

"Kazakh University of Technology and Business" named after K.Kulazhanova" JSC

EDUCATIONAL PROGRAM

7M07253 Oil and gas business

code and name of educational program

Level: Master's



Approved
by the Board of Directors of JSC «K.Kulazhanov
KazUTB» 2026, protocol No. 4

Recommended
by the Academic Council of JSC «K.Kulazhanov
KazUTB» 2026, protocol No. 7

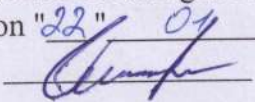
Astana – 2026

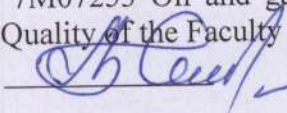
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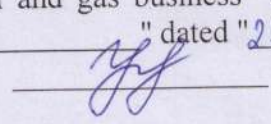
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Preface

The educational program "7M07253 Oil and gas business" was developed in accordance with the State Compulsory Standard of Higher Education / Postgraduate Education, approved by the order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022 No. 2, as well as on the basis of professional standards: Professional standard: «Teacher (faculty) of higher and (or) postgraduate education organizations» № 591 dated 20.11.2023 y.; «Oil transportation management № 437 dated 18.11.2025 y.; «Oil and gas production technology» № 479 dated 23.12.2024 y. and the «Atlas of new professions and competencies of Kazakhstan" by profession, ""Engineer-designer for the creation of digital twins of deposits" and "Regional Atlas of Aktobe region" by profession, "Engineer for drilling using environmentally friendly technologies".

The educational program "7M07253 Oil and gas businesses " was approved at the meeting of the Council on Academic Quality on "22" 01 2026, protocol No. 3
Chairman E.B.Askarbekov 

The educational program "7M07253 Oil and gas business" was approved at the meeting of the Commission on Academic Quality of the Faculty on "21" 12 2025, protocol No. 3/1
Chairman _B. Serimbetov 

The educational program "7M07253 Oil and gas business" was developed and discussed at the meeting of the department " ССТaE " dated "27" 11 2025, protocol No. 4
Head of the department Zh.Nurtai 

Approval sheet

Educational program 7M07253 «Oil and gas business»

AGREED:

Vice-Rector for
Administrative Affairs



E. Askarbekov

"22" 01 2026 year

Head of Educational
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"22" 01 2026 year

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E. Zhatkanbaev

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Director



R. Romazanov

"27" 11 2025 year

Master's student
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T. Anuarbek

"22" 11 2025 year

1 Passport of the educational program

International Standard Classification of Education (ISCED) level	7
National Qualification Framework (NQF) level	7
Sectoral Qualifications Framework (SQF) level	7
Code and name of the field of education	7M07 Engineering, manufacturing and construction industries
Direction of training	7M072 Industrial and manufacturing branches
Number and name of the group of educational programs	M115 Oil engineering
Code and name of the educational program (EP)	7M07253 Oil and gas business
Educational program profile	Scientific and pedagogical
Purpose of the educational program	Training of masters with a high level of professional culture who are able to solve modern scientific and practical problems in the field of the oil and gas industry, teach at universities, specialized colleges, carry out management activities at oil and gas industry enterprises.
Completion criterion of an educational program	At least 120 academic credits
Language of instruction of the educational program	Russian, Kazakh
Distinctive features of the educational program	-
Partner University	-

2 Qualification characteristics of a graduate of an educational program

Degree awarded	Master of Engineering Sciences in the educational program 7M07253 Oil and gas business
Field of professional activity	The graduate is intended to work in the following industries (areas): manufacturing enterprises, development of oil and gas fields, oil and gas refining industry, drilling of gas and oil wells, transportation of oil, oil products and gas.
Types of professional activities	Graduates of the educational program 7M07253 Oil and Gas Business can perform the following types of professional activities: - scientific research; - educational, pedagogical; - organizational and technological; - production and management; - design

