

ACCREDITATION, CERTIFICATION AND  
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ACQUIN

AWARDS THE SEAL OF APPROVAL



FOR THE VOCATIONAL EDUCATION PROGRAMME

**07130200 - "POWER SUPPLY" (BY INDUSTRY)**

**- 3W07130201 "SWITCHGEAR ELECTRICIAN" AND**

**4S07130202 "TECHNICIAN-ELECTRICIAN" -**

*AT THE ELECTROTECHNICAL COLLEGE, SEMEY, REPUBLIC OF KAZAKHSTAN*

**THE ACCREDITATION IS VALID UNTIL SEPTEMBER 30<sup>TH</sup>, 2027.**

*BAYREUTH, 27 SEPTEMBER 2021*

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PROF. DR. SEBASTIAN KEMPGEN  
CHAIRMAN OF THE BOARD

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ИНСТИТУТ АККРЕДИТАЦИИ, СЕРТИФИКАЦИИ  
И  
ОБЕСПЕЧЕНИЯ КАЧЕСТВА

ACQUIN

ПРИСУЖДАЕТ СЕРТИФИКАТ КАЧЕСТВА



ПО СПЕЦИАЛЬНОСТИ

**07130200 – «ЭЛЕКТРОСНАБЖЕНИЕ (ПО ОТРАСЛЯМ)»**

**- 3W07130201 «ЭЛЕКТРОМОНТАЖНИК (ПО ОТРАСЛЯМ)» И**

**4S07130202 «ТЕХНИК-ЭЛЕКТРИК»-**

**ЭЛЕКТРОТЕХНИЧЕСКИЙ КОЛЛЕДЖ  
Г. СЕМЕЙ**

АККРЕДИТАЦИЯ ДЕЙСТВИТЕЛЬНА ДО 30 СЕНТЯБРЯ 2027 Г.

г. Байройт, 27 сентября 2021 г.

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ПРОФЕССОР, ДР. СЕБАСТЬЯН КЕМПГЕН  
ПРЕДСЕДАТЕЛЬ АККРЕДИТАЦИОННОЙ КОМИССИИ

## Accreditation Report

**Electrotechnical College**

**Semey, Republic of Kazakhstan**

**07130200 „Power Supply“ (by industry) with Qualifications 3W07130201 “Switchgear Electrician” and 4S07130202 “Technician-Electrician”**

### **I Procedure**

**Date of contract:** 10 December 2020

**Date of the submission of self-assessment report:** 15 March 2021

**Date of online visit:** 26.-27. May 2021

**Attendance by ACQUIN office:** Dr. Lyazzat Nugumanova

**Accreditation decision:** 27 September 2021

#### **Peer review experts:**

- **Dr. Thomas Beier**, State Technical School Berlin, Head of Electrical Engineering Department Measurement Data Processing, Control Engineering, Control and Process Engineering, Automation Systems, Power Engineering
- **Prof. Dr. Thomas Köhler**, Technical University Dresden, Education Sciences Department / Institute for Vocational Education and Didactics / Educational Technology, Chair Media Centre / Director
- **Dr. Gudrun Baumgartner**, University of Applied Sciences Karlsruhe, Precision Engineering (Diplom), Student of Economics for Engineers and Natural Scientists (M.Sc.) at FernUniversität in Hagen
- **Kurmanali Zhuldyz**, Almaty College, Department Energy equipment, electrical stations and networks, energy supply
- **Baurzhan Smagulov**, Director Abai branch of Easter-Kazakhstan Regional Energy Company”

The **Assessment Report** of the peer-review experts is **based on** the self-assessment report of the educational organisation and extensive discussions with the educational organisation

management, deans and/or heads of the departments, heads of study programme, lecturers, staff representatives, students, and alumni.

The basis of the **Assessment Criteria** is part 1 of the “Standards and Guidelines for Quality Assurance in the European Higher Education Area” (ESG) in the current official version. The ESG standards are supplemented with additional indicators such as the European Quality Assurance Framework in Vocational Education and Training (EQAVET) Indicators. At the same time the national context, particularly the national regulations regarding the establishment of study programmes, are taken into account.

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## **II Introduction**

The experts would like to thank the representatives of the college as well as students that they have taken part in the discussions and willingly shared information and their views during the site visit. The discussions are valuable not only for the assessment of the institution, but also for a better understanding of the legal and sociocultural context of the local higher education system.

Evaluation basis for the peer-review experts is the self-assessment report of the educational organisation as well as intensive discussions during the site visit with the management, heads of the departments, head of the study programme, study programme coordinators, teachers, lecturers, administrative staff, students, and graduates.

Main objective of the accreditation procedure is to assess the quality of the study programmes and compliance with the "Standards and Guidelines for Quality Assurance in the European Higher Education Area" (ESG). The ESG standards are applied as main assessment criteria in the international accreditation procedure. The ESG standards are complemented by indicators for vocational education programmes (European Quality Assurance Framework in Vocational Education and Training (EQAVET) Indicators). In addition, the respective country-specific criteria and standards are taken into account.

A group of experts was set up, which ensured that all areas relevant to the accreditation procedure (e.g. legal, structural, social etc. aspects) as well as the ESG, the EQAVET indicators and national criteria were considered. The peer-review experts include professors, representatives of the professional practice and the student representative. A certificate with the ACQUIN seal is awarded upon accreditation of the study programme.

### **1 Short profile of educational organisation**

Municipal state-owned public enterprise (MSOPE) Electrotechnical College provides vocational education and training. The college is located in the city of Semey, East Kazakhstan Region. It prepares graduates in 13 majors in following profiles: power and electric power industry, transportation (by industry), network, telecommunication, information technologies and electronic engineering, construction and communal economy, metallurgy and mechanical engineering, manufacturing, installation, exploitation, and repair (by industry), exploitation of transportation and service and economics and management.

