **History and philosophy of science**

CODE – HUM201

CREDIT– 2(1/0/1)

PRE-REQUISIT - HUM124

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**PURPOSE AND OBJECTIVES OF THE COURSE** - to reveal the connection between philosophy and science, to highlight the philosophical problems of science and scientific knowledge, the main stages of the history of science, the leading concepts of the philosophy of science, modern problems of the development of scientific and technical reality

**SHORT DESCRIPTION OF THE COURSE** - subject of philosophy of science, dynamics of science, specificity of science, science and pre-science, antiquity and the formation of theoretical science, the main stages of the historical development of science, features of classical science, non-classical and post-non-classical science, philosophy of mathematics, physics, technology and technology, specificity of engineering sciences, ethics of science , social and moral responsibility of a scientist and engineer

**KNOWLEDGE, ABILITY, SKILLS TO COMPLETE THE COURSE** - know and understand the philosophical issues of science, the main historical stages in the development of science, the leading concepts of the philosophy of science, be able to critically assess and analyze scientific and philosophical problems, understand the specifics of engineering science, possess the skills of analytical thinking and philosophical reflection, be able to substantiate and defend one's position, own methods of discussion and dialogue, possess the skills of communication and creativity in their professional activities

**higher education pedagogy**

CODE – HUM205

CREDIT– 4

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**PURPOSE AND OBJECTIVES OF THE COURSE** the course is aimed at studying the psychological and pedagogical essence of the educational process of higher education; the formation of ideas about the main trends in the development of higher education at the present stage, consideration of the methodological foundations of the learning process in higher education, as well as psychological mechanisms that affect the success of learning, interaction, management of subjects of the educational process. Development of psychological and pedagogical thinking of undergraduates.

**SHORT DESCRIPTION OF THE COURSE** In the course of studying the course, undergraduates get acquainted with the didactics of higher education, the forms and methods of organizing education in higher education, the psychological factors of successful learning, the peculiarities of psychological influence, the mechanisms of educational influence, pedagogical technologies, characteristics of pedagogical communication, and mechanisms for managing the learning process. Analyze organizational conflicts and ways to resolve them, psychological destruction and deformation of the teacher's personality.

**KNOWLEDGE, ABILITY, SKILLS TO COMPLETE THE COURSE** – at the end of the course, the undergraduate must know the features of the modern system of higher professional education, the organization of pedagogical research, the characteristics of the subjects of the educational process, the didactic foundations of the organization of the learning process in higher education, pedagogical technologies, the patterns of pedagogical communication, the characteristics of educational influences on students, as well as the problems of pedagogical activity.

**PSYCHOLOGY OF MANAGEMENT**

CODE –

CREDIT– 4

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**THE PURPOSE OF THE COURSE**

The main objective of the course is aimed at studying the peculiarities of behavior of individuals and groups of people within organizations, determined by psychological and social factors influencing the behavior of employees. Also, much attention will be paid to issues of internal and external motivation of people. The main goal of the course is the application of this knowledge to improve the effectiveness of the organization.

**COURSE DESCRIPTION**

The course attempts to provide balanced coverage of all the key elements comprising the discipline of OB. It will briefly cover the genesis and development of the organizational behavior theory and practice and then will address fundamental roles, skills and functions of management with the focus on management effectiveness illustrated with real life examples and case studies.

**LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE**

By the end of the course students will be able to: appreciate the foundations of individual and group behavior; identify the various roles of managers in organizations; begin to look at organizations from the perspective of managers; understand how effective management contributes to effective organizations.

## Project Management

CODE 2302

CREDIT 5

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PRE-REQUISIT: The discipline "Project Management" is based on knowledge gained as a result of studying disciplines in courses undergraduate

### PURPOSE AND OBJECTIVES OF THE COURSE

The purpose of teaching the discipline "Project management" is the development of project management methodology in various fields of activity, education of a culture adequate modern project management and information technology, creating conditions for the introduction of new information technologies in the field execution of projects. The course is based on international guidelines for project management (Project Management Body of Knowledge).

### SHORT COURSE DESCRIPTION

The content of the discipline is directed to study modern concepts, methods, design tools management in order to apply them in further practical activities of a specialist to solve planning and execution problems projects.

### LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE

After completing the course, the undergraduate will acquire knowledge of management projects in accordance with modern design requirements management - apply in the process of project management software MS Project software

The master's student must be able to: prepare stage documents project initiation such as a feasibility study, project charter, etc., develop and analyze documents related to planning project activities, apply different methods decision support, promptly monitor the execution of work and track deadlines, select personnel, resolve contradictions between team members, manage the risks arising from the implementation projects.

Master's student must know: Modern standards in regional management projects and their characteristics, PMI approach to project management, Investment planning, Project risk accounting, Methods to optimize the use of available resources, Methods conflict management, Analysis of actual indicators for timely adjustments to the progress of work.

**Cycle of basic disciplines - elective courses - 15 credits**

**Research methodology**

CODE

CREDIT 5

PRE-REQUISIT The discipline "Managerial Economics" is based on the knowledge gained as a result of studying disciplines for undergraduate courses

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**PURPOSE AND OBJECTIVES OF THE COURSE**

Training of highly qualified specialists with professional and scientific training, possessing the methodology and methods of scientific research and capable of independent scientific work and research.

**SHORT COURSE DESCRIPTION**

Science as a specific area of human activity. Science in the Republic of Kazakhstan. Scientific research methodology. Stages of scientific research. Technological innovation. Organizational innovation. Intellectual property protection. Sphere of patent activity. Application for an invention. Other types of intellectual property. Scientific and technical information. Research topic. Scientific reviews and reports. Master's dissertation. Training of scientific personnel in the Republic of Kazakhstan

**LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE**

Undergraduates must acquire knowledge about the organization of research activities; tools and methods of scientific research; legislative acts, programs, standards related to scientific and innovative activities, to be able to correctly formalize the results of research activities, to acquire the skills of scientific discussion and discussion of scientific problems, presentation of scientific research results.

## **Human Resource Management**

CODE

CREDIT 5

PRE-REQUISIT Management. Economic Theory (Bachelor's Programs)

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### **PURPOSE AND OBJECTIVES OF THE COURSE**

Discipline "Human Resource Management" is the study of theoretical provisions, methodological and applied developments in the field of human resource management, allowing to form the skills of making effective personnel decisions.

### **SHORT DESCRIPTION OF THE COURSE**

The course "Human Resource Management" examines the basic terms and definitions, stages of the evolution of management thought in the field of HRM. The role and place of HRM in corporate management and its relationship with the strategic objectives of the company are revealed. The state and development trends of the labor market are analyzed from the point of view of meeting the organization's need for human resources. Various conceptual approaches and methodological aspects of work with personnel are highlighted. Much attention is paid to modern HRM technologies in the context of real business practice on the example of the best domestic and foreign companies.

### **LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE**

undergraduates must be able to design new mechanisms, methods, forms of management and development of human resources at various levels of management; develop and apply criteria for the effectiveness of human resource management at different levels; apply methods for calculating various indicators, including the number of personnel, the effectiveness of measures for the development of human resources.

## **Managerial economics**

CODE

CREDIT 5

PRE-REQUISIT The discipline "Managerial Economics" is based on the knowledge gained as a result of studying disciplines for undergraduate courses

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### **PURPOSE AND OBJECTIVES OF THE COURSE**

Предметом изучения дисциплины «Управленческая экономика» является методика принятия и реализации эффективных управленческих решений на основе глубокого знания законов, закономерностей и принципов функционирования субъектов хозяйственных отношений (экономических агентов) в условиях современной рыночной экономики.

Целью освоения дисциплины является подготовка обучающихся к аналитическому виду деятельности

### **SHORT DESCRIPTION OF THE COURSE**

Курс содержит сведения о базовых экономических показателях и моделях, наиболее значимых и актуальных макро- и микроэкономических проблемах, о сущности, целях и средствах современной государственной экономической политики, о путях повышения её эффективности.

### **LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE**

The results of mastering the discipline are the formation of:

- skills of research and assessment of the economic situation at the macro- and microeconomic levels in order to make competent management decisions in the field of professional competence;
- the ability to evaluate the decisions made and predict the results of their implementation;
- the ability to implement a system of measures aimed at improving the efficiency of the management system for subjects of economic relations at the level of industries and firms



**Major disciplines**

**Project content, timing and cost management**

CODE

CREDIT 4

PRE-REQUISIT Project Management

**PURPOSE AND OBJECTIVES OF THE COURSE**

Creation of skills for master's students in solving practical economic and technical problems of project, program, portfolio management, including at the state level and in business structures of various sectors of the economy.

