



K.I.Turyusov Institute of Geology and Oil and Gas Industry
Department of Hydrogeology, Engineering and Oil and Gas Geology

EDUCATIONAL PROGRAM
7M07220 - "Oil and Gas Geology"

Code and classification of the field of education: 7M07 Engineering, manufacturing, and construction industries

Code and classification of training areas: 7M072

Manufacturing and processing industries

Educational program group: M121

Geology Level of NRC: 7

Level of ORC: 7

Duration of study: 1.5

Number of credits: 90

Almaty 2025

Educational program 7M07220 - "Oil and Gas Geology" approved at the meeting of the Academic Council of KazNTU named after K.I. Satpayev

Minutes # 10 dated «06 » 03 2025.

Reviewed and recommended for approval at a meeting of the Educational and Methodological Council of KazNTU named after K.I. Satpayev.

Minutes # 3 dated «20 » 12 2024 .

Educational program 7M07220 - "Oil and Gas Geology" Developed by the Academic Committee for Production and Manufacturing Industries

NAME	Degree/ academic title	Position	Place of work	Caption
Academic Committee Chair::				
Paragulgov Timur Halitovich	Candidate of Geological-and Mineralogical Sciences	Director of Geology, GIS Energy LLP»	Advisor on Geology and Geophysics of RAMCO OIL LLP +7 7017600656	
Teaching staff:				
Auelkhan Yergali Satyshuly	Candidate of Technical Sciences	Associate Professor	of NAO "Kazakh National Research Technical University named after K. I. Satpayev", mobile phone: +7 707 829 01 61, y.auyelkhan@satbayev.university	
Yensepbayev Talgat Ablaevich	Candidate of Geological and Mineralogical Sciences	Professor	of NAO "Kazakh National Research Technical University named after K. I. Satpayev", mobile phone: +7 777 693 22 44, t.yensepbayev@satbayev.university	
Muratova Samal Karimbayevna	Candidate of Technical Sciences	Associate Professor	of NAO "K. I. Satpayev Kazakh National Research Technical University K.I. Satpayev", mobile phone: +77077633534, s.muratova@satbayev.university	
Employers:				
Paragulgov Timur Halitovich	Candidate of Geological-and Mineralogical Sciences	Director of Geology, GIS Energy LLP»	Advisor on Geology and Geophysics of RAMCO OIL LLP +7 7017600656	
Students:				

Zhakyp Aruzhan Shalkarbekkyzy	-	1-year Master's student	of NAO "Kazakh National Research Technical University named after K. I. Satpayev", mobile phone: 87077784640 aruzhanzhakyp003@gm ail.com	
-------------------------------------	---	----------------------------	---	---

Table of contents

- List of abbreviations and designations
- 1. Description of the educational program
- 2. The purpose and objectives of the educational program
- 3. Requirements for evaluating the learning outcomes of an educational program
- 4. Passport of the educational program
- 4.1. General information
- 4.2. The relationship between the achievability of the formed learning outcomes according to the educational program and academic disciplines
- 5. The curriculum of the educational program

List of abbreviations and notations

BD - basic disciplines
GOSO - state obligatory standard of education
DP - documented procedure
DOT - distance education technologies
UNT - unified national testing
IEP - individual education plan
KTO - credit-based learning technology
KED - catalog of elective disciplines
MES RK - Ministry of Education and Science of the Republic of Kazakhstan
MOP - modular educational program
R&D - research work
R&D and ID - research and innovation activities
NIRS - research work of students
GEC - general education disciplines
EP - educational program
PD - specialized disciplines
PPS - faculty - teaching staff
RK - Republic of Kazakhstan
RUP - working curriculum
QMS - quality management system
SRS - independent work of students
SRSP - independent work of students under the guidance of a teacher
TUPL - model curriculum
Auxiliary personnel - teaching and support staff
UMKD - teaching and methodical complex of disciplines
UMS - educational and methodical council
UMR - educational and methodological work
ELM - electronic learning materials

1. Description of the Educational Program

The duration of master's degree studies is determined by the volume of accumulated academic credits. Upon completion of the required number of academic credits and achievement of the expected learning outcomes for obtaining a master's degree, the master's educational program is considered fully completed. In the Research and Teaching Master's program, no less than 90 academic credits are required for the entire period of study, including all types of academic and research activities of the master's student.