The college has four departments: industrial-technological, electromechanical, transportation-energetic and resource center. The college has 1060 students, 102 teachers and 6 persons as an administrative staff.

Electrotechnical College within the framework of the project of the Ministry of Education and Science of the Republic of Kazakhstan (RK) "Modernization of technical and vocational education" financed by the World Bank for Reconstruction and Development in 2012 took part in the first stage of the project and received a grant for the development of the educational program 07130200 "Power supply (by industry)". The choice was driven by the relevance and demand for this specialty in the region. East Kazakhstan is an industrially developed region, where three of the largest hydroelectric power plants of the country are located, many industrial enterprises operate, as well as it has a well-developed railway connection, which requires uninterrupted power supply.

## **2 General information on the study programme**

The training of specialists in the study programme 07130200 "Power Supply (by industry)" is carried out according to the qualifications 3W07130201 "Technician-Electrician" and 4S07130202 "Switchgear Electrician".

The duration of study programme is 6 semesters for graduates of 11 classes and 8 semesters for graduates of 9 classes of secondary education.



### III Implementation and assessment of the criteria

#### 1 ESG Standard 1.1: Policy for quality assurance

**Institutions should have a policy for quality assurance that is made public and forms part of their strategic management. Internal stakeholders should develop and implement this policy through appropriate structures and processes, while involving external stakeholders.**

##### 1.1 Implementation

Educational, training and manufacturing and scientific-methodical work is done on the basis of the following planning documentation:

- Perspective plan of development of MSOPE Electrotechnical College
- Strategic plan of development of MSOPE Electrotechnical College
- Annual plan of work of MSOPE Electrotechnical College, including major directions of the college`s work: educational work, training-manufacturing work, educational and methodical work, educational work, information technologies, vocation-oriented work, intercollegiate control of the educational process
- Plan of the intercollegiate control
- Plan of development of the educational programs, as well as the educational programme of “Power Supply (by industry)”

The activities of Electrotechnical College are oriented towards implementation of the mission and vision of the college and quality policy.

Development plan specifically for the study programme “Power Supply (by industry) is available on the college website as well as in the booklets for applicants, career guidance materials and videos.

In the field of quality, the college sets among others the following goals: building general and professional competency for successful socializing of the college graduates; satisfactory of the requirements of all categories of the students, staff members, employers, interested social partners, the government and the whole society; formation of a specialist with functional literacy, creative thinking, skills in management and self-development, socially significant personality traits; professional and social development of the staff; providing safety of educational process etc.

The college has a board of trustees, which includes representatives of social partners, local executive authorities, and the parent community.

## 1.2 Assessment

The college does not have an explicit and separate policy for quality assurance. Nevertheless, quality assurance is integrated into other strategic college documents, which from the point of view of experts is sufficient. The quality assurance policy covers all relevant areas especially learning and teaching. Relevant internal stakeholders such as students, parents and teachers are involved and can provide their opinion. The documents covering quality assurance are available to all interested parties and employees and students of the college are familiar with them. Experts were impressed that the external stakeholders are actively involved in the activities of the college, including ensuring the quality.

The college does not have an explicit concept on gender equality and the promotion of equal opportunities, which is also typical for the country. Nevertheless, the college follows all legal and state requirements regarding gender equality and equal opportunities. Experts got an impression that the teaching staff and students are treated equally and during interviews female students stressed that gender equality issues are considered.

## 1.3 Conclusion

The criterion is **fulfilled**.

## 2 ESG Standard 1.2: Design and approval of programmes

**Institutions should have processes for the design and approval of their programmes. The programmes should be designed so that they meet the objectives set for them, including the intended learning outcomes. The qualification resulting from a programme should be clearly specified and communicated, and refer to the correct level of the national qualifications framework for higher education and, consequently, to the Framework for Qualifications of the European Higher Education Area.**

### 2.1 Implementation

The study programme "Power supply (by industry)" is formed in accordance with the list of specialties approved by the Classifier of specialties and qualifications of technical and vocational education (Appendix 1 to the order of the Minister of Education and Science of the Republic of Kazakhstan (RK) dated December 10, 2019 No. 530) 0713 Electrical and Power Engineering. The content of the programme was developed taking into account the requirements of the State Compulsory Standard for Technical and Vocational Education (Appendix 5 to the order of the Minister of Education and Science of the RK No. 604 dated October 31, 2018), the State Compulsory Standard for General Secondary Education (Appendix 4 to the order of the Minister of Education and Science of the RK dated October 31, 2018 No. 604), standard curricula of technical and vocational education, standard educational to the order of the Minister

of Education and Science of the RK dated September 16, 2019 No. 22 dated January 18, 2021).

The training of specialists in the study programme "Power Supply (by industry)" is carried out according to the qualifications "Technician-Electrician" and "Switchgear Electrician" on the basis of a state order and on a contractual basis. Students can study in full-time and off-campus forms of study and choose between Kazakh or Russian languages.

The duration of study programme is 6 semesters for graduates of 11 classes and 8 semesters for graduates of 9 classes of secondary education.

Graduates of the programme can work as executives of industrial areas and departments, they chair energy services in leading industrial enterprises of the region. The level of employment of graduates of this programme "Power supply (by industry)" is growing steadily, on average, up to 89% over 5 years.

The study programme is oriented towards profound theoretical and practical training of specialists, whose objects of professional activity is power supply networks of industrial enterprises, electrical substations of industrial enterprises with voltage up to 110 KV inclusive, relay protection, instrumentation, electricity metering devices, dispatcher communication and telemechanics.

Upon obtaining the qualification "Switchgear Electrician", graduates are able to conduct the following main types of professional activities: installation of lighting wiring and equipment and installation of switchgear and secondary circuits.