Object of professional activity	Main, field, interfield and process pipelines, institutes for the design of pumping and compressor stations for oil and gas pumping and field equipment, oil depots and gas storage facilities, main oil pipelines and gas networks.
Functions of professional activity	Production and technological activity (PTA): - ensure the formation and justification of the need for inventory, equipment, and devices at the oil and gas production site; - address issues related to the rational use of production reserves and the economical use of all types of resources, while complying with the requirements of environmental protection legislation; - coordinate work, provide leadership and make decisions on all the most important issues of the unit's activities. Research activities (R&D): -to carry out educational and methodological work and develop methodological competence; - to diagnose the research skills of students; - apply strategies for the development and support of research/scientific and creative activities.

3 Requirements for the content of the educational program

Name of cycles and disciplines	Workload in academic credits
Cycle of basic disciplines (BD)	35
University component	20
Component of choice	15
Professional practice	53
Cycle of major disciplines (MD)	25
University component	20
Component of choice	13
Professional practice	24
Final certification	8
Total	120

4 Competency map of the educational program «7M07253 Oil and gas business»

Type of competence	Learning Outcomes Code	Learning outcome (according to Bloom's taxonomy)
Behavioral skills and personality traits (Softskills)	LO 1	Conduct methodological analysis of research in the industrial sphere of technologies based on the history and philosophy of science when preparing scientific reports and publications
	LO 2	Use a foreign language in oral and written forms for interpersonal and intercultural interaction in professional activity
	LO 3	Organize theoretical and practical training for future specialists of the oil and gas industry based on modern pedagogical methods and psychological-managerial technologies

Digital competencies (Digital skills)	LO 4	Apply automation and modeling methods alongside AI technologies to control technological processes and operate smart oil and gas equipment
Professional skills (Hardskills)	LO 5	Evaluate the technological efficiency and suitability of special oil and gas production fluids based on the results of physicochemical research and digital processing of experimental data
	LO 6	Modernize technological complexes for the transportation, storage, and processing of oil and gas based on resource-saving principles and the analysis of the physicochemical properties of raw materials
	LO 7	Develop measures aimed at improving the efficiency of hydrocarbon production through the implementation of environmentally safe drilling and the application of enhanced oil recovery technologies
	LO 8	Optimize production processes for the exploration, production, and transportation of hydrocarbons, including unconventional resources, based on the integration of geological and production data and innovative management systems
	LO 9	Evaluate the operational reliability of mainline transport systems and field production units based on testing results, dehydration processes, and pipeline technical diagnostics

5 Learning outcomes of the educational program and modules

Key competence	Learning Outcomes (LO) for the educational program	Name of module	Learning outcomes for the module	Name of disciplines that form learning outcomes
Behavioral skills and personality traits (Softskills)	LO1 Conduct methodological analysis of research in the industrial sphere of technologies based on the history and philosophy of science when preparing scientific reports and publications	Modern problems of science and education	Applies philosophical knowledge to planning tasks of professional and personal development, the basis of a holistic systemic worldview using knowledge in the field of history and philosophy of science.	History and philosophy of science
	LO2 Use a foreign language in oral and written forms for interpersonal and intercultural interaction in professional activity		Demonstrates the ability to communicate orally and in writing in a foreign language to solve problems of interpersonal and intercultural interaction.	
	LO3 Organize theoretical and practical training for future specialists of the oil and gas industry based on modern pedagogical methods and psychological-managerial technologies		Demonstrates the ability to apply knowledge of psychology for the purposes of self-knowledge, solves psychological problems in management systems; Demonstrates the ability to apply the methodological foundations of higher education pedagogy, conduct scientific research and use professional knowledge for the socialization of young students.	
Digital competencies (Digital skills)	LO4 Apply automation and modeling methods alongside AI technologies to control technological processes and operate smart oil and gas equipment	Digitalization, technology and management of oil and gas production processes	Has skills in analyzing technological processes as objects of management. Has knowledge of the principles of functioning of automatic control systems in the development and operation of oil and gas fields.	Modern systems of digitalization and automation of processes in the oil and gas industry
		Main pipelines	Understands the basics of modeling work processes,	Modeling of work

