



«АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТИҢ
ТӘУЕЛСІЗ АГЕНТТІГІ» КЕМ

НУ «НЕЗАВИСИМОЕ АГЕНТСТВО
АККРЕДИТАЦИИ И РЕЙТИНГА»

INDEPENDENT AGENCY FOR
ACCREDITATION AND RATING

REPORT

on the results of the work of the external expert commission on the assessment for compliance with the requirements of standards for primary specialized accreditation of educational programs Bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)"
Non-profit joint-stock company "Satbayev University"

from March 26 to March 28, 2024

INDEPENDENT AGENCY FOR ACCREDITATION AND RATING
External expert commission

Addressed to
IAAR Accreditation council



REPORT

on the results of the work of the external expert commission on the assessment for compliance with the requirements of standards for primary specialized accreditation of educational programs Bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)" Non-profit joint-stock company "Satbayev University"

from March 26 to March 28, 2024

Almaty

March 26, 2024

Contents

(I) LIST OF SYMBOLS AND ABBREVIATIONS.....3

(II) INTRODUCTION.....4

(III) REPRESENTATION OF THE EDUCATIONAL ORGANIZATION4

(IV) DESCRIPTION OF PREVIOUS ACCREDITATION PROCEDURE6

(V) DESCRIPTION OF THE EEC VISIT7

(VI) COMPLIANCE WITH SPECIALIZED ACCREDITATION STANDARDS9

6.1. Standard "Educational Program Management"9

6.2. Information Management and Reporting Standard11

6.3. Standard “Development and approval of an educational program”14

6.4. Standard “Continuous monitoring and periodic evaluation of educational programs”...16

6.5. Standard “Student-centered learning, teaching and assessment”18

6.6. Standard "Students"21

6.7. Standard “Teaching staff”23

6.8. Standard “Educational Resources and Student Support Systems”25

6.9. Public Information Standard.....27

(VII) OVERVIEW OF STRENGTHS/BEST PRACTICES FOR EACH STANDARD30

(VIII) (VIII) OVERVIEW OF RECOMMENDATIONS FOR IMPROVING QUALITY FOR EACH STANDARD.....31

(IX) REVIEW OF RECOMMENDATIONS FOR THE DEVELOPMENT OF EDUCATIONAL ORGANIZATION34

(X) RECOMMENDATION TO THE ACCREDITATION BOARD35

Appendix 1. Evaluation table “SPECIALIZED PROFILE PARAMETERS”36

Appendix 2 PROGRAM OF THE VISIT TO THE EDUCATIONAL ORGANIZATION...43

Appendix 3. RESULTS OF A SURVEY OF TEACHERS.....49

Appendix 4. RESULTS OF THE STUDENT SURVEY56

(I) LIST OF SYMBOLS AND ABBREVIATIONS

DB	Database
EEC	External expert commission
SGES	State general education standard
NJSC	Non-profit joint stock company
IAAR	Independent Agency for Accreditation and Rating
R&D	Research and development work
NEC RK	National Entrepreneurs Chamber of the Republic of Kazakhstan “Atameken”
EO	Educational Organizations
EP	Educational program
RK	Republic of Kazakhstan
DLS	Distance learning system
SRL	Student Research Laboratory
MM	Mass Media
QMS	Quality Management System
SDB	Student Design Bureau
SCM	Department of Standardization, Certification and Metrology
ET&ST	Department of Electronics, Telecommunications and Space Technologies
PhD	Doctor of Philosophy
ECTS	European system of transfer and accumulation of points



(II) INTRODUCTION

In accordance with Order No. 26-24-OD dated January 31, 2024 of the General Director of the Independent Accreditation and Rating Agency, from March 26 to March 28, 2024, an external expert commission assessed the compliance of educational programs 7M06102 Machine Learning & Data Science, 8D06102 Machine Learning & Data Science, 6B07121 Space technology and technology, 7M07138 Space technology and technology, 6B07104 Electronic and Electrical Engineering, 7M07502 Metrology (by industry), 6B07213 Mineral processing, 7M04105 MBA in the mining and metallurgical complex of NJSC Kazakh National Research Technical University named after K.I. Satpayev" standards for primary specialized accreditation of the educational program of the organization of higher and postgraduate education of the IAAR (No. 68-18/1-OD dated May 25, 2018, first edition).

The report of the external expert commission (EEC) contains an assessment of the presented educational programs according to the criteria of IAAR standards, recommendations of the EEC for further improvement of educational programs and profile parameters of educational programs.

Composition of EEC:

Chairman of the EEC IAAR - Bratsikhin Andrey Aleksandrovich, Doctor of Technical Sciences, Professor, Rector, Udmurt State Agrarian University, Expert of the Russian Accreditation Agency, Expert of the IAAR I category; off-line participation.

Expert IAAR-Yesengalieva Zhanna Serzhanovna, PhD, Associate Professor, Eurasian National University. Gumilyov (Astana, Republic of Kazakhstan).

IAAR expert – Zhilisbaeva Karlyga Sansyzbaevna, Doctor of Physical and Mathematical Sciences, Professor, Kazakh National University. al-Farabi (Almaty, Republic of Kazakhstan).

IAAR Expert, Employer - Gulmira Zeinulovna Dzhagiparova, Head of the Commercial Unit, KT Cloudblab (Almaty, Republic of Kazakhstan).

IAAR expert, student – Adelina Adelevna Rakisheva, 2nd year doctoral student, East Kazakhstan Technical University. D. Serikbaeva (Ust-Kamenogorsk, Republic of Kazakhstan).

IAAR expert – German Andrey Evgenievich Ph.D., Associate Professor, Grodno State University named after Yanka Kupala (Grodno, Belarus).

IAAR expert – Bulashev Berdibek Kabkenovich, Candidate of Agricultural Sciences, Associate Professor, Chairman of the Technical Committee for Standardization, Kazakh Agrotechnical Research University named after S. Seifullin (Astana, Republic of Kazakhstan).

IAAR expert, student – Aubakirova Zulfiya Akyzbekovna, 1st year doctoral student, Karaganda Technical University named after Abylkas Saginov (Karaganda, Republic of Kazakhstan).

IAAR expert - Abilmazhinov Ernek Tolegenovich, Doctor of Technical Sciences, Associate Professor, Associate Professor, Shakarim University (Semey, Republic of Kazakhstan).

IAAR expert – Aliya Kuanyshevna Tusaeva, Candidate of Economic Sciences, Associate Professor of the Department of Business Administration, Turan University (Almaty, Republic of Kazakhstan).

IAAR expert, student - Sisenova Tolganay, 2nd year master's student of the OP "Management" University of Turan (Almaty, Republic of Kazakhstan).

Coordinator of the EEC IAAR is Gulfiya Rivkatovna Nazyrova, Ph.D., project manager for specialized and institutional accreditation of universities.

(III) REPRESENTATION OF THE EDUCATIONAL ORGANIZATION

The university was founded in 1934 as the Kazakh Mining and Metallurgical Institute. In the 30s of the XX century. To solve the problems of eliminating the technical and economic backwardness of the national economy, an urgent need arose for the development of higher technical education in the country.

As part of the transformation of higher education in Kazakhstan in 2014, the University named after K.I. Satpayev was awarded the category “National Research University”, which gave

him the opportunity to work with outstanding scientists of the world. The university cooperates with 174 leading universities from 25 countries (including the USA, England, Germany, Italy, France, China, Korea, Poland). Satbayev University included the National Technology Center “Parasat” and 8 research institutes.

Implementation of the principle of “learning through scientific research” is the main task of Satbayev University. The university carries out extensive scientific work, monitors and analyzes domestic and world trends in the development of science in the specialized scientific areas of the university, searches for sources of funding for fundamental and applied research in specialized scientific and educational areas. Satbayev University conducts contract research with such well-known private and public enterprises as Kazzinc, Kazchrome, PetroKazakhstan Kumkol Resources, Tospa Su, Kazatomprom, Parasat, Pavlodar Petrochemical Plant.

Along with contract research into production problems and extensive work on the commercialization of scientific discoveries, the university searches and selects ideas, promotes the formation and implementation of innovative projects, the creation and development of start-up companies, and attracts grants and investments. Organizes and ensures legal protection of the results of intellectual activity.

Personnel training for accredited EPs is carried out according to the state general higher education standard of the Republic of Kazakhstan dated October 31, 2018 No. 604.

Personnel training for accredited EPs is carried out on the basis of license No. KZ56LAA00005304, issued on July 11, 2015. Taking into account the fact that EP 7M07502 “Metrology (by industry)” is new (created in 2022 on the basis of EP 5B07501 “Standardization, certification and metrology”), admission of masters for the 2023-2024 academic year is the first.

The staff of teachers providing the implementation of EP 6B07104 “Electronic and Electrical Engineering” is made up of highly qualified and competent employees with sufficient experience in scientific, pedagogical and practical activities. Leading scientists with extensive teaching and industrial experience - Doctor of Technical Sciences, Professor Isembergenov N.T., assoc. Professor Tashtai E.T., assoc. Professor Zhunusov K.H., PhD doctor (Khabay A., Smailov N.K., Yusupova G.M.), senior lecturers (Kuttybaeva A.E., Utebaeva D.) and lecturer (Baykenova G.M., Sharipova G.) take an active part in the development of standard curricula and standard training programs for OP 6B07104 “Electronic and Electrical Engineering”. The personnel of the departments is staffed in accordance with the labor legislation of the Republic of Kazakhstan and the Rules for competitive filling of positions of scientific and pedagogical personnel of higher educational institutions. The staff of teachers ensuring the implementation of EP 7M07502 “Metrology (by industry)” is made up of highly qualified and competent employees who have quite a lot of experience in scientific, pedagogical and practical activities. Leading scientists with extensive teaching and industrial experience - Ph.D., Assoc. Professor Tatybaev M.K., Ph.D., assoc. Professor Baimakhanov G.A., PhD, assoc. Professor Shinbaeva A.K., Ph.D., PhD, assoc. Professor Yerezhep D.E., PhD, senior teacher Omarova Zh.B., PhD, senior teacher Bergalieva S.A. take an active part in the development of standard curricula and standard training programs for EP 7M07502 “Metrology (by industry)”. The personnel of the departments are staffed in accordance with the labor legislation of the Republic of Kazakhstan and the Rules for competitive filling of positions of scientific and pedagogical personnel of higher educational institutions.