The planning of educational content, as well as the methods of organizing and conducting the educational process, is carried out by the higher education institution and the scientific organization independently, based on the credit-based learning technology.

The Research and Teaching Master's program implements postgraduate educational programs for training research and research-teaching personnel for higher education institutions and scientific organizations, who possess in-depth research, teaching, and investigative training.

The content of the master's educational program consists of:

1. theoretical training, including the study of core and major discipline cycles;
2. practical training of master's students: internships, EWP (Electrical Wiring Practices);
3. research work, including the completion of a master's thesis – for the specialized master's program;
4. final certification.

Content of the EP (Educational Program)

Objectives of the Educational Program:

Intensive training of highly qualified specialists to solve practical problems in oil and gas exploration, prospecting, and field development, with a focus on designing and optimizing technological processes.

Developing skills for solving production tasks at all stages: from conducting field geological, geophysical, and geochemical surveys to office data processing, laboratory analysis, and primary geological documentation using modern equipment and software.

Preparing graduates for effective professional activities based on high moral and ethical standards, civic responsibility, and compliance with the legislation of the Republic of Kazakhstan.

Instilling in graduates a mindset for continuous professional development and rapid adaptation to new knowledge and innovative technologies in the geological exploration industry.

Training a competent specialist, prepared for work in production/technological and organizational/managerial spheres, capable of independently applying modern information technologies to solve industry tasks.

Intensive graduate training based on a balanced curriculum with a predominance of practice-oriented disciplines. The goal is to form specific professional competencies that enable the graduate to perform key functions quickly and effectively in a real production environment, meeting current market demands.

Training a competitive specialist proficient in advanced oil and gas geology research methods, capable of competently executing and formalizing research and production projects.

2. Aim and Objectives of the Educational Program

Aim of the EP: The aim of the "Oil and Gas Geology" educational program is to train a highly qualified specialist in the field of geology of combustible minerals and in the processes of oil and gas field development, capable of performing various project, production, technological, and organizational-managerial activities at a high technical level. The program equips students with the knowledge and skills necessary for professional work in state organizations, geological exploration, and oil and gas production enterprises.

At the master's level, the "Oil and Gas Geology" program (1.5 years) offers trajectories focused on implementing educational programs for the geological sector, providing in-depth technical, analytical, and predictive training with an emphasis on applied aspects.

Types of Professional Activities:

- Research and Production
- Project
- Research
- Organizational and Managerial

A Master of Science in "Oil and Gas Geology" (study period 1.5 years), depending on the type of professional activity, is prepared to solve the following professional tasks:

a. Research and Production Activity:

- Practical planning and conducting production field, laboratory, and interpretation studies to solve applied problems in oil and gas geology.
- Comprehensive processing and interpretation of field and laboratory information using modern equipment and software to solve specific production problems.
- Collection, analysis, and systematization of specialized geological information using modern information technologies and databases.
- Preparation and professional operation of modern field and laboratory equipment.

b. Project Activity:

- Participation in the design and implementation of scientific-technical projects at the stages of prospecting, exploration, and field development.
- Participation in project expertise and feasibility studies for geological exploration work.

c. Research Activity:

- Conducting scientific research under the guidance of a supervisor within the framework of specific tasks, analyzing and summarizing results using advanced domestic and foreign experience.
- Evaluation of research results, preparation of scientific reports, publications, and presentations.

d. Organizational and Managerial Activity:

- Participation in the planning and organization of research and production field and laboratory work.
- Organizing the work of small teams and working groups to accomplish specific production tasks.

Objects of Professional Activity of the Graduate:

- The Earth's crust, lithosphere, rocks, oil, gas, and condensate fields.
- Spheres of science, engineering, and technology related to the development of the hydrocarbon mineral resource base, including forecasting, prospecting, exploration, and exploitation of hydrocarbon fields.