			demonstrates knowledge of methods for calculating gas supply systems of enterprises	processes in the objects of diagnostics
	LO5 Evaluate the technological efficiency and suitability of special oil and gas production fluids based on the results of physicochemical research and digital processing of experimental data	Basic operation and maintenance oil and gas production facilities	Applies knowledge about modern problems of preparing special solutions for oil and gas production, analyzes their composition, properties and technological features of preparation, and also evaluates the effect of solutions on the efficiency of oil and gas production processes. Characterizes chemical processes and technologies in the oil field, applies knowledge about the basics of operation and maintenance of oil and gas production facilities, and analyzes the influence of chemical reagents and technological factors on the efficiency of oil production. reagents for various purposes. Applies methods of experiment planning and experimental data processing in the oil and gas industry, analyzes research results and evaluates their reliability to improve the efficiency of operation and maintenance of oil and gas production facilities.	Modern problems of preparation of special solutions for oil and gas production Chemistry and technology of oil field Methods of planning and processing experimental data in the oil and gas industry
	LO6 Modernize technological complexes for the transportation, storage, and processing of oil and gas based on resource-saving principles and the analysis of the physicochemical properties of raw materials	Basic operation and maintenance oil and gas production facilities Processes in the oil and gas industry	Understands the basics of resource-saving technologies for natural gas transportation and modern oil refining technologies, demonstrates knowledge of the principles of operation and maintenance of oil and gas industry facilities, methods for improving energy efficiency and rational use of natural resources, technological processes for the preparation, transportation and processing of hydrocarbon raw materials. Demonstrates knowledge of the basics of modern physico-chemical research methods and technologies for the production of fuels from oil and gas, the laws of	Resource-saving technologies for natural gas transportation Modern oil refining technologies Modern methods of physical and chemical research

			physico-chemical processes, methods for analyzing the properties of hydrocarbon raw materials and the principles of producing motor fuels.	Modern technologies for the production of fuels from oil and gas
	LO7 Develop measures aimed at improving the efficiency of hydrocarbon production through the implementation of environmentally safe drilling and the application of enhanced oil recovery technologies	Digitalization, technology and management of oil and gas production processes Main pipelines and oil and gas storage facilities	Applies knowledge about modern approaches to the organization and management of oil and gas production processes, principles of digitalization of production processes and methods of increasing the efficiency of operation of oil and gas facilities. Characterizes the technologies of natural gas purification from mechanical impurities, the principles of gas preparation for transportation, the design and operation features of main pipelines and oil and gas storage facilities. It applies modern approaches to digitalization of the processes of prospecting, exploration and development of unconventional hydrocarbons, field developments to management methods, as well as technologies to increase the efficiency of the development of hard-to-recover oil and gas reserves. Uses diagnostic methods and tools for compressor stations, the linear part of main gas pipelines and oil and gas storage facilities, as well as technologies for monitoring the technical condition and improving the reliability of the main pipeline infrastructure.	Actual problems of organization and management of oil and gas production processes Purification of gases from mechanical impurities Unconventional hydrocarbons: prospecting, exploration and development Methods and tools for diagnostics of compressor stations and the linear part of main gas pipelines Oil and gas storage
	LO8 Optimize production processes for the exploration, production, and transportation of hydrocarbons, including unconventional resources, based on the integration of geological and production data and innovative management systems	Digitalization, technology and management of oil and gas production processes Main pipelines and oil and gas storage facilities		