(IV) DESCRIPTION OF PREVIOUS ACCREDITATION PROCEDURE

Accreditation of bachelor's degree program 6B07104 "Electronic and Electrical Engineering" and master's degree program 7M07502 "Metrology (by industry)" is being carried out for the first time.



(V) DESCRIPTION OF THE EEC VISIT

The work of the EEC was carried out on the basis of the approved Program of the online visit of the expert commission for specialized and primary specialized accreditation of educational programs at the NJSC Kazakh National Research Technical University named after K.I. Satpayev" from March 26 to March 28, 2024.

In order to coordinate the work of the EEC, an orientation meeting was held on March 26, 2024, during which powers were distributed among the members of the commission and agreement was reached on the choice of examination methods.

To obtain objective information about the quality of educational programs and the entire infrastructure of the university, to clarify the content of self-assessment reports, offline meetings were held with the management of the Satbayev University, interviews with members of the Board, interviews with heads of structural divisions, interviews with directors of institutes, heads of departments, interviews with heads of EP, interviews with teaching staff of EP, interviews with students, interviews with employers. In total, 70 representatives of various categories of respondents took part in the meetings (Table 1).

Table 1 - Information about employees and students who took part in meetings with the IAAR EEC.

Category of participants	Quantity
Chairman of the Board - Rector	1
Members of the Board - Vice-Rectors	4
Heads of structural divisions	13
Directors of institutes and heads of educational programs	9
Teachers	14
Students	21
Graduates	0
Employers	8
Total	70

During the excursion, members of the EEC got acquainted with the state of the material and technical base, which provided a description of classrooms and laboratories: Electrical engineering and fundamentals of electronics - GUK 201; Theoretical foundations of electrical engineering - GUK 202; Theory of electrical circuits GMK 142; Office of the head of the department (717 GUK), classroom (721 GUK), classroom (1033b GUK), assembly hall of the GMK, 2 coworking centers - GMK, gym - GMK, UniHab, Kazstandart (stakeholder).

At the meeting of the EEC of the IAAR with the target groups of the university, the mechanisms for implementing the university's policy were clarified and certain data presented in the self-assessment report of the EP were specified.

EEC experts visited practice bases for accredited EPs and asked questions to the managers of RTEL Group LLP, Kelet JSC, RSE KazStandard, Scientia Kazakhstan LLP, Center for Technical Regulation and Metrology LLP.

In accordance with the accreditation procedure, an online survey was conducted of 51 teachers and 43 students (the total number of them in accredited educational programs was 14 and 21 people, respectively).



Figure 1 – Introducing the EEC to the infrastructure and material and technical base of the university

At the meeting of the EEC of the IAAR with the target groups of the university, the mechanisms for implementing the university's policy were clarified and certain data presented in the self-assessment report of the EP were specified.

EEC experts visited practice bases for accredited EPs and asked questions to the managers of RTEL Group LLP, Kelet JSC, RSE KazStandard, Scientia Kazakhstan LLP, Center for Technical Regulation and Metrology LLP.

In accordance with the accreditation procedure, an online survey of 51 teachers and 43 students was conducted.

In order to confirm the information presented in the Self-Assessment Report, external experts requested and analyzed the working documentation of the university. Along with this, experts studied the online positioning of the university through the official website of the university (<https://satbayev.university>).

As part of the planned program, recommendations for improving accredited educational programs of the Satbayev University, developed by the EEC based on the results of the examination, were presented at an offline meeting with management on March 28, 2024.

(VI) COMPLIANCE WITH SPECIALIZED ACCREDITATION STANDARDS

6.1. Standard "Educational Program Management"

- *The institution must have a published quality assurance policy.*
- *Quality assurance policies should reflect the relationship between research, teaching and learning.*
- *The university must demonstrate the development of a quality assurance culture, including in the context of EP.*
- *A commitment to quality assurance must apply to all activities carried out by contractors and partners (outsourcing), including joint/double degree education and academic mobility.*
- *The management of the EP ensures transparency in the development of the EP development plan based on an analysis of its functioning, the real positioning of the university and the focus of its activities on meeting the needs of the state, employers, stakeholders and students.*
- *The leadership of the EP demonstrates the functioning of the mechanisms for the formation and regular review of the EP development plan and monitoring its implementation, assessing the achievement of learning goals, compliance with the needs of students, employers and society, and making decisions aimed at continuous improvement of the EP.*
- *The management of the EP should involve representatives of stakeholder groups, including employers, students and teaching staff in the formation of a development plan for the EP.*
- *The management of the EP must demonstrate the individuality and uniqueness of the development plan of the EP, its consistency with national development priorities and the development strategy of the educational organization.*
- *The university must demonstrate a clear definition of those responsible for business processes within the EP, an unambiguous distribution of job responsibilities of staff, and delimitation of the functions of collegial bodies.*
- *The management of the educational program must provide evidence of the transparency of the educational program management system.*
- *The management of the EP must demonstrate the successful functioning of the internal quality assurance system of the EP, including its design, management and monitoring, their improvement, and decision-making based on facts.*
- *The management of the EP must implement risk management.*
- *The management of the EP must ensure the participation of representatives of interested parties (employers, teaching staff, students) in the collegial bodies governing the educational program, as well as their representativeness when making decisions on issues of managing the educational program.*
- *The university must demonstrate innovation management within the EP, including the analysis and implementation of innovative proposals.*
- *The management of the EP must demonstrate evidence of openness and accessibility for students, teaching staff, employers and other interested parties.*
- *EP management must undergo training in educational management programs.*
- *EP management should ensure that progress made since the last external quality assurance procedure is taken into account in preparation for the next procedure.*

Evidentiary part

The university has a published quality policy reflecting the relationship between research and teaching. The policy is available to all members of the university community.

A certified QMS covers all the main processes of a university and demonstrates a commitment to continuous improvement. The presence of periodic monitoring and improvement of the QMS operation is shown based on the analysis of monitoring results. Participation in procedures for external assessment of the university's activities and ratings confirms the desire for continuous improvement. A commitment to a quality assurance culture has been demonstrated and there are a number of regulations in place aimed at developing a quality assurance culture across all core processes.

The university's internal quality assurance system complies with the regulatory documents of the higher education system of the Republic of Kazakhstan. Issues of ensuring the quality of graduate training are regularly discussed at meetings of departments and other collegial bodies of the university. The university's commitment to quality is further demonstrated by its position as a recognized national leader in technical education.

Management of accredited educational institutions is carried out on the basis of a development plan. The process of developing EP development plans is transparent, stakeholders are involved in it, and the current state of development of core sectors of the economy is taken into account. The development of the EP is analyzed at meetings of the departments, at which issues of achieving the goals of the EP, material, technical and educational equipment, as well as current work carried out to support the educational process are considered.

Development plans for EP and graduating departments are reviewed and analyzed at meetings of collegial bodies. Based on the results of the review, justified changes are made to the plan.

The university has identified persons responsible for the implementation of educational programs, process owners, job descriptions have been developed, and collegial bodies operate in the areas of their powers. Mechanisms of operational and strategic management have been implemented. All processes are documented within the framework of the current QMS.

The management of the university is carried out in accordance with the University Charter and governing documents for ensuring the quality of the QMS. The main collegial governing bodies act on the basis of approved regulations. Ensuring the quality of education is carried out with the help of the university's educational and methodological council and specialty councils that coordinate the development of EP and specialized activities of departments.

Mechanisms for communication between interested parties and the management of the EP have been introduced, incl. using information and communication technologies, questionnaires (satisfaction assessment). The management of the EP demonstrates a desire for openness, which is confirmed by the widespread use of information and communication technologies to ensure communication with management using the university website, incl. the rector's blog, as well as social networks.

The university has passed institutional accreditation by the Independent Agency for Quality Assurance in Education (NAOKO-IQAA) for a period of 7 years, which confirms a fairly high level of management of the university's main processes.

Employees periodically improve their qualifications, incl. in the field of management in education, at least once every 5 years. The University has demonstrated systematic work to improve the qualifications of employees of departments that graduate from accredited EP. Thus, during the period from 2021 to 2023, 15 employees of the Department of ET&ST, as well as 13 employees of the Department of SCM, improved their qualifications by taking part in various internships, courses, trainings and seminars, which is confirmed by relevant documents.

Analytical part

It should be noted that the university has formed a fairly well-structured working system for ensuring the quality of educational programs. The university demonstrates the principles of a quality assurance culture in all major processes, involving personnel at all levels in the processes. Quality assurance issues are regularly discussed at meetings of graduating departments. The University ensures the distribution of responsibilities and job responsibilities of staff, delimitation of the functions of collegial bodies.

At the same time, experts note the advisability of strengthening the work of departments and the institute in the development, regular review and updating of plans for the development of EP, especially taking into account the fact that the accredited EP are new.

The analysis of the documents submitted by the university did not demonstrate a sufficient level of understanding of the uniqueness of each of the accredited educational programs. To clearly understand the place and role of OP in the economy of the region and country, as well as to formulate a consumer-oriented description of OP, the competitive advantages of each program should be clearly defined.

An analysis of the accredited master's degree program 7M07502 "Metrology (by industry)" showed the feasibility of designing improvements in this program by providing an interdisciplinary component, implemented jointly with other institutes and structural divisions of the university in

order to develop a wide range of competencies required by a specialist with a master's degree. To do this, it is advisable to include in the EP curriculum disciplines focused on the use of basic professional competencies in the fields of science and production specific to the region of primary employment of graduates.

Analysis of the strategy and development program of the university showed the need to improve the applied risk analysis methods, since the risk analysis presented in the strategy is superficial and does not include data from analyzing the likelihood of risks occurring and assessing their consequences.