As a result of mastering the qualification "Technician-Electrician" graduates are able to perform the following main types of professional activities: management and organization of the technical operation of electrical equipment, power supply service of industrial enterprises, technological management and maintenance of the process of power supply of industrial enterprises, technical operation and repair of electrical equipment of electrical substations, power transmission lines and distribution networks.

The maximum amount of study load of students, including all types of classrooms and extracurricular work, does not exceed 54 hours per week. The compulsory study load of students is at least 36 hours per week for the period of theoretical training, while the specified volume does not include classes in optional disciplines and consultations.

Students enrolled on the basis of basic secondary education (9 classes) study in the first year a cycle of general education disciplines according to the traditional secondary education system.

The organization of the educational process for students enrolled on the basis of general secondary education (11 classes) consists of studying the cycles of social and humanitarian, general professional and special disciplines using a modular-competence approach.

To obtain qualification “Switchgear Electrician” students take following basic and professional modules in the semesters three to six. Basic modules: Development and elaboration of physical capacities, Application of professional language in the area of professional activity, Composition and forming of business papers in the state language. Professional modules: Manufacturing equipment details, Choice of quantitative and qualitative characteristics of working modes of electrical machines and transformers for manufacturing conditions, Formation of working skills with office user programs in the area of professional activity, Completion of accessorial and rigging works, Installation of switchgear and secondary circuits, Formation of working skills with office user programs in the area of professional activity, Exploitation, repair and adjustment of electrical equipment of electrical networks, Completion of major kinds of works related to qualification of a switchgear electrician.

During the 7th and 8th semesters students study disciplines necessary to obtain a qualification of a mid-level specialist “Technician-Electrician”. Students take following basic modules: Development and elaboration of physical capacities, Application of the foundations of social sciences for socialization and adaptation in society and in team, Application of basic knowledge related to economics in the area of professional activity. Students take following professional modules: Application of technical mechanics fundamentals while exploiting facilities, Maintenance and repair of electrical equipment for power transmission lines of substations and distribution networks, Maintenance of electrical equipment and lighting network of industrial consumers, Power supply, management and control of exploitation of electrical networks and electrical equipments of industrial enterprises, Organization of activities of production unit, Technological (pre-diploma) practice and Diploma project.

The head of the practice, the master of industrial training, and the deputy director for training and manufacturing affairs are directly involved in monitoring the conducting of industrial training and professional practice and tracking the quality of its organization. The head of the practice visits students at the assigned enterprise, keeps an attendance list at the practice and cooperates with those responsible for the practice from the enterprise.

## **2.2 Assessment**

The college's mission statement is to educate qualified professionals who will advance the country in innovation development, be recognized and highly respected internationally. The college aspires to be a leader in the country. The college has a process for designing and approving their study programmes. Study programmes are designed to meet the objectives

set, including the desired learning outcomes. The qualifications to be acquired during the studies are clearly defined and communicated.

Considering the study programme relevant documents, it is visible that Electrotechnical College follows the requirements of the State obligatory standard of technical and professional education, the law of the RK "On education", the State program of development of education of the Republic of Kazakhstan and other acts regulating activity of educational institutions of technical and professional education.

In order to introduce a study programme, the college must submit an application to the relevant state agency of the East Kazakhstan region. The teachers participate in the design of the curriculum in working groups. The requirements of the companies and industry are taken into account in this process. The college cooperates with over 50 companies. The content of the study programme is developed taking into account the requirements of the state's compulsory standard for technical and vocational education. The curriculum needs to be approved by the college management. The application for a state license is made by the administrative staff. A commission, in which various interest groups are represented, makes the final decision on the curriculum. This commission checks on site whether the requirements are met. If they are fulfilled, a state license is awarded.

To obtain the qualification "Switchgear Electrician", students must complete 6 semesters. The training is divided into basic and vocational modules. The basic modules contain e.g. subjects in social and humanitarian fields, general vocational subjects as well as subjects for the development and elaboration of physical and linguistic skills. The vocational modules are comprehensively described by the curriculum and cover the necessary technical competences for this profession. In the case, the student completed full secondary education (11 classes), the duration of study can be shortened to 4 semesters. Further education is possible through a two-semester course of study to become a technician. The professional requirements for training correspond to the German requirements. Graduates should then be able to work as managers. According to the teachers, some graduates are also recruited as new colleagues in the college. There is a shortage of skilled workers in the region, so the training is closely linked to the demands of the companies. According to the teachers involved, over 96% of the graduates get a job immediately after graduation.

The maximum student workload, including all types of school and extracurricular work, is 54 hours per week. The compulsory student workload is at least 36 hours per week for the duration of the theoretical education. This number of hours is lower in Germany. A comparable assessment system for achievements, such as exists in the European Credit Transfer System (ECTS), is to be introduced in the autumn of this year.

During the internship, student gets a supervisor in the company. The students are introduced to the internship by the supervisor and are provided with documentation for familiarization. During the internship, the students are first familiarized with occupational safety and afterwards are introduced to working with electrical equipment. In addition, students get a supervisor from a college. The Head of Placements, the Master of Industrial Training and the Deputy Director of Training and Manufacturing Opportunities are directly involved in supervising the delivery of industrial training and professional practice. The college head of internships visits the students in the assigned companies, keeps an attendance record and cooperates with the persons responsible for the practice at the companies. According to the students, the practical part of the training is about 40% of the total training.

The high practical share and the close cooperation with the industry is particularly positive.

Overall, the college has clear and defined processes for design and approval of their programmes, the responsibilities within the college in this process are clear. The study programme has adequate and realistic objectives, and the curriculum allows meeting the objectives set. The qualifications obtained after graduation are clear and specified.

### 2.3 Conclusion

The criterion is **fulfilled**.