	LO9 Evaluate the operational reliability of mainline transport systems and field production units based on testing results, dehydration processes, and pipeline technical diagnostics	Digitalization, technology and management of oil and gas production processes Main pipelines and oil and gas storage facilities	Characterizes the design, principles of operation, and operational features of technological equipment and oil and gas production units, and applies the basics of digitalization to improve the efficiency of their operation and process management. Performs testing and drying of gas pipelines, as well as analyzes the principles of design, operation and reliability of main and technological gas and oil pipelines, ensuring compliance with industrial and technological safety requirements.	Technological equipment and units for oil and gas production Testing and drying of gas pipelines Trunk and technological gas and oil pipelines
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6 The relationship between the attainability of the formed learning outcomes according to the educational program and academic disciplines

№	Name of the discipline	Brief description of the discipline	Numb er of credits	Formed learning outcomes (codes)								
				LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9
Cycle of basic disciplines												
University Component/Elective Component												
1	Foreign language (professional)	The discipline is aimed at developing academic interaction and scientific writing skills. While studying the subject, the master's student systematizes foreign information in their field of expertise and conducts professional activities in a foreign language. This enables the effective presentation of original research results in an international environment, the preparation of articles for high-ranking journals, and the delivery of lectures on specialized subjects, thereby enhancing the overall competitiveness of the future researcher.	4		+							
2	History and philosophy of science	The discipline aims to cultivate a culture of scientific thinking and develop methodological analysis skills. The learning process focuses on a profound understanding of the specifics of cognition, ensuring the high-quality completion of the master's thesis and the achievement of a high level of academic integrity in preparing scientific publications. Throughout the course, the master's student analyzes the theoretical problems of modern science and substantiates the methodological framework of their own scientific research.	4	+								
3	Higher school pedagogy	The discipline is aimed at developing the pedagogical competence of master's students, mastering teaching methods and techniques, and implementing modern educational technologies. The program prepares students for professional and research activities in an academic environment. During the course, master's students master	4			+						

			discussion". Strategic methods "INSERT"
LO 6	Modernize technological complexes for the transportation, storage, and processing of oil and gas based on resource-saving principles and the analysis of the physicochemical properties of raw materials	Colloquium. Workbook, Creative task, essay	Interactive lectures. training and. discussions. Group work, game methods. Situational games, circle of time, philosophy of children. Rainbow groups. Paired speech, listening trio, Jigsaw method, spectrum of values, distance.
LO7	Develop measures aimed at improving the efficiency of hydrocarbon production through the implementation of environmentally safe drilling and the application of enhanced oil recovery technologies	Simulator, case task, creative assignment	Brainstorming. SWOT analysis. Case study. Controversy, dispute, debate
LO 8	Optimize production processes for the exploration, production, and transportation of hydrocarbons, including unconventional resources, based on the integration of geological and production data and innovative management systems	Abstract. Problem solving. Presentation, survey, colloquium, test assignments, research work. Creative work	Interactive lectures. Trainings. Discussions. Role-playing games, Situational games. Venn diagram, association method, cluster, dialogue learning, group work, brainstorming, video, project method
LO 9	Evaluate the operational reliability of mainline transport systems and field production units based on testing results, dehydration processes, and pipeline technical diagnostics	Project defense. Abstract. Problem solving, presentation. Survey, colloquium, test assignments. Submission of calculation and graphic work, research work. Creative work, independent work	Interactive practical lesson (problem topics, business and role-playing games, case studies (analysis of specific circumstances), brainstorming. "Questions-answers-discussion". Strategic methods "INSERT", "Bingo"

8 Correlation of learning outcomes of the educational program with the labor functions of professional standards (if any)