Objectives of the EP:

- Intensive training of a new generation of specialists to solve key tasks in the design and optimization of technological processes at the stages of prospecting, exploration, and development of oil and gas fields.
- Equipping graduates with competencies for effectively solving production tasks during field geological, geophysical, and geochemical operations, as well as during office, laboratory, and analytical studies, including the operation of modern equipment and maintenance of primary geological documentation.
- Preparing the graduate for professional activity based on high spiritual values, moral and ethical standards, civic responsibility, and strict compliance with the legislation of the Republic of Kazakhstan.
- Instilling in the graduate a mindset for continuous self-development and the ability to quickly acquire new knowledge and skills in line with innovative trends in the geological exploration industry.
- Training a graduate competent in production-management and organizational-technological activities, capable of applying modern information technologies and resources to solve practical problems.
- Training a graduate based on a balanced curriculum with an emphasis on practice-oriented disciplines, capable of performing professional functions within one or several types of activities, considering labor market requirements.
- Training a competitive specialist in oil and gas geology proficient in advanced technologies, methods of conducting and presenting the results of research and production projects, including in an international context.

3. Requirements for Assessing Learning Outcomes of the Educational Program

Upon completion of the educational program "7M07220 - Oil and Gas

Geology," master's students will be able to:

ON 1. Demonstrate high professional qualities and ethics when interacting with various stakeholders, while performing production tasks in the exploration and oil and gas industries.

ON 2. Analyze and evaluate current trends and directions, the patterns of development of domestic and foreign geological exploration, oil and gas industries, integrate and apply innovative developments in practice.

ON 3. Create models of oil and gas bearing and oil and gas prospective sedimentary basins, their areas and local structures based on computer softwares and technologies.

ON 4. Summarize and interpret information from various sources, create technological solutions based on modern theories, concepts and techniques.

ON 5. Apply advanced knowledge of oil and gas geology, appropriate methods of analysis, both qualitative and quantitative in their professional activities.

ON 6. Formulate technological and survey projects on various aspects of the study of oil and gas fields and sedimentary basins, defend plans and results of work before specialists and experts.

ON 7. To make an examination of experimental, technological projects and developments in the conditions of rapid updating of information flows, globalization.

The following forms of examinations are used to assess learning outcomes: written exam, practical exam (open-ended questions, problem-solving), experimental research work.

Final certification concludes with the defense of a master's thesis.

4. Passport of the educational program

4.1. General information

№	Field name	Note
1	Code and classification of the field of education	7M07 Engineering, Manufacturing and Construction Industries
2	Code and classification of training directions	7M072 Mining and Processing Industries
3	Group of educational programs	M121 - Geology
4	Name of educational program	7M07220 – Oil and Gas Geology
5	Brief description of the educational program	Intensive training of highly qualified specialists in oil and gas geology, capable of promptly solving practical tasks at the stages of exploration, prospecting and development of oil and gas fields. Formed competencies: Geological knowledge: Systemic understanding of geological processes forming oil and gas accumulations, and confident command of basic geological exploration methods. Petroleum geological knowledge: Practical

		understanding of hydrocarbon formation, migration, and accumulation conditions for assessing petroleum potential and estimating reserves. Engineering and technological skills: Application of modern technologies and specialized software for solving applied problems of geological modeling and data interpretation. Analytical skills: Ability to perform comprehensive analysis and integration of geological data, build conceptual models, and effectively present research results.
6	Purpose of the OP	The aim of the "Oil and Gas Geology" educational program is to train a highly qualified specialist in the geology of combustible minerals and in the processes of oil and gas field development, capable of performing various project, production, technological, and organizational-managerial activities at a high technical level, equipped with the knowledge and skills necessary for professional work in state, geological exploration, and oil and gas production enterprises.
7	Type of OP	New Educational Program
8	NSC level	7
9	ORC level	7
10	Distinctive features of the OP.	No
11	List of competencies of the educational program:	In the field of scientific research methodology: mastering the key principles and methods of organizing and conducting applied scientific research in oil and gas geology. In the field of research and production activities: developing competencies to participate in research and development (R&D) work in academic and industry organizations. In modern educational technologies: using digital and interactive tools to effectively present the results of research activities. In the implementation of scientific projects: gaining practical experience in planning, executing, and implementing the results of scientific projects and research in the professional field. In ways to ensure continuous professional growth: developing skills for independent knowledge updating and expanding professional competencies in a rapidly changing industry.
12	Educational Program Learning Outcomes:	ON 1. Demonstrate high professional qualities and ethics when interacting with various stakeholders, while performing production tasks in the exploration and oil and gas industries. ON 2. Analyze and evaluate current trends and directions, the patterns of development of domestic and foreign geological exploration, oil and gas