## 3 ESG Standard 1.3: Student-centred learning, teaching, and assessment

**Institutions should ensure that the programmes are delivered in a way that encourages students to take an active role in creating the learning process, and that the assessment of students reflects this approach**

### 3.1 Implementation

An educational and methodological complex is prepared for every subject of the educational program. The complex includes the following structural elements: working curricula on the subject, calendar-thematic plan, educational lesson plan, lecture data, didactic material (tables, schemes, algorithms, flashcards, etc.), data for examination (tests, examinations, quizzes, situational tasks, dictations, flashcards, laboratorial-practical tasks and etc.), methodical recommendations for self-learning, and test booklets on disciplines.

To implement the competence-based approach, the study programme provides the widespread use of active and interactive forms of teaching.

In order to implement the competence-based approach, it is envisaged to use active and interactive forms of conducting classes in the educational process (computer simulations, business and role-playing games, analysis of specific situations, psychological and other trainings,

group discussions) in combination with extracurricular work to form and develop basic and professional competencies students.

The college also organizes additional classes to eliminate possible gaps in students' knowledge. Assessment control includes current control, intermediate certification and final certification.

Based on the Standard Rules for the current monitoring of progress, intermediate and final certification of students in organizations of technical and vocational, post-secondary education (order of the Minister of Education and Science of the RK No. 373 dated 28.08.2020), the following forms are used during the midterm assessment: 1) testing using automated test systems with the ability to limit the time to complete the task; 2) implementation of an individual project (online, offline); 3) performing a practical, creative assignment (online, offline); 4) passing the exam online (oral or written).

### **3.2 Assessment**

The situation of the students is well considered by the teaching staff and by the college's management. Indeed, the dramatic shift in teaching and accessibility of the campus during the time of the Covid-19 pandemic has led to a careful consideration. Overall teaching took place, however by incorporating a more comprehensive share of digital technologies. It seems that this has been widely accepted by the students and by the teaching staff as well. Discussions during the interviews with teachers and students revealed that the atmosphere in the college allows coping with such challenges in a fruitful way.

In the longer run the college could consider a systematic adoption of hybrid formats and a blended design of the teaching, especially as the college seems to be an attractive institution for students not only from the direct region.

The students in the college seem to have a clear idea of their entry into the labour market (which is rather good in Kazakhstan). In that, sense the study programme seems to prepare them in a good way for future careers. A quite positive momentum is that there are several formats of cooperation with industry embedded into the study courses, which lead to a fine competency development along the specific conditions of the labour market. By that, it can be concluded that the students are well trained through methods of situated learning.

The assessment procedures described are of standard quality. There was however a suitable adoption during the period of the pandemic. Still, it is not clear if the college may use this trigger in order to reflect what future formats of a mainly digital process of examination (electronic exams etc.) might be implemented. There is still potential for further development.

Students interviewed during the online visit were very satisfied with the conditions at the college. Experts got an impression that students are actively involved in the learning process.

### 3.3 Conclusion

The criterion is **fulfilled**.

## 4 ESG Standard 1.4: Student admission, progression, recognition, and certification

**Institutions should consistently apply pre-defined and published regulations covering all phases of the student “life cycle”, e.g. student admission, progression, recognition and certification.**

### 4.1 Implementation

The college admits students on the basis of the Model Rules for admission to training in educational organizations that implement professional training programs for technical and vocational education. The Rules are regulated by the national regulations and the Ministry of Education and Science of RK. On the basis of the standard admission rules, the "Rules for admission to the Electrotechnical College" for the current academic year are developed and approved. Information on the conditions and criteria for admission is posted on the college website.

At the college, an admissions committee is created by the director to receive prospective students' applications, conduct entrance exams, and enroll students, which begins its work in June of each academic year.

The enrollment process is carried out based on the applications of prospective students on a competitive base. The admission is based on the results of UNT (Unified National Testing) certificate, on the results of entrance exams, conducted in the form of comprehensive testing and on the results (marks) of testing conducted by the college.

The sum of points for the graduates of 9 classes of basic secondary education is accumulated from two subjects "Russian language" or "Kazakh language" (depending on the language of instruction) and "Mathematics" or "Physics" (depending on the specialty).

The sum of points for the graduates of 11 classes of basic secondary education is accumulated from three subjects "History of Kazakhstan", "Russian language" or "Kazakh language" (depending on the language of instruction) and "Mathematics" or "Physics" (depending on the specialty).



The quality of education is determined by monitoring, which includes information on educational activities (grade point average, quality of knowledge, movement of the contingent, attendance at classes, student activity). The results of monitoring are considered at meetings of the pedagogical council of the college and the meetings of subject-cycle commissions.

At the beginning of each academic year, a pedagogical council is held, where all engineering and pedagogical staff of the college participates and discusses the new cohort of students. Following information is gathered and analysed: nationality and age of students group, health of students, family members and material and living conditions, study of psychological characteristics and the results of preliminary academic performance based on the results of entrance exams and control papers for the course in the secondary school.

The purpose of gathering this information is to determine the level of students' learning ability and the financial situation of their families, to make a forecast about the support of new students until graduation and to develop measures for psychological support of them. The teaching staff receive complete information about each student and can determine the methods of teaching and educational work.

Students enrolled in the study programme "Power supply (by industry)", who have completed the curriculum and successfully passed final exams, receive a state-recognized document on education - a diploma and a diploma supplement, which documents the received qualification, period, and achieved learning outcomes. For the entire period of study, the group curator under the supervision of the head of the department compiles a consolidated assessment record, after which grades for disciplines, industrial training, practices, course projects, and diploma projects from the consolidated assessment record are transferred to the diploma supplement, according to the working curriculum of the study programme "Power supply (by industry)".