Name of used professional standards	Professions by level 7	Job functions	Tasks	Learning Outcomes by LO
«Oil transportation management № 437 dated 18.11.2025 y.	Head of the Department (Mining industry)	Ensuring efficient, sustainable and uninterrupted operation of the oil and gas management	Organization of production and economic activities of the oil and gas production department	LO4. Apply automation and modeling methods alongside AI technologies to control technological processes and operate smart oil and gas equipment LO7. Develop measures aimed at improving the efficiency of hydrocarbon production through the implementation of environmentally safe drilling and the application of enhanced oil recovery technologies
Requirements for personal competencies		Independence and responsibility Ability to make quick decisions The ability to work in a team, Analytical thinking, the ability to learn and self-study Leadership Communication skills Confidence in their decisions Responsibility for the result Demanding		
«Oil and gas production technology» № 479 dated 23.12.2024 y.	Director of Oil Transportation	Ensuring the organization of oil transportation through other pipeline systems and/or other modes of transport	Negotiating with partners on oil transportation issues	LO4 Uses methods and techniques for automating process control in the oil and gas industry, artificial intelligence technologies for their implementation, applying skills in working on process equipment equipped with automated and intelligent production process control systems LO6 Uses effective technologies for bottom-hole zone treatment, maintaining reservoir pressure to increase hydrocarbon production, surveying and deciphering well performance characteristics to increase gas and oil pipeline capacity LO8 Ensures efficient, stable and uninterrupted operation of the oil and gas production site, organizing the production and economic activities of the oil and gas production site with the interaction of all structural divisions, workshops and production units LO9 Participates in the development of structures of production and technological, service and operational, and installation and adjustment units for oil and gas production, using the skills of collecting and systematizing data on technical supervision of the operation of drilling equipment in professional activities LO9 Participates in the development of structures of production and

			implementation of alternative oil transportation routes, including the use of other pipelines and other modes of transport	technological, service and operational, and installation and adjustment units for oil and gas production, using the skills of collecting and systematizing data on technical supervision of the operation of drilling equipment in professional activities
Requirements for personal competencies	Teacher, assistant in the field of education, UPHE	Training	Leadership qualities Systematic and analytical thinking Stress resistance, responsibility Independent solution of professional problems using theoretical and practical knowledge Rational organization of work	
			Ensuring the required level of academic competencies of students	LO2 Participates in oral and written communications in a foreign language to solve problems of interpersonal and intercultural interaction in professional activities
			Ensuring the required level of professional competencies of students	LO3 Applies knowledge of psychology and methodological foundations of higher school pedagogy in planning professional and personal development, training and socialization of students
		Conducting Scientific Research	Ensuring the integration of science, higher education and the labour market	LO1 Conducts research in the industrial field of technology based on a holistic systematic scientific worldview using knowledge of the history and philosophy of science LO5 Selects and applies chemical reagents for the preparation of drilling fluids and flushing fluids during the production and transportation of crude oil, develops organizational and technical documentation on quality management, as well as analyzes experimental data, and processes technological processes in the oil and gas industry
			Developing the required level of research skills in students	LO4 Uses methods and techniques for automating process control in the oil and gas industry, artificial intelligence technologies for their implementation, applying skills in working on process equipment equipped with automated and intelligent production process control systems

Requirements for personal competencies			LO9 Participates in the development of structures of production and technological, service and operational, and installation and adjustment units for oil and gas production, using the skills of collecting and systematizing data on technical supervision of the operation of drilling equipment in professional activities	LO1 Conducts research in the industrial field of technology based on a holistic systematic scientific worldview using knowledge of the history and philosophy of science LO3 Applies knowledge of psychology and methodological foundations of higher school pedagogy in planning professional and personal development, training and socialization of students
	Socialization of studying youth	Promoting Social Values in the Student Environment		PO2 Participates in oral and written communications in a foreign language to solve problems of interpersonal and intercultural interaction in professional activities RO5 Possesses the skills of conceptual, logical and analytical thinking, applying modern scientific methods and means of cognition for intellectual improvement and cultural development, enhancing professional competence
		Introducing students to the values of the chosen profession		
		Friendliness, sociability, empathy, stress resistance, emotional balance, professional and social responsibility, ability to develop teaching and research skills		

