

Ministry of Science and Higher Education of the Republic of Kazakhstan
Kerkyt Ata Kyzylorda University



A long-term plan for the development of the educational program 7M07155 Electric power industry
(Renewable energy) for 2023-2027

Kyzylorda, 2023

Approved at the meeting of the Academic Council of Quality in the field of engineering and technology

Protocol № 5 «17» 01 2023г.

Chairman [Signature] Abzhalelov B.B.

Considered at the meeting of the OP "Electric Power Industry, technosphere safety and ecology"

Protocol № 5 «14» 01 2023г.

Head of the educational program [Signature] Г.К.Сыдыкова

The basis for the development of the curriculum of the educational program: The Strategic Development Plan of the Korkyt Ata Kyzylorda University for 2023-2027.

1. Passport of the long-term plan of the educational program for
2023/2027

1	The basis for the development of an educational program development plan	The improvement and effective implementation of educational programs of the OP is the basis for the development of a plan for the development of the educational program "Electric Power Industry" (Renewable energy). The strategy and tactics of the educational program development plan have been developed in accordance with the educational policy of the Republic of Kazakhstan, the main purpose of which is to train highly qualified personnel who meet the needs of the state and interested parties.
2	Developers of the educational program development plan	Head of the OP "Electric Power Industry, Technosphere safety and Ecology" Associate Professor, Candidate of Technical Sciences G.K. Sydykova, production specialists
3	Deadlines for the implementation of the OP development plan	2023-2027
4	The amount and types of financing	Attracted budget funds
5	Expected final results in the implementation of the development plan of the OP	Availability of effective author's developments (programs, textbooks, methodological) and activities for their dissemination; Effective implementation of educational programs that ensure the continuous education of undergraduates: <ul style="list-style-type: none"> - Master's degree-doctoral studies; - implementation of academic mobility of students; - high-quality higher education; - In large industrial organizations, agricultural enterprises, national research institutions, obtaining practical experience, including practical training and dual training in centers and scientific laboratories.

2. Analytical justification of the OP

2.1 Characteristics of the educational program

Цель образовательной программы	providing basic training in design and research services, providing basic training in service and operational services at electric power facilities, highly qualified specialists with deep scientific and pedagogical knowledge, able to formulate and solve scientific and scientific-practical tasks involved in the production and distribution of electricity training specialists
The map of the direction of training according to the educational program	
Code and type of industry OP	07 - Engineering, processing and construction industries
Classification code and areas of study	071 - Engineering and Engineering
Name of the educational program	7M07155- Electric power industry (Renewable energy)
Characteristics of the graduate's qualifications	
Master's degree received	Master of Technical Sciences in OP 7M07155-Electric Power Industry (Renewable energy)
Professional direction	The field of professional activity, which includes the field of science and technology, including a set of technologies, means, methods and methods of human activity aimed at creating conditions for the production, transmission, distribution and consumption of electric energy in accordance with a group of educational programs. As well as organizations of higher and postgraduate education, research and design organizations.
Objects of professional activity of the graduate	<ul style="list-style-type: none"> • Power stations and substations • Electrical networks and systems • Power supply of urban systems, industrial enterprises and agricultural complexes • Organization of design and scientific research in the energy sector • Institutes of design and scientific research of electric power facilities • Electrical engineering laboratories, measurement complexes • Relay protection and automation of electric power systems • Complexes and power plants based on • power plants, power plants and complexes based on renewable energy sources • power supply systems, cities, industrial enterprises, agriculture • electrical engineering laboratories, measuring complexes

Types of professional activity	<ul style="list-style-type: none">• design and technological• Design and survey;• calculation and design;• Organizational and managerial• production and technological;• design and technological; * organizational and managerial.• Repair and maintenance;• Education;• Organizational and managerial;• innovative,• calculation and design;• pedagogical.
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3. The main objectives of the program are: educational programs are developed in accordance with the National Qualifications Framework, the European Qualifications Framework, are coordinated and discussed with representatives of industrial and scientific centers. Educational programs are developed on the basis of a modular system of study of disciplines, theoretical training in the amount of 120 credits for a master's degree.

№	Name of responsibilities	Development period	The period of development
1	Creating conditions for obtaining a full-fledged, high-quality professional education	The entire period of study	Providing educational services for the development of professional skills
2	Formation of the main professional competencies of future specialists in the electric power industry	The entire period of study	Obtaining professional competencies in the field of energy
3	Creating prerequisites for independent search and research activities of the student at all stages of the experiment	The entire period of study	Conducting exploratory research and experimental work at various enterprises where contracts have been concluded
4	The ability to work with scientific and technical information, use domestic and foreign experience in professional activities, systematize and summarize the information received	The entire period of study	Analysis and processing of the obtained results in the conditions of OP
5	Advice from employers and Research Institute scientists in choosing relevant and practically significant topics for master's theses	Completion of Master's degree and start of doctoral studies	Recommendations from employers, interested parties and consultations of the heads of master's theses.