**SHORT DESCRIPTION OF THE COURSE**

Applied tasks and problems of developing a comprehensive project management plan. Development of a plan for attracting and developing key project personnel. Schedule of the need and attraction of personnel. Feasibility study approval. Determination of the capital investment budget. Project cost estimate. Design assignment. Determination of the chart structuring model. Determination of requirements for quality assurance and control. Development of a project quality assurance plan. Project risk planning. Planning and approval of the procurement plan. Project management and management. Tasks and problems, methods and tools for monitoring and adjusting the project. Project team recruitment. Project team development Monitoring and control. Content management, content confirmation. Analysis of the project model. Construction technical supervision. Analytical reporting.

**LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE**

As a result of mastering the discipline, the master student must:

**Know:** the main directions of applied research and tasks in the field of project management, programs and project portfolios, the methodology of searching and forming algorithms and mechanisms for solving problems in various areas of knowledge of project and program management, problems specific to project and program management. **Be able to:** formulate problems and tasks and find scientifically based methods for their solution in the field of project and program management. **Own:** modern professional methods of searching and solving problems of project and program management, analytical tools in the field of professional project and program management.

**Portfolio and program management**

CODE

CREDIT 4

PRE-REQUISIT Project Management, Research Methodology.

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**PURPOSE AND OBJECTIVES OF THE COURSE**

Training of highly qualified specialists with appropriate professional and scientific training, capable of independent work, to manage programs and project portfolio.

**SHORT DESCRIPTION OF THE COURSE**

Theoretical aspects of project portfolio management. Modern problems of project management. Linking project management with strategic planning. Project management office and its role in the project portfolio management process. Basic approaches to the formation of the PMO. Models of building a project management office. Project portfolio management tasks. Formation of a portfolio of projects. Planning the project portfolio implementation process. Allocation of resources between portfolio projects. Operational project portfolio management.

**LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE**

the master's student must acquire the skills and abilities of project quality management; operatively control the execution of work, track the deadlines and comply with the restrictions on the amount of funding, timely making the necessary adjustments in the allowable amounts, accumulate and analyze the experience in the implementation of the software package.

Разработано:	Рассмотрено: заседание УС Института	Утверждено: УМС КазННТУ	Страница 26 из 36
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**Financial analysis and project evaluation**

CREDIT 4

PRE-REQUISIT Project Management, Research Methodology.

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**PURPOSE AND OBJECTIVES OF THE COURSE**

Undergraduates gaining basic knowledge of financial flow management, while considering all the most important aspects of financial management: credit policy, working capital management, investments in fixed assets, financial investments, financial decision-making under conditions of uncertainty and risk.

**SHORT DESCRIPTION OF THE COURSE**

The essence and concept of financial analysis. Analysis of current and non-current assets. Analysis of equity capital. Cash flow analysis. Analysis of the profit and loss statement. Analysis of financial results. Analysis of liquidity and solvency. Financial stability analysis. The concept of the project, its main characteristics. The concept of project efficiency. Basic provisions of modern project management methodology. Organization of collection and preparation of initial information for the analysis of the effectiveness of the project. Assessment of the financial efficiency of the project. Assessment of the economic efficiency of the project.

**LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE**

The undergraduate must know: theoretical and methodological foundations of financial analysis; features of tools and methods for analyzing and evaluating the effectiveness, attractiveness and feasibility of projects.

The master's student must be able to: use the techniques of analysis and optimization of the quality of cash flow management, taking into account the indicators of business performance; use the basic techniques and methods of financial analysis; apply financial analysis techniques for various types of accounting reports (horizontal and vertical analysis, analysis of financial ratios). master the skills: perception of innovations, understanding of the multiplicity of possible solutions and the need to find optimal solutions in management issues company assets.

**Project Stakeholder and Communication Management (3 credits)**

CODE

CREDIT 5

PRE-REQUISIT Management. Economic Theory (Bachelor's Programs)

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**PURPOSE AND OBJECTIVES OF THE COURSE**

To form an understanding of the basic terms, definitions, types and methods of communication in projects, methods of practical planning of their management among the students of the course "Management of stakeholders and project communications".