## **4.2 Assessment**

The admissions requirements to the study programme are clearly defined. The admission requirement is the successful completion of the 9th or 11<sup>th</sup> classes of a secondary education school. The training lasts 2 years, 10 months (6 semesters) or 1 year, 10 months (4 semesters). In a second stage (+ 2 semesters), a technician's diploma can be obtained. Admission is open to all and is granted after a preliminary interview. To apply for the programme, the college's teachers conduct counselling sessions in the 9th and 11th grades. In addition, the college holds open days and advertises the programme on social media.

The number of new enrolments depends, among other things, on the number of state scholarships granted. Low-income students can receive additional support. The proportion of women among the students is 20%. The female graduates surveyed felt that they had equal rights in

their studies and in their everyday professional life as well as with regard to their chances of advancement.

The option of part-time study takes into account the needs of working students as well as students with family obligations.

A transfer from another college or university or to another institution is possible in principle, but rarely occurs in practice. Usually, personal reasons such as a change of residence are the decisive factor. Grade transcripts, SWS and a comparison of the curriculum are taken into account during the transfer process.

Several international cooperations (e.g. with Turkey or Italy) exist. Several teachers were able to go abroad for example to take English classes, also foreign trips with students are occasionally organized.

At first glance, opportunities to repeat failed exams seem rigid. However, the teachers were able to make it credible that students with problems are supported accordingly.

Due to the high proportion of practical experience in cooperating companies, intensive contacts are already made during the studies, which later lead to employment. At the same time, the college is constantly trying to expand the pool of cooperating companies. The close link between theory and practice and the existing shortage of skilled workers make the programme attractive. The quality of the programme is demonstrated by the numerous local and national awards, which are at the same time a good advertisement for those interested (in taking up a course of study), but also for graduates. Graduates of the college are preferably hired by the industry.

Both the students and graduates surveyed were convinced by the degree programme and felt well prepared for the demands of the profession. Some of them rated positively that the handling of older equipment was also taught and practised in the training, as this was still frequently encountered in practice.

The graduates interviewed during the online visit reported that after graduation many of them pursued a university degree or further qualifications to advance their careers and to work as engineers, for example.

Upon graduation, students receive state diploma and diploma supplements which reflects all the necessary information about the study programme.

### **4.3 Conclusion**

The criterion is **fulfilled**.

## 5 ESG Standard 1.5: Teaching staff

**Institutions should assure themselves of the competence of their teachers. They should apply fair and transparent processes for the recruitment and development of the staff**

### 5.1 Implementation

Teaching staff of the program includes 39 full-time teachers. All 39 teachers have higher education. Twelve teachers have a master's degrees.

Procedures, including the procedure for recruitment or lay off, promotion, incentives are all carried out in accordance with the legislation of the RK and internal regulatory documents.

During the recruitment of employees, the college administration acquaints them with working conditions, rights and obligations, internal regulations and the terms of the collective agreement, rules of industrial sanitation, labor hygiene, fire safety, safety, and other rules on labor protection.

One of the directions of methodological work is the organization of an effective system of professional development for teachers. Purposeful and systematic work is being carried out to improve the qualifications of teaching staff. Therefore, there has been developed a long-term (for 5 years) and annual plans to participate in professional development courses and internships for engineering and teaching staff. As a result, college teachers participate in training programmes annually at regional, republican and international levels.

The professional development, qualifications and creative potential of teachers are increased by an intercollegiate system of professional development, the main elements of which are the schools "Creative Search" and "Young Teacher". "Young teacher" school provides professional support for young teachers in the college.

Some of the teaching staff was able to attend English courses in the UK, Malaysia, and Finland.

One of the traditional forms of improving pedagogical skills is mutual attendance of classes. Within the framework of intercollege control, a plan for attending theoretical and industrial training lessons is approved annually by the college administration.

A methodological subject-cycle commissions has been introduced in the college since 2008 in order to assess the methodological work of teachers and masters of industrial training. Based on the assessment the ranking system is organised. The ranking system is one of the forms of monitoring the performance of teachers and masters of industrial training, which reflects the results of the methodological activities of teachers, their professional activity, and performing discipline. High, medium and low ranking levels are defined.

## 5.2 Assessment

The college has clear and transparent processes for staff recruitment which mostly follows the state legislation and regulations.

The teaching staff of the college did present itself during the interviews in a competent manner. Overall, the teachers have convincingly explained the picture drawn of the teaching activities, including the motivation to improve the position of the college in the national education market through the international accreditation.

The teaching methods used are typical for an HEI. Of course, the technical college has a different profile compared to a university. The linkage with the industry is well developed for teacher side as well. There are highly effective measures implemented to strengthen that linkage – for example by internship at or discussions groups (kind of quality circles) with representatives of the industry.

Teaching staff did explain practices of quality assurance that are of innovative character because those are partly based upon peer-to-peer measures. For example, it is a regular approach at the college to observe on a monthly basis lectures of a colleague. This approach leads to both, a transparency but as well the transfer of helpful teaching behaviour.

Teachers did and do indeed use measures for further professional training. A number of teachers was involved in international exchanges, some of those even to European educational institutions in Poland, Germany and beyond.

Obviously, teaching does not only mean to work in a stable way but moreover to identify and include new teaching approaches. From the feedback of both teachers and students, one may conclude that the pandemic has been dealt with in a competent way, by substantially increasing the usage of digital educational technologies. As neither students nor teachers reported any serious gaps in the last semesters, it can be assumed that the situation with the pandemic was handled successfully.

However, an aspect of improvement is the linkage to basic research, to which the teaching staff of the college did not always have a satisfying answer. Here specific measures could be considered in order to keep up with latest development and produce own scientific contributions, which may serve, as well as basis for advanced and high-quality teaching. However, considering that a college is a vocational education organisation and not an HEI, it is understandable that the main focus of the activities is not a research.

## 5.3 Conclusion

The criterion is **fulfilled**.