Despite the extensive discussion of the EP with stakeholders, the EEC recommends strengthening the presence of personnel customers and graduates in the university management system. To do this, it is necessary to include representatives of interested parties in the composition of all collegial governing bodies of the university/EP, and also involve them as much as possible to participate in meetings of graduating departments, including those held on the basis of branches at enterprises.

Departments graduating from accredited educational programs have a fairly high scientific potential, but the degree of implementation of the results of scientific research of employees into the educational process, according to experts, is insufficient.

Strengths/Best Practices

Not found.

EEC recommendations

To the heads of educational programs for bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)":

- Determine the uniqueness and competitive advantages of the educational program in comparison with other educational programs implemented in the region and in the country. Finalize EP development plans, taking into account the unique content and specifics of the organization of the educational process, as well as the needs of stakeholders, national priorities and the university development strategy. Deadline: 06/30/2024.

- Include in the curriculum of master's degree program 7M07502 "Metrology (by industry)" disciplines focused on the use of basic professional competencies in the fields of science and production, specific to the region of primary employment of graduates. Deadline: 08/31/2025.

- Provide an assessment of the likelihood of risks occurring and their degree of influence on the main processes when designing (updating) the strategy and development plans of the EP. Analyze the effectiveness of risk reduction measures. The deadline is December 31, 2024.

- Include representatives of graduates and employers in the councils of institutes, scientific, technical and educational councils of the university. Deadline: 06/30/2024.

- Heads of graduating departments and scientific supervisors of R&D to ensure confirmed implementation of scientific research results in the educational process. The deadline is December 31, 2024.

EEC conclusions:

According to the "Educational Program Management" standard:

For bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)" according to the criteria for primary specialized accreditation, no strengths were identified, 12 criteria have a satisfactory position, 3 criteria suggest improvements, there are no unsatisfactory criteria.

6.2. Information Management and Reporting Standard

- The university must ensure the functioning of a system for collecting, analyzing and managing information based on the use of modern information and communication technologies and software.

- EP management must demonstrate the systematic use of processed, adequate information to improve the

internal quality assurance system.

- Within the EP there must be a system of regular reporting, reflecting all levels of the structure, including assessment of the effectiveness and efficiency of the activities of departments and departments, and scientific research.
- The university must establish the frequency, forms and methods of assessing the management of educational programs, the activities of collegial bodies and structural divisions, senior management, and the implementation of scientific projects.
- The university must demonstrate the determination of the procedure and ensuring the protection of information, including the identification of responsible persons for the accuracy and timeliness of information analysis and data provision.
- An important factor is the involvement of students, employees and teaching staff in the processes of collecting and analyzing information, as well as making decisions based on it.
- The management of the EP must demonstrate the presence of a communication mechanism with students, employees and other interested parties, including the presence of conflict resolution mechanisms.
- The university must ensure that the degree of satisfaction of the needs of teaching staff, staff and students within the EP is measured and demonstrate evidence of eliminating the identified deficiencies.
- The university must evaluate the effectiveness and efficiency of activities, including in the context of EP.
- Information collected and analyzed by the university within the framework of the EP must take into account:
 - key performance indicators;
 - dynamics of the student population in terms of forms and types;
 - academic levels, student achievement and attrition rates;
 - student satisfaction with the implementation of the EP and the quality of education at the university;
 - availability of educational resources and support systems for students;
 - employment and career growth of graduates.
- Students, employees and teaching staff must document their consent to the processing of personal data.
- The management of the EP should help provide all the necessary information in the relevant fields of science.

Evidentiary part

The university demonstrates the presence and effective operation of an information and communication system for managing the educational process and document flow, incl. in the context of accredited educational institutions. All data obtained as a result of collecting and processing information is adequately used, incl. to solve problems of improving the quality of basic processes. Management decisions are made based on a systematic analysis of the data obtained, taking into account stakeholders.

The university uses a variety of information systems and software products to provide stakeholders with the necessary information, collect and process data. Among them: the university website (<https://satbayev.university>); educational portals (<https://sso.satbayev.university/>) and DLS Polytechonline (<https://polytechonline.kz/>), developed on the basis of the Moodle system; electronic dormitory automation system "Dormitory" (<https://dormitory.satbayev.university/>); personnel accounting system (<http://hr.satbayev.university/>); electronic document management system SalemOffice (<https://salemoffice.kz/>); office software package Microsoft Office 365 (<https://www.office.com/>), etc. The university has an approved information security policy with a clear division of access rights for different information users systems

On the university's educational portal <https://sso.satbayev.university>, a teacher can see his class schedule, keep a log of visits, post educational and methodological complexes and supporting information, assessments, as well as analyze the collected information both in the context of one student and a study group, course, etc. The collected information is used to develop corrective measures aimed at ensuring the quality of the EP. Curators of study groups regularly analyze information about the progress of groups and individual students. Issues of academic performance are regularly discussed at department meetings. There is an approved form for reporting on the progress of study groups.

Of particular note is our own development of the PolytechOnline distance education system, which allows us to provide students with all the necessary information for maximum immersion in the educational process, and teachers with tools for creating educational content and monitoring progress. During the work of the EEC, when conducting surveys, students especially noted the convenience and wide capabilities of this system, along with the educational portal.

The university has built an effective reporting system, including detailed collection and analysis of the results of the educational process, implementation of individual teaching staff plans, and regular discussion of the implementation of work plans of structural units at meetings of collegial bodies.

The QMS provides for periodic (twice a year) internal audits with the involvement of certified employees as experts. A documented procedure has been developed that defines the procedure and criteria for analyzing performance results in the main areas.

Teaching staff and students take part in the management of the university. Their representatives are included in the collegial bodies, taking part in the management of main processes. It is important to widely involve personnel in management processes by creating working groups to solve operational problems and monitor processes.

The university is constantly working to improve its activities, based on systematic monitoring of stakeholder satisfaction; a mobile application has been developed to study the public opinion of employees and students. Students are actively involved in the process of collecting information. The structure of the educational portal includes a survey module. It is important that the university periodically monitors the presence of corruption risks or conflicts of interest. It is worth noting the mobile application “SU Solutions” created at the university, which is used to regularly study public opinion.

One of the aspects of management decision making is regularly conducted management analysis by management. There is a corresponding documented procedure “Management Analysis”. A system for assessing key performance indicators has been introduced twice a year.

Analytical part

The University provides management of the main activities based on the collection, analysis and use of information using modern information and communication technologies and software. Responsible persons have been appointed for the functioning of the transmission and processing processes, as well as the reliability of the information.

The management disseminates information about all aspects of the university’s activities, provides information to employees and students through the official website, guaranteeing reliability. There is a separate management information resource (rector’s blog) used to collect information in the form of feedback.

The university conducts regular surveys of external and internal consumers of services, analyzes the collected information and develops measures to improve activities.

The degree of satisfaction of employers with graduates, as well as educational programs, services and events of the university is periodically monitored. Satisfaction assessment is carried out mainly in the form of a questionnaire.

The university has established frequency, reporting forms and methods for assessing the management of the educational program, the activities of collegial bodies and structural divisions, management and implementation of scientific projects. The university evaluates the effectiveness and efficiency of its activities, including with the involvement of collegial bodies of the university and external experts.

Modern information and communication technologies are successfully used in managing the organization of the educational process. Developed by university specialists, [PolytechOnline](#) distance education system is a fully functional educational portal that allows both teachers and students to implement all the main functions. The system has a convenient user interface and provides advanced capabilities for monitoring the effectiveness of the educational process, including a survey module to ensure and assess the satisfaction of stakeholders.

There is an information security policy, the storage periods for information are determined. Students and employees confirm their consent to the use of personal data. Students and employees have access to the educational portal and resources of internal and external databases to which they have subscribed.

Strengths/Best Practices

Development and effective use of our own educational portal for distance education PolytechOnline, integrating the main directions of supporting the educational process, incl. for persons with disabilities.

EEC recommendations

- *No recommendations*

EEC conclusions:

According to the Information Management and Reporting standard:

For bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)" according to the criteria for primary specialized accreditation, 1 strong point was identified, 15 criteria have a satisfactory position, there are no criteria suggesting improvements and unsatisfactory criteria.

6.3. Standard "Development and approval of an educational program"

- *The university must define and document procedures for developing EP and their approval at the institutional level.*
- *The management of the EP must ensure that the developed EP meets the established goals, including the intended learning outcomes.*
- *The leadership of the EP must ensure the availability of developed models of the EP graduate that describe the learning outcomes and personal qualities.*
- *The management of the EP must demonstrate that external examinations of the EP have been carried out.*
- *The qualifications obtained upon completion of the EP must be clearly defined, explained and correspond to a certain level of the NQF.*
- *EP management must determine the influence of disciplines and professional practices on the formation of learning outcomes.*
- *An important factor is the ability to prepare students for professional certification.*
- *The management of the EP must provide evidence of the participation of students, teaching staff and other stakeholders in the development of the EP and ensuring their quality.*
- *The labor intensity of the OP must be clearly defined in Kazakhstani loans and ECTS.*
- *The management of the EP must ensure the content of academic disciplines and learning outcomes for the level of study (bachelor's, master's, doctoral studies).*
- *The structure of the EP should provide for various types of activities corresponding to the learning outcomes.*
- *An important factor is the presence of joint EPs with foreign educational organizations.*

Evidentiary part

The university has defined and documented procedures for developing EP, including mechanisms for revising the content of EP taking into account the requirements of stakeholders (external review). Appropriate documented procedures reflected in the university's QMS have been developed and used. "Regulations on the development of educational programs" and Regulations on the procedure for developing and revising the EP development plan have been developed.

All accredited educational programs allow the formation of an individual educational trajectory for students. The choice of learning path is made by students independently, with the help of consultations from advisors and leading teachers of departments, graduates, and employers. An individual curriculum is formed for each student for the academic year.

The developed EP corresponds to the established goals and is in accordance with the quality policy and strategy of the university. Competency models of a graduate are presented (Graduate Model 6B07104, Graduate Model 7M07502)", work programs in the disciplines being read contain educational activities aimed at developing competencies defined by the Dublin descriptors. The acquired competencies are tested when students complete practice-oriented tasks within the framework of laboratory workshops, as well as during educational and industrial internships.