**SHORT DESCRIPTION OF THE COURSE**

Basic concepts and terms in communications management. Participants of communications in the project: identification of participants, identification of their interests, needs and expectations. Communication participants in the project: prioritizing stakeholders (stakeholders) and choosing a strategy for working with them. Development of a plan for managing the expectations of stakeholders (stakeholders). Means and methods of communication in the project at different stages. Meetings as a form of communication in the project: types, goals, stages, roles, execution and control of the decisions made on the project. Development of a communications management plan for the project: purpose, main sections, implementation control.

**LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE**

Undergraduates must acquire knowledge of modern standards in the field of project communications management, be able to evaluate and systematize the goals of the main stakeholders, acquire skills in practical application of methods for assessing the impact of project stakeholders and ways of resolving conflict situations,

## Strategic management

CODE

CREDIT 4

PRE-REQUISIT Management (Bachelor's Programs)

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### PURPOSE AND OBJECTIVES OF THE COURSE

The purpose of studying the discipline "Strategic Management" is to study the methodological foundations of strategic management to use the acquired skills in the development, implementation and changes of the enterprise development strategy.

### SHORT DESCRIPTION OF THE COURSE

Methodological foundations of strategic management. Development of strategic management methodology: management based on control over performance, management based on extrapolation, management based on anticipation of changes, management based on flexible emergency decisions, management based on a synergistic approach. The main components of the paradigm (concept) of strategic management as opposed to the paradigm of operational management Basic principles of strategic management. The main stages of corporate planning: budgeting, long-term planning, strategic planning, strategic management. The main components of strategic management. Strategic marketing. Situational analysis. Analysis of strategic environmental factors. Management analysis. Portfolio analysis. Competitive advantages. Goals and motives of diversification. Integration and diversification. Types of diversification. Linked and unrelated diversification, vertical and horizontal integration, forward and backward integration. Possible ways to implement diversification.

### LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE

The process of studying the discipline is aimed at the formation of the following competencies: the ability to analyze the relationship between the functional strategies of companies in order to prepare balanced management decisions; the ability to participate in the development of a strategy for human resource management of organizations, to plan and implement activities aimed at its implementation; willingness to participate in the development of the organization's strategy using the strategic management toolkit; possession of methods of making strategic, tactical and operational decisions in the management of the operational (production) activities of organizations.

**Innovation management**

CODE

CREDIT 4

PRE-REQUISIT Strategic management. Investment management.

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**PURPOSE AND OBJECTIVES OF THE COURSE**

Generalization of theoretical and practical experience and scientific knowledge about the functions and methods of innovation management at the macro and micro levels

**SHORT DESCRIPTION OF THE COURSE**

Formation of a holistic view of innovation management, the content of innovative entrepreneurship, the basic concepts of the theory of innovation and technology. Developing ideas about the technology of choice and implementation of an innovative strategy as a technology of innovative transformations.

**LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE**

Master students should know the interpretation of the basic concepts and terms in the field of innovation management, the main functions and methods of innovation management at the macro and micro levels, be able to apply various techniques and decision-making tools in the field of innovation management.

**Project risk management**

CODE

CREDIT 4

PRE-REQUISIT Investment analysis of the project.

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**PURPOSE AND OBJECTIVES OF THE COURSE**

discipline "Risk Management in a Project" in mastering the tools and methods of risk management in a project, identification processes, description, qualitative and quantitative analysis, planning of response to risks and control of risks encountered in various areas of professional activity and specific projects

**SHORT DESCRIPTION OF THE COURSE**

Risk concept. Management of risks. Risk classification. Risk management planning. Risk identification. Qualitative risk analysis. Quantitative risk analysis. Methods for quantitative risk analysis. Risk response planning. Risk control. Industrial enterprise risk management. Risks of IT projects. Risks. Experience of megaprojects. Risks to human life and health. Psychological aspects of decision making under risk conditions.

**LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE**

Undergraduates must gain knowledge of the methodology of effective risk management in project activities, be able to use the basic tools and methods for minimizing risks in project activities, acquire the skills to analyze project risks, use its results for making management decisions.