		industries, integrate and apply innovative developments in practice. ON 3. Create models of oil and gas bearing and oil and gas prospective sedimentary basins, their areas and local structures based on computer softwares and technologies. ON 4. Summarize and interpret information from various sources, create technological solutions based on modern theories, concepts and techniques. ON 5. Apply advanced knowledge of oil and gas geology, appropriate methods of analysis, both qualitative and quantitative in their professional activities. ON 6. Formulate technological and survey projects on various aspects of the study of oil and gas fields and sedimentary basins, defend plans and results of work before specialists and experts. ON 7. To make an examination of experimental, technological projects and developments in the conditions of rapid updating of information flows, globalization.
13	Form of training	full-time
14	Term of study	1,5 years
15	Loan volume	90
16	Languages of instruction	Russian, Kazakh, English
17	Academic degree awarded	Master of Engineering and Technology
18	Developer(s) and authors:	Yensepbayev Talgat Ablaevich Uzbekgaliev Rizakhan Khalelovich Eskozha Bazar Atashevich

4.2. Relationship between the achievability of the formed learning outcomes of the educational program and academic disciplines

№	Name of discipline	Brief description of the discipline	Cycle	Component	Loans	ON 1	ON 2	ON 3	ON 4	ON 5	ON 6	ON 7
1	LNG212 Foreign language (professional)	The purpose of the discipline is to acquire and improve competencies in accordance with trade standards of foreign education, capable of competing in the labor market, because through a foreign language, the future master gains access to academic knowledge, new technologies and modern information, allowing the use of a foreign language as a means of communication in the intercultural, professional and scientific activities of the future master.	BD	UC	2		+		+	+		+
2	HUM212 Management	To form a scientific understanding of management as a type of professional activity. Contents: Mastering the general theoretical principles of managing socio-economic systems; acquiring skills and abilities in practical problem-solving of managerial issues; studying global management practices and the specificities of Kazakhstani management; training in solving practical issues related to managing various aspects of organizational activities.	BD	UC	2	+	+				+	+
3	HUM211	To acquire skills in making strategic and managerial decisions, taking into	BD	UC	2	+	+			+		

НАО «КАЗАХСКИЙ НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ
имени К.И. САТПАЕВА»

	Psychology of management	account the psychological characteristics of the individual and the team. Content: the modern role and content of psychological aspects in management activities, methods for improving psychological literacy, the composition and structure of management activities, both at the local and foreign levels, the psychological feature of modern managers.										
4	GEO751 Lithology of resevoir of oil and gas	Purpose: types of lithogenesis and their characteristic rock complexes that form natural reservoirs of oil and gas. Course content: the main stages of the formation of sedimentary rocks; main features of continental, marine and transitional facies; distinctive features of the main genetic types of natural reservoirs of hydrocarbons; the degree of influence of post-sedimentary transformations on the main field characteristics during the exploitation of hydrocarbon deposits; the main criteria for predicting the development zones of reservoir rocks, screen rocks and traps of the lithological type.	BD	EC	4		+		+	+		
5	GEO751 Oil and gas hydrogeology	The purpose of the course is to gain knowledge about the hydrogeology of oil and gas basins, the role of groundwater in the formation, preservation and destruction of hydrocarbon deposits. Course content:	BD	EC	4	+			+	+		