4. Measures to reduce the impact of threats to OP: the following measures are used in the implementation of educational programs to reduce risks:

№ р/н	Name of possible risks	Measures to eliminate them
1	Insufficient provision of new educational and methodological literature in professional disciplines	The annual publication of scientific and educational literature by scientists and the teaching staff of the pre-school in accordance with the working curriculum of students and the planning of obtaining
2	The traditional way of conducting classes	Introduction and improvement of innovative learning technologies in the educational process
3	Outdated classrooms and laboratories	Creation of a modern specialized audience and a research laboratory
4	Rejuvenation of teaching and scientific staff	Training of highly qualified scientific personnel through master's and doctoral studies (PhD) at the level of modern requirements
5	Low academic mobility of teaching staff	English language training and job offers for teaching staff who speak English.

4. List of activities of the OP development plan:

№	Events	Due date	Responsible persons	Expected results	Provision of resources
1	Updating the content of the OP, taking into account current trends and requirements of the authorized body, the educational services market and the real sector of industry and the national economy in the training of specialists at various levels	2023-2027	Sydykova G.K. Taimanov S.T. Baymakhanova Z.A. Makhambaeva I.U.	Updating the content of individual disciplines and the general curriculum	Materials of meetings with representatives of professional organizations and associations
2	Improving the processes of evaluating learning outcomes and access to them	2023-2027	Sydykova G.K. Taimanov S.T. Baymakhanova Z.A. Makhambaeva I.U.	Criteria and evaluation of the achievement of learning outcomes	Approved by Order No. 152 of the Ministry of Education and Science of the Republic of Kazakhstan dated April 20, 2011. Rules for the organization of the educational process according to the credit technology of education. In the Ministry of Justice of the Republic of Kazakhstan, 2011 was registered on May 27, 2011 No. 6976. The quality management system is the standard of the organization. Knowledge control and final certification

3	Development of new educational and methodological literature for the Master's degree in the state, Russian and English languages	2023-2027	The teaching staff of the educational program	Published educational and methodical literature	Quality management system Regulation on the verification of written works for borrowing
4	Development of distance learning technologies on various platforms	2023-2027	The teaching staff of the educational program	Electronic courses in the disciplines of the department	MOODLE electronic platform
5	Attracting domestic and foreign scientists, representatives of production to conduct classes, master classes, as well as to develop curricula, catalogs of elective disciplines, educational programs	2023-2027	The teaching staff of the educational program	Open lectures and master classes. Updated content of curricula, catalogs of elective subjects.	Materials of meetings with representatives of professional organizations and associations
6	Cooperation with leading foreign and domestic manufacturing enterprises, scientific and design organizations in order to develop the competencies of students, the organization of the educational process with elements of dual training	2023-2027	Sydykova G.K. Taimanov S.T. Baymakhanova Z.A. Makhambaeva I.U.	Internship agreement, elements of dual training	The procedure for organizing and conducting the preparation of methodological guidelines for practice for undergraduates

7	Advanced training, retraining, obtaining scientific (academic) degrees and titles of teaching staff through the protection of qualification works in scientific and design organizations, educational institutions, the real sector of industry and the national economy on the basis of full-time and distance learning	2023-2027	The teaching staff of the educational program	New knowledge and skills of teaching staff for use in scientific and educational activities	Advanced training courses, retraining courses, competitions, grants, master's and doctoral studies
8	An increase in the proportion of teaching staff who speak English	2023-2027	The teaching staff of the educational program	Development of the UMK in English, distribution of multilingual groups	English language Courses
9	Creating a research and creative environment for a qualitative increase in the publication activity of undergraduates, doctoral students and teachers in rating domestic and foreign publications indexed by KINC, RSCI, Web of Science, Scopus	2023-2027	The teaching staff of the educational program	Articles in Web of Science or Scopus journals with a quartile of 35 and above	Conferences, forums, contests and grants

10	Academic mobility and internships of students, undergraduates, doctoral students and teachers in leading scientific, educational and industrial organizations	2023-2027	The teaching staff of the educational program, students	For a period of at least 2 weeks of internship	Mobile programs
11	Participation of undergraduates, doctoral students and teachers in scientific, educational and creative competitions at the national and international levels	2023-2027	The teaching staff of the educational program, students	Prizes at international, national and city events	Conferences, forums, contests and grants
12	Equipping educational and scientific laboratories with modern equipment, accreditation and licensing of centers, laboratories	2023-2027	The teaching staff of the educational program	Equipped laboratories and centers	Sponsorship, grants and contracts

Head of the OP "Electric Power Industry, Technosphere safety and Ecology"



G.K.Sydykova