When developing a work program for each academic discipline, teaching technologies are provided that make it possible to achieve the planned learning outcomes.

Mastering the undergraduate EP during the semester is controlled by an oral survey, testing, a written report and a two-level midterm control with a final knowledge control. Defense of reports on research work is accepted by a commission appointed by the head of the department. Lists of examiners and examination commissions are formed by the head of the department one month before the start of the examination session and approved by the vice-rector. Examinations are conducted in combined or test forms. Academic performance in accredited educational programs is good and is at the level of 95-100%.

EP curricula contain various types of activities that correspond to the planned learning outcomes. Various methods of practice-oriented teaching are used, including the implementation of educational and research projects by students.

Cooperation has been established with enterprises and others, incl. with foreign institutions. The development of accredited EPs was carried out jointly with foreign universities: according to EP 6B07104 “Electronic and Electrical Engineering” - Omsk State Technical University and Moscow Aviation University; according to OP7M07502 “Metrology (by industry)” - Azerbaijan State University of Oil and Industry and Gebesen Technical University.

Confirmed examples of conducting internships for students in educational institutions, enterprises and organizations of the Republic of Kazakhstan, the Russian Federation, and the Republic of Azerbaijan are presented.

Analytical part

Accredited EPs are built taking into account the current development of science, economics, engineering, technology and the social sphere. Internal monitoring of academic indicators and sociological surveys of students are regularly carried out. Assessment of the quality of the educational program is regulated by the regulatory documents of the university. External experts are involved in quality assessment. However, the requirements for such experts are not documented. The assessment results are discussed at meetings of collegial management bodies that make decisions to improve the quality of education.

The EPs discussed provide for the formation of key competencies and skills among graduates. A number of basic and specialized disciplines are aimed at developing the graduate’s professional competencies, offered for study taking into account approaches to individualizing the educational process. All disciplines included in the EP curriculum contribute to the formation of the graduate’s professional competencies, taking into account the requirements of the educational standard. It should be noted that when constructing the work plan, instead of the traditional block-modular approach, a modular-competency approach was used.

To ensure the expected quality of graduate training, modern educational technologies are used. The possibility of an individual educational trajectory (individual curriculum) of the student is provided, including through elective courses and teachers.

The curriculum ensures the continuity of the content of the EP, the consistency and continuity of disciplines, and the rational distribution of disciplines across semesters. The implementation of the modular principle and the system of educational credits has been ensured. Courses chosen by students are included in the catalog of elective disciplines, brought to the attention of students and used in the design of individual learning paths.

Students studying in an accredited specialty undergo educational, industrial and pre-diploma internships, which are provided with the necessary documentation. Agreements have been concluded with practice bases.

It should be noted that the declared learning outcomes of EP 7M07502 “Metrology (by industry)” do not fully correspond to the labor functions of the 7th level of the international standard classification of education specified in the professional standard “Metrology”.

It should be noted that the involvement of employers in conducting the examination of the EP

should be comprehensive, taking into account the need to analyze all areas of the graduate's professional activity. For example, when performing an examination of master's degree programs, it is advisable to involve both representatives of production and scientific organizations as experts.

EP includes disciplines that prepare students for professional certification. It is possible to form individual educational trajectories based on the objectives of professional certification, but examples of student participation in professional certification procedures are not presented. Experts consider it advisable to provide a full-fledged opportunity for professional certification within the framework of accredited EP.

The university has established cooperation and exchange of experience with educational organizations implementing similar programs in the country and abroad, however, there are currently no joint EPs in the field.

Strengths/Best Practices

Not found.

EEC recommendations

According to the master's educational program 7M07502 "Metrology (by industry)":

– Bring training results into compliance with the labor functions of the 7th level of the international standard classification of education, specified in the professional standard "Metrology", approved by the NEC RK "Atameken" dated 10/22/2018. Deadline: 06/30/2024.

For undergraduate educational programs 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)":

– Ensure that the EP is examined by employers, taking into account the assessment of its compliance with all the main areas of the graduate's professional activity. Deadline: 09/30/2024.

– Determine the possibilities and areas of professional certification in accordance with the profile of students' training, as well as a list of EP disciplines, the content of which is aimed at preparing for certification. Deadline: 09/30/2024.

EEC conclusions:

According to the standard "Development and approval of an educational program":

For bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)" according to the criteria for primary specialized accreditation, no strengths were identified, 11 criteria have a satisfactory position, there are no criteria suggesting improvements and unsatisfactory criteria.

6.4. Standard "Continuous monitoring and periodic evaluation of educational programs"

• *The university must monitor and periodically evaluate the EP in order to ensure that the goal is achieved and meet the needs of students and society. The results of these processes are aimed at continuous improvement of the EP.*

• *Monitoring and periodic evaluation of the EP should consider:*

• *Content of programs in the light of the latest scientific achievements in a particular discipline to ensure the relevance of the taught discipline;*

• *Changes in the needs of society and the professional environment;*

• *Workload, performance and graduation of students;*

• *Efficiency of student assessment procedures;*

• *Expectations, needs and satisfaction of students;*

• *The educational environment and support services, and their compliance with the objectives of the EP.*

• *The university and the management of the EP must provide evidence of the participation of students, employers and other stakeholders in the revision of the EP.*

• *All interested parties must be informed of any planned or undertaken actions regarding the OP. All changes made to the OP must be published.*

• *The management of the EP must ensure a revision of the content and structure of the EP, taking into account changes in the labor market, the requirements of employers and the social demand of society.*

Evidentiary part

The University conducts internal and external monitoring and periodic evaluation of educational programs with the aim of their continuous improvement. Most students are satisfied with the quality of the EP implementation. The requirements of the external environment are monitored, on the basis of which decisions are made to revise the content and structure of the educational program. Monitoring is carried out incl. through a detailed analysis of academic performance, the effectiveness of assessment procedures and the achievement of EP goals. One of the monitoring methods is surveying students and other interested parties. In addition, the satisfaction of teaching staff implementing accredited educational programs is monitored. The university management ensures monitoring of teaching staff satisfaction using various tools (surveys, discussions at meetings of collegial bodies, analysis of work performance).

The university has demonstrated the presence of a systematic approach to conducting procedures for periodic assessment of the quality of educational programs, including documented quality assurance processes.

To carry out EP monitoring procedures, employers, partner organizations, students, graduates, teaching staff and university administration are involved. Internal monitoring is provided mainly by the teaching staff, department, institute, as well as specialized departments of the university, such as the department of academic affairs and the department of corporate development. External monitoring is carried out during the accreditation procedure, as well as by involving external stakeholders and participating in ratings.

To ensure the quality of accredited educational programs, multi-level internal monitoring is carried out: at the level of the administration and departments using various tools (performance assessment, ratings, certification, surveys, performance analysis, etc.)

It is necessary to note the ongoing monitoring of educational and production practices in active interaction with employers. The self-monitoring report contains positive examples of introducing elective disciplines into the curricula of accredited EP in accordance with the recommendations of employers.

The results of the analysis are used to improve activities and make changes within the EP. After completion of all procedures for making adjustments/changes to the EP, interested parties are informed about upcoming changes using the educational portal (available to students and teaching staff), as well as direct mailing (not confirmed).

Analytical part

The university carries out continuous monitoring and periodic evaluation of educational programs with the participation of stakeholders and structural units of the university (academic performance, attendance, satisfaction, etc.) in the context of students, groups, disciplines, teachers, departments. The results of the analysis are discussed collectively. Based on the results of current and final monitoring, corrective measures are carried out. Stakeholders are involved in monitoring the educational program through questionnaires, surveys, followed by collegial discussion. The results of monitoring and periodic evaluation of the educational program are reflected in reports and used to improve activities.

Taking into account the fact that EP 7M07502 “Metrology (by industry)” is new (created in 2022 on the basis of EP 5B07501 “Standardization, certification and metrology”), the enrollment of masters for the 2023-2024 academic year is the first. In this regard, a number of activities for monitoring and evaluation of this EP have not been carried out to date and will be carried out during the implementation of this EP.

The implementation of accredited EP involves active interaction with stakeholders, both external (authorities, employers, applicants and their parents, etc.); and internal (students, teaching staff, educational support and administrative and managerial staff), with whom interaction is organized, as well as an assessment of their satisfaction. During the work of the EEC, experts received confirmation of the participation of employers in the design of the EP, however, experts consider it advisable to involve employers in all processes of monitoring the effectiveness and

achieving the goals of the EP.

The university has implemented ample opportunities to monitor stakeholder satisfaction through surveys on the main areas of the university's activities. The survey procedures are provided with special questionnaires and technical capabilities (including our own special mobile application), respondents have the opportunity to make suggestions for improving the activities of the university and leave comments in the form of comments. Based on the monitoring results, mechanisms work to formulate and revise the development strategy, mission, quality goals, as well as OP.

It should be noted the need to improve the procedure for informing interested parties about changes in the EP. Currently, such information is carried out using the university's educational portal (password access) and selective (addressed) distribution of information, which does not provide free access to information about changes by all consumers. Experts consider it necessary to develop internal documents (documented procedure) for informing all interested parties about planned or taken actions in relation to the EP with the information posted in the public domain on the university website.

Strengths/Best Practices

Not found.

EEC recommendations

For educational programs of bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)":

- Involve employers in ongoing monitoring of the achievement of EP goals when discussing the effectiveness of EP. The deadline is December 31, 2024.
- Develop a documented procedure for promptly (no later than 2 weeks after changes are made) informing all interested parties about planned or taken actions in relation to the OP. Deadline: 06/30/2024.
- Ensure timely publication of all changes in the EP using the university website. Deadline: 06/30/2024.