9. Graduate model

GRADUATE MODEL			
Professional standard: p "Oil and gas production management" and "Atlas of new professions and competencies of Kazakhstan" professions "Engineer-designer for the creation of digital twins of deposits" and "Regional Atlas of Aktope region" "Engineer for drilling using environmentally friendly technologies"	Competencies (Soft skills, digital skills)		
	Attributes of a graduate	Knowledge	Skills
	1. Organizes and coordinates the work of the oil and gas production site; 2. Ensures efficient, stable and uninterrupted operation of the oil and gas production site; 3. Manages the oil and gas production site.	1. Environmental Code of the Republic of Kazakhstan, The Labor Code of the Republic of Kazakhstan, the Code of the Republic of Kazakhstan "On Subsoil and Subsoil Use"; 2. The Law of the Republic of Kazakhstan "On Civil Protection"; Other regulatory legal acts of the Republic Kazakhstan, regulating the development of the fuel and energy complex, including the oil and gas industry, methodological, regulatory and other guidance materials on the trouble-free and safe operation of equipment and facilities; 3. Prospects for the technical and economic development of the industry; 4. Management methods, technology and organization productions;	1. To ensure the formation and justification of the need for inventory, equipment, and devices at the oil and gas production site; 2. Address issues related to the rational use of production reserves and the economical use of all types of resources, while complying with the requirements of environmental protection legislation; 3. Organize the planning of repair and construction works, their deadlines.
	Professional skills (hard skills)		
	1. Take measures for the development of the oil and gas production site and the commissioning of oil and gas production equipment, pipelines and other facilities; 2. To ensure the uninterrupted operation of the oil and gas production site during the autumn-winter and spring-flood periods; 3. Provide the necessary information on the performance of technological installations to the production optimization manager; 4. To check the registration logs of the site operators and inform the supervisor of the site (production operations) of the day shift about any deviations; 5. Ensure accurate and safe sampling of process fluids in order to monitor plant performance; 6. To lead and provide the necessary requested information in the preparation of the technical justification process necessary for obtaining subsequent regulatory environmental permits, including forecasting levels and annual emissions;		

	7. Coordinate actions in the preparation of recommendations in order to eliminate defects and ensure the operation of technological facilities in accordance with the existing legislation of the Republic of Kazakhstan and modern mining standards		
Professional standard: "Oil Transportation Management"	Competencies (Soft skills, digital skills)		
	Attributes of a graduate	Knowledge	Skills
	1. Provides transportation services for the following functions: oil through its own system of trunk oil pipelines; 2. Ensures the organization of oil transportation through other pipeline systems and/or other modes of transport	1. "Laws of the Republic of Kazakhstan "On the main pipeline", "On Natural Monopolies", "On Joint-stock Companies", "On the National Welfare Fund"; 2. The Environmental Code of the Republic of Kazakhstan; 3. Other regulatory legal acts of the Republic Kazakhstan, regulating relevant issues; 4. The internal labor regulations, standards for industrial safety and labor protection, environmental protection, industrial sanitation, fire safety requirements, means of collective and individual protection from exposure to dangerous and harmful industrial and natural factors and other	1. Organize the implementation of approved documents; 2. Coordinate work, provide leadership and make decisions on all the most important issues of the unit's activities; 3. To lead the preparation of draft documents on issues related to the competence of the department.
	Professional skills (hard skills)		
	1. Participate in the development of new services and activities; 2. Directly work, organize, negotiate and meet with the most important clients and partners of the organization; 3. To organize the interaction of the organization's departments, within the framework of the assigned tasks.		

"Teacher (teaching staff) of higher and (or) postgraduate education organizations"	Competencies (Soft skills, digital skills)		
	Attributes of a graduate	Knowledge	Skills
	1. Establishes feedback with undergraduate students using digital technologies; 2. Conducts scientific research; 3. Carries out scientific and methodological work.	1. The basic requirements for planning and organizing the educational and scientific process in the OVPO; 2. The content of the subjects taught, the principles of student-centered learning and assessment.	1. To organize and conduct training sessions (except lectures), taking into account the principles of student-centered learning and assessment; 2. To develop educational and methodological materials on the subjects taught, taking into account the integration of education, science and innovation; 3. Establish feedback with students bachelor's degree program using digital technologies.
	Professional skills (hard skills)		
	1. To participate in the implementation of research and development/creative projects; 2. To increase scientific effectiveness and publication activity; 3. Work with national and international databases.		