НАО «КАЗАХСКИЙ НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ
имени К.И. САТПАЕВА»

		mastering theoretical knowledge on the hydrogeology of oil and gas basins, groundwater occurrence conditions, lateral and vertical hydrogeochemical zonality of basins, the main genetic types of waters and the stages of formation of their composition, hydrogeological criteria for the prospects of oil and gas potential, the basics of oil and gas field hydrogeology. Influence of groundwater flows on the migration potential of generated hydrocarbons.										
6	GEO275 Petroleum systems	The main purpose of studying the discipline is the origin of oil, the concept of the main zones of oil formation (oil window), gas formation (gas window). Course content: the role of sedimentary layers and fossil organic matter in the formation of oil, gas and their accumulations, types of organic matter, stages of catagenesis of organic matter, changes in its composition and structure, the influence of thermodynamic parameters during the sinking of productive source rocks, the concept of a hydrocarbon system, identification of oil sources and gas.	BD	EC	5		+	+	+			+
7	GEO704 Interpretation of geological and geophysical data for	Purpose: analysis of geological and geophysical data, interpretation of well logging materials, the result of an analytical study of core rocks necessary	BD	EC	5	+			+	+	+	

НАО «КАЗАХСКИЙ НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ
имени К.И. САТПАЕВА»

	the purpose of estimating oil and gas reserves and resources	for calculating oil and gas reserves and resources. Course content: study, analysis and synthesis of regional data and the results of the study of wells and rocks, for further interpretation and calculation of reserves and resources by volumetric method, material balance method and pressure drop using geochemical studies. Allocation of categories of reserves and resources of oil and gas.										
8	GEO263 The analysis of sedimentary basins	The purpose of the course: structure, composition, genesis and stages of development of sedimentary basins. Course content: evolution of sedimentary basins, their development depending on tectonic movements and sea level fluctuations, the rate of subsidence of the sedimentation basin, the principle of isostasy, the multi-order periodicity of sedimentation and its role in the formation of sedimentary basins, the relationship between the rates of denudation of feeding areas and filling of sedimentary basins, their geodynamic classifications in the concept of lithospheric plate tectonics.	BD	UC	5	+	+	+				+
9	GEO295 Geo-modeling of flows and sources of oil and gas generation	The purpose of the course is modeling of oil and gas generating and oil and gas bearing regional local systems. Course content: determination of structural and geochemical features of models of oil	PD	UC	5			+	+	+	+	

		and gas systems; building models based on maps and profiles, graphical editing of horizons by section and area; determination of the stratigraphic affiliation of breaks in productive horizons; quality control of input lithological, temporal parameters of the model in 1D; analysis of the results obtained and the results of the calibration of underground layers.										
10	GEO771 Methods of geochemical and paleotectonic analyses of petroleum systems	The purpose of the discipline is to study modern methods of geochemical and paleotectonic analysis for the assessment of petroleum systems, including the processes of formation, migration and accumulation of hydrocarbons. Contents: geochemical methods for the analysis of petroleum systems, paleotectonic methods of analysis, data integration. The use of modern analysis methods makes it possible to more accurately determine the location of deposits, which reduces exploration and production costs. This helps ensure access to affordable energy sources.	PD	UC	5		+	+		+	+	
11	GEO745 Sedimentation and facies conditions during the formation of oil and gas complexes	The main purpose of studying the discipline is to determine the facies, to familiarize with the specifics of continental, marine and transitional sedimentation environments. The course content is aimed at studying	PD	UC	5		+	+	+			

		sedimentary basins, their classification, geodynamically diverse types of sedimentary basins with an analysis of their geometry and other characteristics, the relationship between the types of sedimentary basins and their oil and gas potential, the patterns of the largest hydrocarbon accumulations in the sedimentary basin system.										
12	GEO746 Theoretical and methodological patterns of allocation of resources and hydrocarbon reserves on the shelf and water area	Purpose: modern methods of prospecting and exploration for oil and gas in the offshore part of the world ocean, distribution of the hydrocarbon resource base in the country and around the world. Course content: processes of formation of hydrocarbon deposits, geophysical, hydrogeological and engineering-geological studies at the regional stage and prospecting and exploration stages, the basics of rational use of subsoil, environmental protection in the shelf zone; relationship between the distribution of oil and gas resources and the evolution of sedimentary basins on the margins of the continents.	PD	UC	5	+	+		+	+		
13	GEO291 Regional tectonics of oil and gas regions	Purpose: study of the structure and evolution of large structural units of the continental crust, comparative analysis of the tectonics of various oil and gas bearing areas against the background of the general evolution of the earth and in the light of modern tectonic concepts.	PD	UC	5	+			+		+	