EEC conclusions:

According to the standard "Continuous monitoring and periodic evaluation of educational programs": ***For undergraduate EP 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)", according to the criteria for primary specialized accreditation, no strengths were identified, 8 criteria have a satisfactory position, 2 criteria suggest improvements, there are no unsatisfactory criteria.***

6.5. Standard "Student-centered learning, teaching and assessment"

- *EP management must ensure respect and attention to different groups of students and their needs, providing them with flexible learning paths.*
- *EP management must ensure the use of various forms and methods of teaching and learning.*
- *An important factor is the presence of own research in the field of teaching methods of educational disciplines of EP.*
 - *The management of the educational program must demonstrate the presence of a feedback system on the use of various teaching methods and evaluation of learning outcomes.*
 - *EP management must demonstrate support for student autonomy while providing guidance and assistance from the teacher.*
 - *The management of the EP must demonstrate the existence of a procedure for responding to student complaints.*
 - *The university must ensure consistency, transparency and objectivity of the mechanism for assessing learning outcomes for each EP, including appeal.*
 - *The university must ensure that the procedures for assessing the learning outcomes of EP students comply with the planned learning outcomes and program goals. The evaluation criteria and methods within the EP must be published in advance.*
 - *The university must define mechanisms to ensure that each EP graduate masters the learning outcomes and ensure the completeness of their formation.*

• *Assessors must be familiar with modern methods of assessing learning outcomes and regularly improve their skills in this area.*

Evidentiary part

The university is actively implementing student-centered learning approaches and provides for a procedure for obtaining additional consultations for students with academic debts. Department teachers develop their own educational and methodological materials using modern approaches to assessment. A procedure has been developed for the formation of an individual educational trajectory, while students can independently fill out the form of an individual educational plan. A high level of student independence in designing an individual educational trajectory is ensured by a good level of information about the content of academic disciplines, as well as personal management of the disciplines chosen for study.

Procedures for assessing learning outcomes have been developed, accessible to students through university information systems. Regular monitoring of attendance and current progress results is carried out. Transparent assessment mechanisms have been implemented, incl. using the procedure of collegial discussion of the results of defending coursework and diploma projects. Requirements for learning outcomes and assessment criteria are available to students at the beginning of studying the discipline.

Mechanisms for supporting student autonomy through the organization of controlled independent work, provided with the necessary educational and methodological materials, are demonstrated. The work of teaching staff has been organized within the framework of consultations for students completing tasks of supervised independent work (including consultation schedules for teaching staff of the department), access to all necessary educational and methodological documentation has been organized using the resources of the educational portal, DLS PolytechOnline and electronic library resources.

An internal departmental system for assessing students' knowledge has been developed, teachers are introducing new pedagogical technologies into the educational process and developing original educational materials. It is important that the freedom of teaching staff in choosing teaching methods, including project-based and blended learning, is fully realized. Regular advanced training for teachers has been organized, incl. on methods for assessing learning outcomes.

In order to support students, discounts on training and assistance in obtaining grants due to the resulting vacancies have been organized. Regulations have been developed for the provision of grants and discounts on educational services and material incentives (incentives) for students of the Satbayev University 2024.

An important achievement of the university is the system of support (training) for applicants for admission to master's and doctoral programs. The system allows, through individual work with applicants, to focus them on the most effective areas of training, as well as prepare them for successfully passing entrance examinations.

Regular assessment of student satisfaction with the quality of the educational process is carried out. There is feedback from students, procedures for considering appeals (complaints), incl. using a mobile application and with participation created by order of the rector of the appeal commission. Based on the results of student surveys, management decisions are made. Feedback from senior management has been implemented (including the rector's blog).

Analytical part

The commission notes the interest of management and employees in meeting the needs of students, the availability of personalized learning paths, and the use of diverse and modern technologies for organizing the educational process.

The university management pays special attention to respect for different groups of students, their needs, creating conditions for realizing the potential of students while ensuring

the personalization of the educational process. A survey conducted during the work of the EEC showed that 98% of teaching staff assessed very well the conditions created at the university to meet the needs of various groups of students.

The system created at the university to support applicants preparing to enter master's and doctoral programs is very important. The individual work carried out with candidates for admission allows us to increase the effectiveness of the admissions campaign and ensure a significant improvement in the quality of applicants and their informed choice of further educational path.

Students have the opportunity to influence the educational process. Students' choice of modules or elective disciplines is based on an analysis of the presented description of academic disciplines and the EP as a whole. The university has created the necessary conditions for independent work. Tasks and teaching materials for such work are defined and available. The student survey showed the satisfaction of the vast majority of students surveyed with the availability of academic advising, teaching methods and educational materials (over 97% rate the indicators as "completely satisfied" and "satisfied").

The teaching staff has innovative teaching methods, as well as modern methods for assessing learning outcomes. The educational process is fully provided with all necessary information sources, including electronic ones. To ensure the objectivity of assessing the student's knowledge and professional competence, there is a documented mechanism for assessing knowledge. At the same time, the commission considers it necessary to pay more attention to analyzing the effectiveness of scientific and methodological developments implemented by university employees. The effectiveness of such methods should be assessed on a regular basis, incl. by sharing experiences with colleagues, attending open classes conducted using new technologies, etc.

As a result of the visit of the EEC, the presence of a good educational and laboratory base in the field of circuit design and modeling of electronic devices was established. The presence of such a base creates conditions for students' extracurricular work as part of improving their professional competencies. At the same time, in the main areas of accredited educational programs, the university does not have effectively working student research units. The commission recommends creating officially registered scientific circles for each of the accredited educational programs, available to students during extracurricular hours: for the undergraduate program 6B07104 - a circle or student design bureau in the field of practical electronics, for the master's program 7M070502 - a circle (scientific laboratory) in the field of metrology and support technologies quality.

Experts also note the need for regular documented assessment of the effectiveness of using various teaching methods, especially those developed by university teaching staff.

Strengths/Best Practices

Availability of a support system (training program) for applicants for admission to master's and doctoral programs.

EEC recommendations

For educational programs of bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M070502 "Metrology (by industry)":

- Create an infrastructure to ensure scientific and innovative activities of students in the profile of accredited EP (SNIL, SKB, clubs), to ensure educational, scientific, project activities of students and undergraduates aimed at expanding scientific potential, in-depth study of selected disciplines and developing professional skills, incl. during extracurricular hours. The deadline is 08/31/2025.

- After the completion of each semester, conduct an analysis of the effectiveness of using various forms and methods of teaching in the educational process, including one's own research in the field of methods of teaching special disciplines. Deadline: twice a year – within a month after the end of the semester.

According to the master's educational program 7M07502 "Metrology (by industry)":

– on the basis of the graduating department, create a circle (scientific laboratory) in the field of physical metrology and quality assurance technologies. The deadline is December 31, 2024.

According to the undergraduate educational program 6B07104 "Electronic and Electrical Engineering":

– on the basis of the graduating department and the office "Circuit design and modeling of modern electronic devices" to create a circle (student design bureau) in the field of practical electronics. The deadline is December 31, 2024.

EEC conclusions:

According to the standard "Student-centered learning, teaching and assessment of academic performance": ***For undergraduate EP 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)", according to the criteria for primary specialized accreditation, 1 strength was identified, 9 criteria have a satisfactory position, no criteria, suggesting improvements, as well as unsatisfactory criteria.***

6.6. Standard "Students"

- *The university must demonstrate a policy for forming a student population in the context of EP from admission to graduation and ensure the transparency of its procedures. Procedures governing the life cycle of students (from admission to completion) must be defined, approved, and published.*

- *The management of the EP must demonstrate the implementation of special adaptation and support programs for newly admitted and foreign students.*

- *The institution must demonstrate that its actions comply with the Lisbon Recognition Convention.*

- *The university must cooperate with other educational organizations and national centers of the "European Network of National Information Centers for Academic Recognition and Mobility/National Academic Recognition Information Centers" ENIC/NARIC in order to ensure comparable recognition of qualifications.*

- *The management of the EP must demonstrate the existence and application of a mechanism for recognizing the results of academic mobility of students, as well as the results of additional, formal and informal learning.*

- *The university must provide opportunities for external and internal mobility of EP students, as well as assist them in obtaining external grants for training.*

- *The management of the EP should make maximum efforts to provide students with places of practice, promote the employment of graduates, and maintain contact with them.*

- *The university must provide EP graduates with documents confirming the qualifications received, including the learning outcomes achieved, as well as the context, content and status of the education received and evidence of its completion.*

- *An important factor is monitoring the employment and professional activities of EP graduates.*

- *The management of the EP should actively encourage students to self-education and development outside the main program (extracurricular activities).*

- *An important factor is the presence of an active alumni association/union.*

- *An important factor is the presence of a mechanism to support gifted students.*

Evidentiary part

The university has a transparent policy for the formation of the student population. The necessary documents regulating the admission procedure have been approved and published. Various forms of training have been implemented, including on a grant and paid basis, in an abbreviated form for persons with vocational and higher education.

Admission is carried out on a competitive basis in accordance with the scores of unified national testing certificates. At the same time, a procedure is provided for re-crediting scores for persons who have certificates of international standardized tests. On an equal basis with citizens of the Republic of Kazakhstan, an educational grant is provided to persons of Kazakh nationality who are citizens of other states, foreign citizens and stateless persons permanently residing in the Republic of Kazakhstan, as well as citizens of the Russian Federation, the Republic of Belarus, the Republic of Tajikistan, the Republic of Kazakhstan and the Kyrgyz Republic. It is important that on EP 6B07104 "Electronic and Electrical Engineering" in 2022-2023. 77 students from Turkmenistan were accepted (51% of the total number of students).

The university clearly defines the requirements for applicants; the necessary documents are posted on the university website (including study conditions). There are programs for adaptation of students enrolled at the university (including foreign ones). The adaptation program includes a number of activities, ranging from getting to know the administration and infrastructure of the university, to studying the system of organizing the educational process and getting to know acquirers.

Support for the Lisbon Recognition Convention has been declared, cooperation has been established with partner universities, and conditions are in place to ensure internal and external mobility of students. There is a mechanism for recognizing learning results obtained during academic mobility. Education documents issued by foreign educational organizations are recognized on the basis of international treaties (agreements). In the absence of such, validation of education documents is carried out in the manner established by law.

The university provides comprehensive support to various groups of students. Students are sufficiently informed about the activities of the university and the implementation of the EP. There is a registrar's office to resolve issues of interest to students. Attention is paid to financial incentives for students, providing discounts on tuition fees for various social groups, as well as supporting students in obtaining grants for studying. Thus, in the 2022-2023 academic year, students were allocated 42 grants for training.