[illegible]

EXPERT OPINION
on the Educational Program
"7M07253 – Oil and Gas Business" for 2026-2028
Kazakh University of Technology and Business named after K. Kulazhanov

The educational program and the catalog of elective courses have been developed in accordance with the requirements of the State Compulsory Standard for Higher and Postgraduate Education, approved by Order No. 2 of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022, as well as based on the following professional standards: "Oil Production Technology" and "Operation of Oil and Gas Wells."

The duration of the master's degree program in the specialty 7M07253 – "Oil and Gas Engineering" – is 2 years. The objective of the educational program is to train highly qualified specialists capable of designing, organizing, and managing production processes in the oil and gas industry; effectively solving engineering, technical, and analytical problems; and implementing innovative and sustainable technologies in the context of the industry's current challenges and the global energy transition.

The program is designed to train specialists capable of solving engineering, technological, and managerial problems in the fields of hydrocarbon production, transportation, processing, and storage, as well as conducting research within the framework of national and international projects. The educational process includes fundamental and applied disciplines aimed at developing professional competencies in the areas of drilling, well operation, industrial safety, sustainable development, and the digitalization of production. This ensures that the program's content meets the current demands of the labor market.

A distinctive feature of the program is the integration of theory with practice: master's students learn through real-world case studies, complete project assignments, and participate in internships at industry-specific companies. The catalog of elective courses offers extensive opportunities to tailor an individual educational path based on students' interests and the needs of the industry.

The program contributes to the training of qualified specialists who possess high professional mobility, digital skills, and a responsible attitude toward environmental issues and sustainable development. Given the relevance of its content, its practice-oriented approach, and its alignment with labor market requirements, the educational program is recommended for implementation.

Expert:

Engineer at the "Schlumberger
Lodzelko Inc." branch in the Republic
of Kazakhstan,
Ph.D. in Oil and Gas Engineering



M.K. Karimova

EXPERT OPINION

on the Educational Program "7M07253 – Oil and Gas Business" for 2026-2028

The educational program and catalog of elective courses are developed in accordance with the requirements of the State Compulsory Standard for Higher and Postgraduate Education, approved by Order No. 2 of the Minister of Science and Higher Education of the Republic of Kazakhstan dated July 20, 2022, and are based on the professional standards "Oil and Gas Production Technology" and "Oil and Gas Well Operation."

The master's program in specialty 7M07253 - "Oil and Gas Engineering" takes two years to complete. The program aims to train highly qualified specialists capable of designing, organizing, and managing processes in the exploration, production, processing, and transportation of hydrocarbon raw materials, as well as solving complex engineering, scientific, and management problems in the oil and gas sector in accordance with modern international standards.

The program includes the study of fundamental and applied disciplines, including drilling technologies, oil and gas well operation, oil and gas transportation, sustainable development, industrial safety, and the digitalization of production processes. The emphasis is on integrating theoretical knowledge with real-world engineering challenges, achieved through the inclusion of practical modules and interaction with manufacturing companies.

Training specialists capable of generating scientific ideas and managing high-tech projects contributes to enhancing national energy security, increasing export potential, and implementing state policies in industrialization and environmental sustainability.

The catalog of elective courses allows students to choose an individual development path within their professional profile. Particular attention is paid to developing environmental responsibility, digital literacy, and an interdisciplinary approach to solving professional problems.

This educational program is recommended for implementation as it is relevant and in demand in the labor market and is aimed at training professionals capable of working effectively in the modern technological and environmental requirements of the oil and gas industry.

Expert:

Head of the Chemical Products
Development Directorate
of JSC "Kazakhstan Industry and
Export Center "QazIndustry"



Zhatkanbaev E.E.