## 6 ESG Standard 1.6: Learning resources and student support

**Institutions should have appropriate funding for learning and teaching activities and ensure that adequate and readily accessible learning resources and student support are provided.**

### 6.1 Implementation

Electrotechnical College is located on an area of 0.9411 hectares. The area of educational buildings is 6850 m<sup>2</sup> and includes two educational buildings, educational and manufacturing workshops. The material and technical base of the study programme "Power supply (by industry)" includes 22 classrooms (11 subject rooms, 3 laboratories, 3 workshops, and 5 professional cycle rooms).

There is a canteen for organized meals for students and staff. A workout room and two gyms are used for sports and recreation.

There is a library with a total area of 115m<sup>2</sup> and a study hall with 28 seats.

Workplaces of teachers are equipped with computers with Internet access, which allows them to widely use modern Internet resources in the educational process.

The college has a managed local network with a centralized Internet access. 231 personal computers and laptops as well as multimedia podiums and LED panels are connected to the local network. For comfortable use, the college has a Wi-Fi zone built on base of the UniFi Controller.

From 2015 to 2018 the college trained five foreign students from the Republic of Afghanistan in this study programme.

Every year, orphans and children deprived of parental care who are under guardianship (including children from an orphanage), children from large families and low-income families who are under the control of the administration, psychological, social services of the college and supervisors start their training at the college.

Non-resident college students are provided with a dormitory room. Students from families in social risk, large families, and low-income families are provided with free meals.

The college psychological service provides a free support to students. The purpose of the psychological service is the development of the student's personality, education and upbringing, providing the student with timely psychological and pedagogical assistance and support. Based on this concept, a work plan for the psychological service is drawn up for the academic year, which includes preventive work and individual counseling of students.

To assist employment of the graduates, college established a job assistance service. The Graduate Employment Assistance service cooperates with enterprises and organizations, assists the masters of industrial training in the organization of educational practice and internship, envisaged in the curriculum, collaborates with local authorities, including territorial bodies of the state employment service, public organizations and associations interested in improving the position of graduates in the labor market, collects, summarizes, analyzes and provides students with information on the situation and trends of the labor market and on the requirements for the job seekers and compiles database of graduates etc.

## **6.2 Assessment**

The peer review experts got a very good impression of the learning resources and student support offered at the college.

The college provides funding for study and teaching. In the videos provided to the expert group, the equipment of the laboratories was shown, which correspond to the current technical standards. The facilities also include a canteen, a training room and two fitness studios. Work on modernising the college has been ongoing since 2012.

The state had invited tenders for a funding programme for vocational training. The college participated in the tender and thus received funding. In 2014, further funding was received, including funding for stays abroad for teachers. The teachers were able to participate in further education programmes in Finland, Malaysia, Poland and Germany. The state has announced further support. Furthermore, the college is supported by companies in the region. In the introductory video, teaching materials from the Festo company were shown, and there is also cooperation with the teaching materials manufacturer Lucas-Nuelle.

During the pandemic, theoretical knowledge was taught online. The practical courses were still allowed to be taught as face-to-face courses. The teachers were trained to teach online. There were problems at the beginning with the technical equipment for the students. Out-of-town students did not always have the required internet speed. This led to problems with the downloading of teaching materials. In general, not all students have a computer at home. The College was able to provide some students with a computer for the pandemic period. Support was also provided by the government and companies. Online exams were conducted. These were then held via Zoom or Google Meeting. Students could then take the exams online.

For regular classes, students have the opportunity to obtain the necessary teaching materials via the CanVas internet platform or to use the library. The college has a managed local network with central internet access. The PCs and laptops are connected to the internet via this network. A separate department is available for the administration and maintenance of the IT

equipment. The workstations of the teachers are equipped with computers with Internet access, which enable them to make extensive use of modern Internet resources in the educational process. The provision of necessary learning information by the college is given. The equipment is constantly updated. Students intern in the companies and learn about new technical equipment there. This information is taken into account when new equipment is purchased.

Teachers who are newly employed receive support from the college. This can be pedagogical, didactic or psychological support. There is a school for the new teachers. In this school, workshops and practical courses held by experienced teachers are offered. This is especially beneficial for teachers who are starting out as newcomers. Regular evaluations of the teachers are carried out. Each new teacher is assigned a mentor with experience. This person accompanies the young teacher during the first year. However, not only the teachers are evaluated, but also the courses. It is obligatory for teachers to attend training courses every 5 years, which take place together with the industry. In the discussions with the teaching staff, it became apparent that further training is actively taking place. There is a supervisor for each group of students from the teaching staff. At the college, students from low-income families receive special support.

The training and further education of the teaching staff is particularly positive.

International mobility could be further improved, for example by setting up practical semesters. This would also stimulate technology transfer. The employment opportunities for graduates could be further improved by promoting foreign language skills.

### 6.3 Conclusion

The criterion is **fulfilled**.

## 7 ESG Standard 1.7: Information management

**Institutions should ensure that they collect, analyse and use relevant information for the effective management of their programmes and other activities.**

### 7.1 Implementation

Electrotechnical College collects and analyzes various information and data concerning the study programme and the college's activities. The main task of feedback in college is the influencing function of academic and upbringing process in order to increase its efficiency and comfort. A survey and a social questionnaire of students, teachers and parents are regularly conducted.

In order to determine the expectations, the needs, and the level of satisfaction of students with the process and conditions of training in the study programme "Power supply (by industry)", the department of academic affairs systematically monitors satisfaction with training. Monitoring is periodically carried out to determine satisfaction with the level of accessibility to modern information technologies, the learning process in general and a reward system for achievements.

Electrotechnical College collects data on the study programme such as number of applicants, students by cohort, by gender and age, social status, monitoring of the progress, graduation rates, employment indicators and etc.

The college effectively uses the system of informing the relevant stakeholders. The college website and the director's blog are used as a means of informing stakeholders. Engineering and teaching staff use the WhatsApp instant messaging system, in which profile groups have been created to exchange information quickly.