Accredited EPs are provided with practice bases; the university has a Career Center that provides employment and monitoring of the professional activities of graduates; employment of graduates is ensured on the basis of stable connections with the external environment. Career guidance events and job fairs are regularly held, where students have the opportunity to find a place for future employment. The number of employed students in EP 6B07104 "Electronic and Electrical Engineering" is continuously growing, reaching 95% of those employed in the first year for the class of 2022.

Upon completion of training, graduates receive standard documents with attachments in three languages. An electronic educational portal system has been introduced, which makes it possible to issue a digital diploma with applications upon completion of training.

Analytical part

An analysis of the submitted documents showed that the procedure for admitting students to the university is regulated and is in accordance with the rules for admission to higher educational institutions of the Ministry of Education and Science of the Republic of Kazakhstan. The organization of admission of applicants is carried out by the admissions committee, which is guided by approved regulations. Depending on the conditions of study the contingent is divided into those studying on a state educational grant and those studying on a commercial basis. Career guidance activities have been established. The university regularly organizes events and consultations for school and lyceum graduates. It is important that within the framework of a special program, activities are carried out aimed at adapting them to the conditions of study at the university for admitted students.

The University recognizes qualifications awarded in other countries, and also promotes the validation of educational documents, and officially cooperates with other universities and national centers. The university promotes external and internal academic mobility of students. Providing information about mobility programs and assistance in obtaining grants for the implementation of mobility programs.

For accredited specialties, agreements have been concluded with practice bases. The organization of practices is carried out on the basis of relevant legal acts.

The university website contains information about the current alumni association. However, EEC experts note that in reality the association does not work. A survey of graduates showed that none of them knew about the existence of the association. The information presented on the website contains only information about the success of some graduates, while no official events related to the work of the association as a public association were held.

Strengths/Best Practices

Not found.

EEC recommendations

For undergraduate educational programs 6B07104 “Electronic and Electrical Engineering” and master’s degree 7M07502 “Metrology (by industry)” (recommendation for the university as a whole)

– Ensure the effective operation of the alumni association, as well as informing alumni about the activities of the association. The deadline is December 31, 2024.

– Include famous graduates in the collegial governing bodies of the university and accredited educational programs. The deadline is December 31, 2024.

EEC conclusions:

According to the “Students” standard:

For bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)" according to the criteria for primary specialized accreditation, no strengths were identified, 10 criteria have a satisfactory position, 2 criteria suggest improvements, there are no unsatisfactory criteria.

6.7. Standard “Teaching staff”

The university must have an objective and transparent personnel policy, including in the context of EP, including recruitment, professional growth and development of personnel, ensuring the professional competence of all staff.

- *The university must demonstrate compliance of the staff potential of the teaching staff with the university development strategy and the specifics of the educational program.*
- *The management of the EP must demonstrate awareness of responsibility for its employees and providing them with favorable working conditions.*
- *The leadership of the EP must demonstrate the change in the role of the teacher in connection with the transition to student-centered learning.*
- *The university must determine the contribution of the EP teaching staff to the implementation of the university’s development strategy and other strategic documents.*
- *The university must provide opportunities for career growth and professional development of EP teaching staff.*
- *The management of the EP should involve practitioners from relevant industries in teaching.*
- *The management of the EP must ensure targeted actions for the development of young teachers.*
- *The university must demonstrate motivation for the professional and personal development of EP teachers, including encouraging both the integration of scientific activities and education, and the use of innovative teaching methods.*
- *An important factor is the active use of EP teaching staff of information and communication technologies in the educational process (For example, on-line learning, e-portfolio, MOOC, etc.).*
- *An important factor is the development of academic mobility within the EP, attracting the best foreign and domestic teachers.*
- *An important factor is the involvement of OP teaching staff in the life of society (the role of teaching staff in the education system, in the development of science, the region, the creation of a cultural environment, participation in exhibitions, creative competitions, charity programs, etc.).*

Evidentiary part

The university has developed and is successfully implementing a personnel policy as part of the university strategy aimed at forming a contingent of personnel. All personnel decisions are made in accordance with the requirements of labor laws. The university has approved criteria for hiring employees, documented QMS procedures and other regulatory documents regulating the procedure for competitively filling positions have been developed.

It should be noted that the quality indicator of the university’s staffing levels corresponds to the standard established by the license, and that the university has a system that promotes the professional growth and development of staff. There is an electronic teaching staff database, which

includes complete information about employees and their achievements. A documented procedure “HR Management” has been developed.

The staff of teaching staff working within the framework of accredited educational programs meets all requirements and includes persons with extensive teaching and production experience. Practitioners from organizations in the region are involved in the implementation of the educational process.

The University demonstrates its commitment to student-centered education through the orientation of teaching staff to the needs of students and the corresponding professional development of employees. Strategic and operational planning documents reflect the leading role of teaching staff in the implementation of main processes. All key performance indicators are determined at the level of performers, including teaching staff.

Teachers participate in academic mobility and social life programs. The fairly high level of qualifications of teaching staff participating in scientific and educational activities is confirmed by the presence of funded scientific projects, as well as the increase in the number of publications, including in rating publications. For carrying out research work at the university, appropriate conditions have been created, incl. access to the main databases of scientific publications is provided.

The University strives to create favorable conditions for the development of human resources. The administration promotes professional development, improvement of working conditions, objective assessment and encouragement of teaching staff. The university's QMS includes a documented procedure describing the procedure for organizing employee training; internal and external seminars and trainings, on-the-job training, mentoring for young professionals and other forms of work are regularly held. In the 2022-2023 academic year, 85% of the teaching staff of the ET&ST department improved their qualifications.

Opportunities for career growth of employees have been realized, and a personnel reserve is in place. The remuneration system provides for the establishment of bonuses for high achievements and productive work. A system of moral and material rewards for achievements in work has been implemented, based on the analysis of key performance indicators (focused on achieving the strategic goals of the university).

The teaching staff actively uses information and communication technologies in its work, as well as innovative practice-oriented teaching methods. To improve the competencies of teaching staff in this area, trainings and seminars are held.

The university's academic mobility system demonstrates the participation of teachers in incoming and outgoing academic mobility programs, inviting leading foreign and domestic specialists to teach. Organizational arrangements for the implementation of academic mobility are regulated by the documented “Academic Mobility” procedure.

Analytical part

The University considers the teaching staff to be the main resource for the educational process and takes the necessary measures to improve qualifications and train personnel. University teachers are elected to their positions in accordance with the rules of competitive filling of positions of scientific and pedagogical personnel of higher educational institutions (in accordance with the documented procedure).

The quantitative composition and qualifications of teachers correspond to the areas of training. The university's strategic plans contain requirements for improving the quality of teaching staff.

At the same time, experts note the advisability of organizing work to improve the qualifications of teaching staff by acquiring professional competencies that are required at the place of work of graduating specialists. Thus, for master's degree teaching staff 7M07502 “Metrology (by industry)”, it is recommended that teaching staff involved in the implementation of the EP receive a verifier's certificate; for bachelor's degree teaching staff 6B07104 “Electronic and Electrical Engineering” it is recommended that teaching staff take electrical safety courses with the assignment of the appropriate electrical safety groups. This will allow teachers in their

activities to implement pedagogical approaches and knowledge assessment mechanisms aimed at obtaining competencies that are most in demand in real production conditions.

The university has developed approaches to the current assessment of the quality of work of teachers, which is assessed by rating indicators, student surveys, research work, etc. Various measures of moral and material incentives are used for success in the work of teachers and staff. In order to improve the quality of education and strengthen its practical orientation, external employees (employer representatives) are actively involved.

Teachers improve their qualifications through participation in seminars, courses, advanced training programs, internships, etc. abroad.

Taking into account the student-centered approach, teachers develop and implement modern pedagogical technologies, primarily paying attention to the widespread use of information and communication technologies and the introduction of modern teaching technologies.

The university demonstrates a good level of work with the personnel reserve, however, according to the results of an interview with teaching staff conducted by representatives of the EEC, experts consider the work carried out with young employees to be insufficient and recommend developing a separate program for supporting, stimulating and training young specialists, primarily from among those in the personnel reserve .

According to the results of a survey of teaching staff conducted by the EEC during a visit to the university, the vast majority (over 95%) of the surveyed teachers assess the opportunities for professional and career growth, involvement in university management processes, advanced training and other aspects of personnel work well or very well.

Strengths/Best Practices

Not found.

EEC recommendations

For educational programs of bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)":

- Ensure that teaching staff complete training and receive professional certificates in the area of work (electrical safety group, verifier certificate, etc.). The deadline is 06/30/2025.
- Develop a program of scientific and methodological support (modern teaching technologies, digitalization of education, development of leadership competencies) aimed at stimulating the professional development of employees from among young specialists, incl. included in the personnel reserve. The deadline is December 31, 2024.

EEC conclusions:

According to the “Faculty and Teaching Staff” standard:

For bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)" according to the criteria for primary specialized accreditation, no strengths were identified, 9 criteria have a satisfactory position, there are no criteria that suggest improvements, there are no unsatisfactory criteria.

6.8. Standard “Educational Resources and Student Support Systems”

- *The management of the EP must demonstrate the sufficiency of material and technical resources and infrastructure.*
- *EP management must demonstrate the availability of procedures to support various groups of students, including information and consultation.*
- *The management of the EP must demonstrate the compliance of information resources with the specifics of the EP, including compliance with:*
 - *technological support for students and teaching staff in accordance with educational programs (for example, online learning, modeling, databases, data analysis programs);*
 - *library resources, including a fund of educational, methodological and scientific literature on general education, basic and major disciplines on paper and electronic media, periodicals, access to scientific databases;*
 - *examination of research results, graduation works, dissertations for plagiarism;*

- *access to educational Internet resources;*
- *functioning of WI-FI on the territory of the educational organization.*
- *The university should strive to ensure that the educational equipment and software used to master educational programs are similar to those used in the relevant industries.*
- *The university must ensure compliance with safety requirements during the learning process.*
- *The university should strive to take into account the needs of various groups of students in the context of EP (adults, working people, foreign students, as well as students with disabilities).*

Evidentiary part

The university demonstrates a continuous commitment to providing the educational program with the necessary resources. The university's scientific library provides electronic resources for information support of the educational process, incl. electronic database, including scientific works of university staff. The reading rooms of the scientific library are equipped with 90 modern computers for access to library resources.