**Quality management in projects (3 credits)**

CODE

CREDIT 3

PRE-REQUISIT Theory and practice of project management

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**PURPOSE AND OBJECTIVES OF THE COURSE**

The aim of teaching the discipline "Quality Management in Projects" is to study ways to improve the organization's performance through the use of modern quality management systems.

**SHORT DESCRIPTION OF THE COURSE**

The content of the discipline is aimed at studying the terminological base and modern concepts of quality management, consolidating the basic knowledge in the field of quality management among undergraduates and includes consideration of the following topics: Modern understanding of the quality and concept of project quality. General concepts of project quality management. Evolution of quality management forms: quality systems. Development of a quality management system for projects abroad. The process and content of project quality management. General functions of project quality management.

**LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE**

As a result of studying the discipline, the undergraduate must know: the modern methodology of quality management in projects, definitions and concepts of quality in projects, the essence of economic phenomena and processes, the history of quality management, and the content of modern approaches to quality management.



**Flexible control technologies**

CODE

CREDIT 4

PRE-REQUISIT Project Management, Research Methodology

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**PURPOSE AND OBJECTIVES OF THE COURSE**

The aim of teaching the discipline "Flexible management technologies" is to study ways to improve the performance of an organization through the use of modern flexible approaches to project management.

**SHORT DESCRIPTION OF THE COURSE**

Discipline provides guidance on how to manage a project when requirements are constantly changing. Students will gain a systematic professional understanding of flexible approaches to project management, knowledge of when it is appropriate to use Agile and in which it is not advisable, practical step-by-step mastering of the SCRUM methodology, an understanding of templates that allow you to embed and scale Agile techniques to the size of an organization, and get acquainted software products for control automation based on flexible approaches.

**LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE**

As a result of studying the discipline, the undergraduate must know: modern project management methodology, definitions and concepts of Agile and SCRUM; advanced software products for control automation based on flexible approaches.

## Business negotiations

CODE

CREDIT 4

PRE-REQUISIT Project Managemen

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### PURPOSE AND OBJECTIVES OF THE COURSE

**Discipline objectives:** Improving the efficiency of interaction with business partners; developing skills for effective negotiations.

### SHORT DESCRIPTION OF THE COURSE

Algorithms for solving typical communication problems, analysis and optimization of styles of interaction with business partners. Manipulative negotiation methods, as well as anti-manipulative blocks, defense and counter-attack blocks; defending their interests, establishing trusting relationships.

### LEARNING OUTCOMES UPON SUCCESSFUL COMPLETION OF THE COURSE

- Use negotiation to build effective collaborative relationships with colleagues, management, partners and clients
- Competently prepare for negotiations, collect and analyze the necessary information to fully understand the situation, interests and position of the opponent, his strengths and weaknesses.
- Choose the right negotiation strategy depending on the current situation, available levers of influence, strategic objectives
- Be able to actively listen, effectively ask questions, summarize the information received.
- Convincingly state your position, use clear argumentation of your ideas.
- See the problem from different points of view, propose different solutions, give reasonable reasons to convince the interlocutor and overcome objections.

**Master's thesis defense**

CODE – ECA2013

CREDIT–12

The purpose of the master's thesis is:

demonstration of the level of scientific / research qualifications of a master student, the ability to independently conduct a scientific search, test the ability to solve specific scientific and practical problems, knowledge of the most general methods and techniques for their solution.

**SHORT DESCRIPTION OF THE COURSE**

A master's thesis is a final qualifying scientific work, which is a generalization of the results of an independent research by a master's student of one of the urgent problems of a specific specialty of the corresponding branch of science, which has an internal unity and reflects the course and results of the development of the chosen topic.

Master's thesis is the result of the research / experimental research work of the master's student, carried out during the entire period of the master's student's training.

The defense of a master's thesis is the final stage of the master's preparation. A master's thesis must meet the following requirements:

- the work should conduct research or solve actual problems in the field of business and management
- the work should be based on the definition of important scientific problems and their solution;
- decisions must be scientifically grounded and reliable, have internal unity;
- the thesis should be written individually;

## Content

- 1 Scope and content of the program
- 2 Requirements for applicants
- 3 Requirements for completing studies and obtaining a diploma
- 4 Working curriculum of the educational program
- 5 Descriptors of the level and amount of knowledge, skills, abilities and competencies
- 6 Competencies on completion of training
- 7 ECTS Diploma Supplement