		Course content: plate tectonics, ancient platforms, epicalcedonian, epihercynian, epimesozoic, platforms, geodynamic regimes of oil and gas formation, lithospheric plate boundaries, passive, active continental margins, rift basins, subduction basins. The history of the geological development of the region, the processes accompanying the formation of oil and gas bearing areas of sedimentary basins.										
14	GEO294 Filtration properties of reservoirs and enhanced oil recovery	Purpose: study of reservoir properties of rocks, physical and chemical properties of reservoir fluids necessary for calculating oil recovery from reservoirs. Course content: physical and mechanical properties of oil and gas reservoirs; composition and physical properties of natural gases, oils and formation waters in the conditions of their occurrence; methods for measuring the petrophysical characteristics of rocks, phase states of hydrocarbon systems at various pressures and temperatures; molecular-surface properties of the "oil-gas-water-rock" system; physical basis of oil displacement from porous media.	PD	UC	5			+	+	+	+	
15	GEO292 Prediction and assessment of oil and gas resources	The purpose of the course: scientifically based forecast of oil and gas content of the subsoil, methods for estimating resources at the regional stage of	PD	UC	5	+	+				+	+

НАО «КАЗАХСКИЙ НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ
имени К.И. САТПАЕВА»

		geological exploration. Course content: skills in collecting documentation, analyzing and summarizing geological and geophysical, geochemical, hydrogeological and other materials of regional and detailed geological exploration for the purpose of a scientifically based forecast of oil and gas content of the subsoil; choosing the optimal directions for prospecting and exploration of hydrocarbon accumulations, designing oil and gas prospecting, assessing oil and gas resources and substantiating the technical and economic feasibility of setting up prospecting and exploration work.										
--	--	---	--	--	--	--	--	--	--	--	--	--

5. Curriculum of the educational program



NON-PROFIT JOINT STOCK COMPANY
"KAZAKH NATIONAL RESEARCH TECHNICAL UNIVERSITY NAMED AFTER K.I. SATBAYEV"

«APPROVED»
Decision of the Academic Council
NPJSC «KazNRTU
named after K.Satbayev»
dated 06.03.2025 Minutes № 10

WORKING CURRICULUM

Academic year	2025-2026 (Autumn, Spring)
Group of educational programs	M121 - "Geology"
Educational program	7M07220 - "Oil and gas geology"
The awarded academic degree	Master of engineering and technology
Form and duration of study	full time (professional track) - 1,5 years