There is a large park of computer classes (51 classrooms with 665 computers, of which 357 are high-performance workstations), workplaces for employees and students, equipped with computers and the necessary office equipment, licensed professional and office software has been purchased, incl. to access information databases. The university's total computer park includes 3,843 computers. Access to the Internet is provided using a channel with a capacity of 1.4 Gbit/s. Most of the university territory has access to Wi-Fi. Mechanisms have been implemented to support students who have difficulty accessing network resources.

Information technologies are widely used in the educational process, a number of software products for managing the educational process of our own design have been introduced, there is an educational portal, a distance education system, and a portal for conducting webinars. There is a database of digital materials, equipment and its own studio for video production.

To ensure basic processes, the Microsoft 365 cloud platform is used (number of users - up to 8000). The university domain provides a personal email for each employee and student.

Mobile applications and original electronic services have been developed to support the educational process; the educational portal is used for maintaining journals, progress reports, syllabuses, organizing diploma projects, etc.

It is necessary to note the introduction of an online proctoring system, as well as specialized software that prevents students from using the capabilities of artificial intelligence when assessing knowledge, and the active use of a system for checking works for plagiarism.

The university has a modern material and technical base that ensures all types of practical training and research work of students provided for by accredited EP and meets current standards and the needs of various groups of students, which is constantly being improved.

In general, the university has a good level of material and technical equipment. The EP "Electronic and Electrical Engineering" and the master's program 7M07502 "Metrology (by industry)" also have a modern laboratory base, incl. based on the resources of partner enterprises (branches of the department in leading specialized organizations).

Analytical part

Experts note that the university has a material and technical base that ensures the implementation of accredited educational programs and complies with regulatory requirements. The university's educational buildings are properly adapted to educational activities. All students have access to educational materials and library collections. The disciplines of the curriculum are provided with educational literature on paper and electronic media. The university has created a unified information network, to which employees and students have access, including through wireless technologies.

At the same time, experts note the need to revise EP development plans based on the results of a real analysis of available and planned resources.

The Commission also notes the insufficient level of material and technical equipment of accredited EPs with equipment similar to that used in modern production conditions. For example,

for the EP “Electronic and Electrical Engineering” the commission recommends performing laboratory classes using components and measuring instruments, creating mock-ups and prototypes of real devices and systems during the practice-oriented educational process, minimizing the performance of work on bench equipment, using which the student does not can be fully immersed in the processes of working with real components and technologies.

It is important that the university has not identified those responsible for metrological support, and verification (calibration) of measuring instruments is not carried out at all or is carried out irregularly.

An interview with students of the undergraduate program 6B07104 “Electronic and Electrical Engineering” showed the presence of comments on the preparation of the educational schedule, which often includes time intervals not occupied by academic classes.

Strengths/Best Practices

Not found.

EEC recommendations

For educational programs of bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)":

– Conduct a comprehensive analysis of resources (personnel, material, financial, organizational, etc.) necessary for the implementation of the EP. Include in the EP development plans measures to improve the material and technical base, taking into account the results of a comprehensive analysis. The deadline is December 31, 2024.

– Include in the plan for the purchase of educational equipment the devices and components necessary for organizing practice-oriented training using mock-ups and prototypes of real devices and systems, rather than bench equipment. The deadline is December 31, 2024.

– Ensure work on organizing timely verification and calibration of measuring instruments. Determine the person responsible for ensuring verification and timely maintenance of measuring instruments at the university level. The deadline is 06/30/2025.

Under the undergraduate educational program 6B07104 “Electronic and Electrical Engineering”:

– Design a class schedule taking into account the minimum number of unoccupied time slots. Deadline: 09/01/2024.

EEC conclusions:

According to the standard “Educational resources and student support systems”:

For bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)" according to the criteria for primary specialized accreditation, no strengths were identified, 8 criteria have a satisfactory position, 1 criterion suggests improvement, there are no unsatisfactory criteria.

6.9. Public Information Standard

• *Information published by the university within the framework of the EP must be accurate, objective, relevant and must include:*

- *implemented programs, indicating expected learning outcomes;*
- *information about the possibility of assigning qualifications upon completion of the EP;*
- *information about teaching, learning, assessment procedures;*
- *information about passing scores and educational opportunities provided to students;*
- *information about employment opportunities for graduates.*
- *The management of the EP should use a variety of ways to disseminate information, including the media, information networks to inform the general public and interested parties.*
- *Public information should include support and explanation of the country's national development programs and the system of higher and postgraduate education.*
- *The university must publish audited financial statements on its own website, including by EP.*
- *The university must demonstrate the reflection on the web resource of information characterizing the university as a whole and in the context of educational programs.*

- An important factor is the availability of adequate and objective information about the teaching staff of the EP, in the context of personalities.
- An important factor is to inform the public about cooperation and interaction with partners within the EP, including scientific/consulting organizations, business partners, social partners and educational organizations.
- The university must post information and links to external resources based on the results of external assessment procedures.
- An important factor is the participation of the university and the implemented educational programs in various external assessment procedures.

Evidentiary part

The university follows the principles of openness and accessibility to the public, posts complete and reliable information about the university's activities on information resources on the Internet, implementing a strategy of informing the public through the [website](#), social networks (official university accounts) [Instagram](#) and [Facebook](#), [VK](#), [Twitter](#), [TikTok](#), [Linkedin](#) and etc., materials in the media.

Information on accredited EPs is posted on the university website (separately for undergraduate and graduate programs), including a description of the conditions of study and employment prospects, as well as EP passports and other information, incl. information about teaching staff by personalities. It is important that information about teaching staff contains links to scientometric profiles of employees, as well as a list of scientific projects in which the teacher participated and his main publications.

The university is actively represented on social networks, works closely with regional and national media, and uses an internal information system for students and employees. The university's information policy provides for coverage of national development programs of the Republic of Kazakhstan (by area).

The university publishes audited financial statements on its own website.

It is important to note the fact that the university publishes four peer-reviewed scientific journals in specialized areas, in which the results of research work of teaching staff are published.

The University also publishes detailed information on the website about external assessment procedures and participation in rankings.

Analytical part

The university follows the principles of openness and accessibility to the public, posts fairly complete and reliable information about its activities on information resources on the Internet, and actively works with partners, information about the results of which is posted on the corporate website and in other media.

The corporate website is implemented in 3 languages and reflects information about the history, structural divisions and main processes of the university. The information on the site is regularly updated, however, during the EEC's visit, the site was in a state of refinement, and therefore a number of links did not work. Experts also note the need to improve the site structure in order to ensure an intuitive search for the necessary information.

The university publishes on the website sufficient information on the accredited undergraduate EP 6B07104 "Electronic and Electrical Engineering", however, on the master's EP 7M07502 "Metrology (by industry)" the necessary information is not presented in the corresponding section of the website. Also, the website does not provide up-to-date information about the work of the alumni association and its events (the section contains profiles of famous university graduates, general information about the association is posted in the "Divisions" section of the website)

Strengths/Best Practices

Not found.

EEC recommendations

For educational programs of bachelor's degree 6B07104 "Electronic and Electrical

Engineering" and master's degree 7M07502 "Metrology (by industry)":

- Eliminate broken links to a number of sections of the site. Deadline: 09/01/2024.
- Develop a unified structure for presenting information on EP on the website. Place information on all EPs on the website taking into account a unified approach. Deadline: 09/01/2024.

According to the master's educational program 7M07502 "Metrology (by industry)":

- Place a description of the EP "Metrology" (by industry) in the appropriate section of the university website. Deadline: 06/30/2024.

EEC recommendations:

According to the "Public Information" standard:

For bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)" according to the criteria for primary specialized accreditation, no strengths were identified, 8 criteria have a satisfactory position, 2 criteria suggest improvements, there are no unsatisfactory criteria.



(VII) OVERVIEW OF STRENGTHS/BEST PRACTICES FOR EACH STANDARD

According to the “Educational Program Management” standard:

– not identified.

According to the Information Management and Reporting standard:

– Development and effective use of our own educational portal for distance education PolytechOnline, integrating the main directions of the educational process, incl. for persons with disabilities.

According to the standard “Development and approval of an educational program”:

– not identified.

Standard “Continuous monitoring and periodic evaluation of educational programs”:

– not identified.

According to the standard “Student-centered learning, teaching and assessment of academic performance”:

– Availability of a support system (training program) for applicants for admission to master's and doctoral programs.

According to the “Students” standard:

– not identified.

According to the “Faculty and Teaching Staff” standard:

– not identified.

According to the standard “Educational resources and student support systems”:

– not identified.

According to the “Public Information” standard:

– not identified.

(VIII) OVERVIEW OF RECOMMENDATIONS FOR IMPROVING QUALITY FOR EACH STANDARD

According to the “Educational Program Management” standard.

For educational programs of bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)":

- Determine the uniqueness and competitive advantages of the educational program in comparison with other educational programs implemented in the region and in the country. Finalize EP development plans, taking into account the unique content and specifics of the organization of the educational process, as well as the needs of stakeholders, national priorities and the university development strategy. Deadline: 06/30/2024.

- Include in the curriculum of master's degree program 7M07502 “Metrology (by industry)” disciplines focused on the use of basic professional competencies in the fields of science and production, specific to the region of primary employment of graduates. Deadline: 08/31/2025.

- Provide an assessment of the likelihood of risks occurring and their degree of influence on the main processes when designing (updating) the strategy and development plans of the EP. Analyze the effectiveness of risk reduction measures. The deadline is December 31, 2024.

- Include representatives of graduates and employers in the councils of institutes, scientific, technical and educational councils of the university. Deadline: 06/30/2024.

- Heads of graduating departments and scientific supervisors of R&D to ensure confirmed implementation of scientific research results in the educational process. The deadline is December 31, 2024.