## **7.2 Assessment**

The collection and analysis of information is necessary for effective management and accountability in the activities of the education organization.

The college has appropriate measures to collect relevant information on the study programme and its activities. Various information is gathered and is communicated to relevant stakeholders.

For internal exchange of information in the college the following tools are used: orders of the head of the college, protocol instructions of deputy directors, memos and reports and letters.

The stands, notice boards, information leaflets are also used for informing all interested parties. Materials of summaries of reviews, competitions, scientific and practical conferences are communicated to interested parties. Audio, video, and electronic means of information are used. The order of information interaction and coordination of documentation between structural divisions of the college is defined in the relevant job descriptions and regulations.

The college surveys the students about different aspects concerning their studies. Teachers maintain close contact to the students which enables getting further feedback from them.

Moreover, the college maintains close contact to the graduates which allows gathering information on the employment of graduates. Also, the college cooperates closely and regularly with regional companies. This way the achievement of qualification objectives and adequacy of the objectives can be confirmed.



Overall, the experts conclude that the college collects and analyses regularly information on study programmes, students, graduates and on other activities of the college. This information is then further used to improve the quality of education and services.

### 7.3 Conclusion

The criterion is **fulfilled**.

## 8 ESG Standard 1.8: Public information

**Institutions should publish information about their activities, including programmes, which is clear, accurate, objective, up-to date and readily accessible.**

### 8.1 Implementation

The college publishes information about its activities through official college website, social networks, publications in the mass media, publications in regional and city publications "Prospective student", "Graduate", "Education", information stands and screen; published booklets and brochures; organization of socially significant events; charity events; organization of joint seminars, a festival for the profession "MyPRO", events with social partners; holding scientific and practical conferences with the participation of representatives of social partners; placement of information on television, billboards and banners; holding meetings with school-children and prospective students, and their parents; placement of information in the mobile application "Wertafon", "Resurs.kz".

The college website has a clear and accessible interface. The website has a modern navigation system. It contains information on the history of the college, mission, vision, policy in the field of quality assurance, information about structural units and educational programs, about the achievements of students and teachers, information for prospective students - admission rules, information about specialties, about the availability of places on state guaranteed order.

The college also has its own pages on social networks. On all digital resources of the college, visitors have the opportunity to leave comments.

In the educational building and production workshops, a speakerphone is used to provide information to students, staff and college guests. In the halls there are information panels to provide visual information to college visitors and thematic stands are arranged on the first and second floors of the college. The information is also presented in the mass media, on state and regional television channels.

### 8.2 Assessment

The work of the college to inform the public about the study programme "Power supply (by branches)" is organised on the college website and in social networks, such as Facebook,

Instagram and others. The website is updated regularly and contains all relevant information in local languages. Also, information about the college is published in the media, in the publications "Abiturient", "Graduate", "Education", in a mobile app "Wertafon", "Resurs.kz", information is placed on local TV, billboards and banners. The college publishes promotional products containing information on educational programmes, these are various booklets and brochures. During the academic years, responsible persons together with employers organise seminars, conferences, the occupational festival "MyPRO", and charity events.

Vocational guidance counsellors regularly hold meetings with schoolchildren and their parents. Every year the college holds an Open Day for prospective applicants.

The material and technical base of the college makes it possible to maintain a high level of public information work. The work to update the public is carried out continuously.

The work is organized to promptly inform students, teachers and other interested parties about the educational process and life of the college. Potential employers receive information about graduating students and about the college.

In general, the information meets the needs of students and other stakeholders concerned.

### 8.3 Conclusion

The criterion is **fulfilled**.

## 9 ESG Standard 1.9: On-going monitoring and periodic review of programmes

**Institutions should monitor and periodically review their programmes to ensure that they achieve the objectives set for them and respond to the needs of students and society. These reviews should lead to continuous improvement of the programme. Any action planned or taken as a result should be communicated to all those concerned.**

### 9.1 Implementation

The procedures for monitoring and revising the content of the study programme are supervised by the head of the department and the leaders of the subject-cycle commission. Frequency of revision of curricula and syllabuses of academic disciplines is once a year after discussion of the applied changes and reviews of experts (employers) at meetings of the subject-cycle commission.

The internal assessment of "Power supply (by industry)" is carried out at the level of the subject-cycle commission and methodological council.

The direct management of the college is carried out by the director. The director, in accordance with the procedure established by the legislation of the Republic of Kazakhstan, takes respon-

sibility for the activities of the college, for the implementation of the tasks assigned to the college, the quality of student learning, the completeness of educational programs implemented by the college, the safety of property, its targeted and effective use, concludes and terminates employment contracts with college employees, carries out their encouragement and imposition of penalties, approves job descriptions of college employees on the basis of standard qualification requirements, acts on behalf of the Electrotechnical College, represents its interests, issues orders within its competence that are mandatory for all employees and students to follow.

The quality of education is determined by monitoring, which includes information on educational activities (grade point average, quality of knowledge, movement of the contingent, attendance at classes, student activity) and conclusions, which contributes to the integrity of the perception of the educational process. The results of monitoring are considered at meetings of the pedagogical council of the college, meetings of subject-cycle commissions.

The college informs stakeholders about all changes in the study programme „Power supply (by industry)". All changes are communicated to students, employers, and social partners.

The quality policy and measures are implemented involving the entire engineering and pedagogical staff. The college surveys the students' and their parents' and employers'. With a frequency of once per semester, a survey of students and parents is carried out, and also surveys of employers are conducted.

The college studies new experience and introduces innovations, applies the principles of differentiated and person-centered learning and applies modern information and communication technologies in teaching. We strive to form a student as a citizen, a well-rounded educated person and a competitive professional with creative thinking, developed management skills, and the ability for further self-development.