Discipline code	Name of disciplines	Block	Cycle	Total ECTS credits	Total hours	Lek/lab/pr Contact hours	In hours SIS (including TSIS)	Form of control	Allocation of face-to-face training based on courses and semesters			Prerequisites
									1 course		2 course	
									1 sem	2 sem	3 sem	
CYCLE OF GENERAL EDUCATION DISCIPLINES (GED)												
CYCLE OF BASIC DISCIPLINES (BD)												
M-1. Module of basic training (university component)												
LNG212	Foreign language (professional)		BD, UC	2	60	0/0/30	30	E	2			
MNG726	Management		BD, UC	2	60	15/0/15	30	E	2			
HUM211	Psychology of management		BD, UC	2	60	15/0/15	30	E	2			
GEO751	Lithology of reservoir of oil and gas	1	BD, CCH	4	120	30/0/15	75	E	4			
GEO752	Oil and gas hydrogeology	1	BD, CCH	4	120	30/0/15	75	E	4			
GEO275	Petroleum systems	2	BD, CCH	5	150	30/0/15	105	E	5			
GEO704	Interpretation of geological and geophysical data for the purpose of estimating oil and gas reserves and resources	2	BD, CCH	5	150	30/0/15	105	E	5			
CYCLE OF PROFILE DISCIPLINES (PD)												
M-2. Module of sedimentogenesis and organic geochemistry (university component)												
GEO263	The analysis of sedimentary basins		PD, UC	5	150	30/0/15	105	E	5			
GEO745	Sedimentation and facies conditions during the formation of oil and gas complexes		PD, UC	5	150	30/0/15	105	E	5			
GEO295	Geo-modeling of flows and sources of oil and gas generation		PD, UC	5	150	30/0/15	105	E		5		
GEO771	Methods of geochemical and paleotectonic analyses of petroleum systems		PD, UC	5	150	30/0/15	105	E		5		
M-3. Module of Geological exploration and modeling (university component)												
GEO294	Filtration properties of reservoirs and enhanced oil recovery		PD, UC	5	150	30/0/15	105	E	5			
GEO746	Theoretical and methodological patterns of allocation of resources and hydrocarbon reserves on the shelf and water area		PD, UC	5	150	30/0/15	105	E		5		
GEO291	Regional tectonics of oil and gas regions		PD, UC	5	150	30/0/15	105	E		5		
GEO292	Prediction and assessment of oil and gas resources		PD, UC	5	150	30/0/15	105	E		5		
M-4. Practice-oriented module												
AAP248	Internship		PD, UC	5				R		5		
AAP208	Internship		PD, UC	4				R			4	
M-5. Experimental research module												
AAP249	Experimental research work of a master student, including an internship and the implementation of a master's project		ERWMS	18				R			18	
M-6 Module of final attestation												
ECA212	Registration and protection of the master thesis		FA	8							8	
Total based on UNIVERSITY:									30	30	30	
									60	30		

Number of credits for the entire period of study

Cycle code	Cycles of disciplines	Credits			
		Required component (RC)	University component (UC)	Component of choice (CCH)	Total
GED	Cycle of general education disciplines	0	0	0	0
BD	Cycle of basic disciplines	0	6	9	15
PD	Cycle of profile disciplines	0	49	0	49

НАО «КАЗАХСКИЙ НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ
имени К.И. САТПАЕВА»

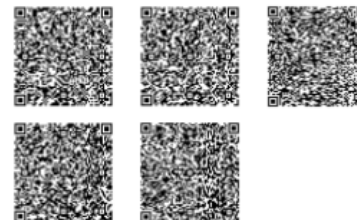
Total for theoretical training:		0	55	9	64
RWMS	Research Work of Master's Student				0
ERWMS	Experimental Research Work of Master's Student				18
FA	Final attestation				8
TOTAL:					90

Decision of the Educational and Methodological Council of KazNRTU named after K.Satpayev. Minutes № 3 dated 20.12.2024

Decision of the Academic Council of the Institute. Minutes № 3 dated 28.11.2024

Signed:
Governing Board member - Vice-Rector for Academic Affairs Uskenbayeva R. K.

Approved:
Vice Provost on academic development Kalpeyeva Z. B.
Head of Department - Department of Educational Program Management and Academic-Methodological Work Zhumagaliyeva A. S.
Director - Geology and Oil-gas Business Institute named after K. Turyssov Auyelkhan Y. .
Acting Department Chair - Hydrogeology, Engineering and Oil and Gas Geology Akpanbayev R. C.
Representative of the Academic Committee from Employers Paragulgov T. K.
____Acknowledged____



Note:

1. Module of basic training and professional activity departments themselves prescribe the names of modules and their number
2. * - Division into types of work at the discretion of the department
3. If necessary, the disciplines: Physics II, Mathematics III, General Chemistry of the department include at the expense of credits of the department component DB, VC from the basic training module
4. The full academic load of one academic year should be 60 academic credits
5. The application of the catalog of elective subjects is the same as the Curriculum is divided into modules, with the inclusion of the Module "R&D"