Curricula for the study programme "Power Supply (by industry)" are coordinated with manufacturing enterprises; engineering and technical workers of enterprises take part in the work of final examination commissions, conferences, thematic talks on safety, conducting excursions to production and binary lessons with engineering and teaching staff of the college. They are involved as members of the jury of professional skills competitions, mentors of young people during their industrial practice, leaders and reviewers of diploma design and members of the attestation examination commission.

## **9.2 Assessment**

The college has established solid quality mechanisms that ensure regular review of the programmes. The management of the college as well as teachers during the interviews could

plausibly describe mechanisms for the continuous improvement of the programme that are implemented at the college.

The teachers are evaluated at intervals of 2-3 weeks. Both didactics and content as well as the technology and laboratory facilities used are evaluated. The intervals appear to be relatively short. An evaluation of individual modules or entire semesters or forms of teaching does not take place but could be a useful addition. When evaluating students' subject preferences, however, it must be taken into account that the benefit of certain (possibly unpopular) basic subjects is not necessarily apparent from the perspective of students without corresponding professional experience. In retrospect, some graduates rated the theoretical subjects as less relevant to practice. However, since the relevance of individual course contents for a professional career depends essentially on the later focus of work, the curriculum must remain broadly based.

In addition, the director of the college and the heads of department conduct personal interviews with the students. The extent to which the latter can be considered representative seems questionable for reasons of data protection.

Newly hired teachers, who often come from industry, receive additional pedagogical and didactic training at the college. Each new teacher is supervised by an experienced colleague during the first year. This close support as well as the cooperation within the college is particularly positive. The teachers reported that they regularly sit in on each other's classes.

Since courses are also held in the companies, the companies can have a modifying influence on the curriculum. This ensures continuous updating and adaptation to current requirements from business and industry. At the same time, however, it must be ensured that teachers are kept up to date on technical developments and the state of research and can thus provide or stimulate innovative impulses. This seems to be guaranteed by continuous further training of the teachers. All teachers regularly attend in-service training, some of them also abroad, e.g. in Belarus. In addition to subject-specific competences, the in-service training also aims at the development of IT knowledge as well as questions concerning distance learning and soft skills.

The established committees (elective offices) "didactic council", "pedagogical council" and "psycho-logical council", in which students are also represented, serve among other things as a point of contact for students and can potentially exert corrective influence. The majority of the students and graduates surveyed had already been involved in one or more of these bodies and rated them positively.

Small cohorts, similar to a class group, promote cohesion among the students. Overall, collegial and friendly relationships - also across status groups - as well as a high level of motivation and identification with the college were conveyed by all status groups in the surveys.

### 9.3 Conclusion

The criterion is **fulfilled**.

## 10 ESG Standard 1.10: Cyclical external quality assurance

**Institutions should undergo external quality assurance in line with the ESG on a cyclical basis**

### 10.1 Implementation

Electrotechnical College undergoes external quality assurance procedures with a frequency of once in 5 years. Electrotechnical College has passed institutional and specialized accreditation from September 24, 2018 to September 27, 2018 in the national Non-profit institution "Independent Agency for Accreditation and Examination of the Quality of Education" ARQA "and received Certificates for a period of 5 years on the full accreditation of college and educational programs.

### 10.2 Assessment

External quality assurance at the college seems appropriate. At the moment, colleges in Kazakhstan are not required to be accredited either by national or international agencies. Nevertheless, many colleges including Electrotechnical College, voluntarily go through accreditations. Electrotechnical College passed institutional and several programme accreditations with Kazakh national accreditation agencies. Electrotechnical College voluntarily applied for this accreditation with an international agency in order to even further align its study programme to European standards and receive valuable feedback from international experts. The college seems to be very open to external assessments and is ready to implement possible recommendations of the expert group.

### 10.3 Conclusion

The criterion is **fulfilled**.

#### **IV Recommendation to the Accreditation Commission of ACQUIN**

##### **1 Assessment of compliance the Standards and Guidelines in the Higher European Area (ESG) in the actual official version**

The study programmes „Power Supply“ (by industry) with Qualifications “Switchgear Electrician” and “Technician-Electrician” were assessed on the basis of the "Standards and Guidelines for Quality Assurance in the European Higher Education Area" (ESG) and the national or other relevant regulations.

The expert group concludes that the **ESG standards** 1.1 (Policy for quality assurance), 1.2 (Design and approval of programmes), 1.3 (Student-centred learning, teaching and assessment), 1.4 (Student admission, progression, recognition and certification), 1.5 (Teaching staff), 1.6 (Learning resources and student support), 1.7 (Information management), 1.8 (Public information), 1.9 (On-going monitoring and periodic review of programmes) and 1.10 (Cyclical external quality assurance) are fulfilled.

The expert group concludes that the **EQAVET Indicators** 1 (Relevance of quality assurance systems for VET providers), 2 (Investment in training of teachers and trainers), 3 (Participation rate in VET programmes), 4 (Completion rate in VET programmes), 5 (Placement rate in VET programmes), 6 (Utilisation of acquired skills at the workplace), 7 (Unemployment rate), 8 (Prevalence of vulnerable groups), 9 (Mechanisms to identify training needs in the labour market) and 10 (Schemes used to promote better access to VET) are fulfilled.

##### **2 Accreditation Recommendation**

The peer-review experts recommend unconditional accreditation of the study programme „Power Supply“ (by industry) with Qualifications “Switchgear Electrician” and “Technician-Electrician”.

**V Decision of the Accreditation Commission of ACQUIN**

Based on the evaluation report of the peer group and the statement of the university the Accreditation Commission of ACQUIN decided on 27 September 2021:

**„Power Supply” (by industry)**

**The study programme “Power Supply” (by industry) is accredited without any conditions.**

**The accreditation is valid until 30 September 2027.**