According to the Information Management and Reporting standard:

- **No recommendations**

According to the standard “Development and approval of an educational program”.

According to the master’s educational program 7M07502 “Metrology (by industry)”:

- Bring training results into compliance with the labor functions of the 7th level of the international standard classification of education, specified in the professional standard “Metrology”, approved by the NCE RK “Atameken” dated 10/22/2018. Deadline: 06/30/2024.

For undergraduate educational programs 6B07104 “Electronic and Electrical Engineering” and master’s degree 7M07502 “Metrology (by industry)”:

- Ensure that the EP is examined by employers, taking into account the assessment of its compliance with all the main areas of the graduate’s professional activity. Deadline: 09/30/2024.

- Determine the possibilities and areas of professional certification in accordance with the profile of students’ training, as well as a list of EP disciplines, the content of which is aimed at preparing for certification. Deadline: 09/30/2024.

According to the standard “Continuous monitoring and periodic evaluation of educational programs”.

For educational programs of bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)":

- Involve employers in ongoing monitoring of the achievement of EP goals when discussing the effectiveness of EP. The deadline is December 31, 2024.

- Develop a documented procedure for promptly (no later than 2 weeks after changes are made) informing all interested parties about planned or taken actions in relation to the EP. Deadline: 06/30/2024.

- Ensure timely publication of all changes in the EP using the university website. Deadline: 06/30/2024.

According to the standard “Student-centered learning, teaching and assessment of academic performance.”

For educational programs of bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)":

For educational programs of bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)":

- Create an infrastructure to ensure scientific and innovative activities of students in the profile of accredited EP (SNIL, SKB, clubs), to ensure educational, scientific, project activities of students and undergraduates aimed at expanding scientific potential, in-depth study of selected disciplines and developing professional skills, incl. during extracurricular hours. The deadline is 08/31/2025.
- After the completion of each semester, conduct an analysis of the effectiveness of using various forms and methods of teaching in the educational process, including one's own research in the field of methods of teaching special disciplines. Deadline: twice a year – within a month after the end of the semester.

According to the master's educational program 7M07502 "Metrology (by industry)":

- on the basis of the graduating department, create a circle (scientific laboratory) in the field of physical metrology and quality assurance technologies. The deadline is December 31, 2024.

According to the undergraduate educational program 6B07104 "Electronic and Electrical Engineering":

- on the basis of the graduating department and the office "Circuit design and modeling of modern electronic devices" to create a circle (student design bureau) in the field of practical electronics. The deadline is December 31, 2024.

According to the "Learners" standard.

For educational programs of bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)":

- Ensure the effective operation of the alumni association, as well as informing alumni about the activities of the association. The deadline is December 31, 2024.
- Include famous graduates in the collegial governing bodies of the university and accredited educational programs. The deadline is December 31, 2024.

According to the "Faculty and Teaching Staff" standard.

For educational programs of bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)":

- Ensure that teaching staff complete training and receive professional certificates in the area of work (electrical safety group, verifier certificate, etc.). The deadline is 06/30/2025.
- Develop a program of scientific and methodological support (modern teaching technologies, digitalization of education, development of leadership competencies) aimed at stimulating the professional development of employees from among young specialists, incl. included in the personnel reserve. The deadline is December 31, 2024.

According to the standard "Educational resources and student support systems".

For educational programs of bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)":

- *Conduct a comprehensive analysis of resources (personnel, material, financial, organizational, etc.) necessary for the implementation of the EP. Include in the EP development plans measures to improve the material and technical base, taking into account the results of a comprehensive analysis. The deadline is December 31, 2024.*
- *Include in the plan for the purchase of educational equipment the devices and components necessary for organizing practice-oriented training using mock-ups and prototypes of real devices and systems, rather than bench equipment. The deadline is December 31, 2024.*
- *Ensure work on organizing timely verification and calibration of measuring instruments. Determine the person responsible for ensuring verification and timely maintenance of measuring instruments at the university level. The deadline is 06/30/2025.*

Under the undergraduate educational program 6B07104 “Electronic and Electrical Engineering”:

– *Design a class schedule taking into account the minimum number of unoccupied time slots.*
Deadline: 09/01/2024.

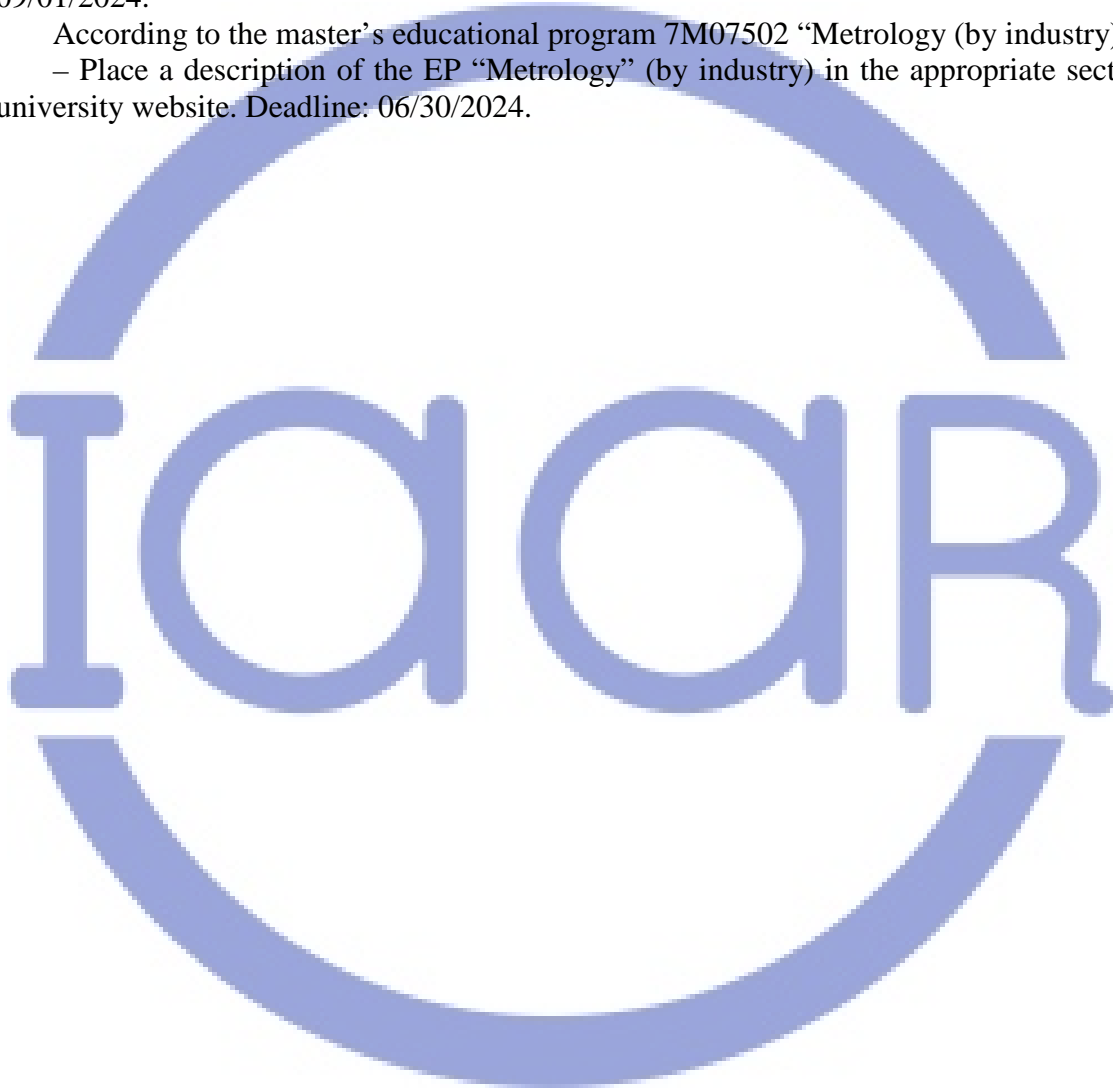
According to the “Public Information” standard.

For educational programs of bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)":

– Eliminate broken links to a number of sections of the site. Deadline: 09/01/2024.
– Develop a unified structure for presenting information on EP on the website. Place information on all EPs on the website, taking into account a unified approach. Deadline: 09/01/2024.

According to the master’s educational program 7M07502 “Metrology (by industry)”:

– Place a description of the EP “Metrology” (by industry) in the appropriate section of the university website. Deadline: 06/30/2024.



(IX) REVIEW OF RECOMMENDATIONS FOR THE DEVELOPMENT OF EDUCATIONAL ORGANIZATION

The Commission recommends that the university organize its activities based on the open innovation model, focusing on the development of innovative and entrepreneurial activity of employees and students in an effort to best meet the expectations of consumers and other stakeholders.

Considering the significant role of sustainable development goals in university management processes, it is recommended to position the university as a regional platform for achieving sustainable development goals.

Taking into account the high potential of the university and the interest of children and youth in engineering education, it is recommended to consider the issue of creating a children's (youth) center for technical and entrepreneurial development in order to create a professionally oriented educational environment and resource support for the scientific and technical activities of children and youth. The Center can be created at the basis of network interaction and partnership of the university with educational institutions, enterprises and authorities. One of the tasks of such a center could be the formation and support of youth initiatives, incl. business ideas (youth business incubator).



(X) RECOMMENDATION TO THE ACCREDITATION BOARD

Based on the audit, the EEC considers it appropriate to recommend that the IAAR Attestation Council accredit the educational programs of the bachelor's degree 6B07104 "Electronic and Electrical Engineering" and master's degree 7M07502 "Metrology (by industry)" of the Non-Profit Joint Stock Company Satbayev University for a period of (5) five years.



Appendix 1. Evaluation table “SPECIALIZED PROFILE PARAMETERS”

№	№	Criteria for evaluation	Position of the educational organization			
			Strong	Satisfactory	Expected to improve	Unsatisfactory
Standard "Educational Program Management"						
1	1.	The higher and/or postgraduate education organization must have a published quality assurance policy that reflects the relationship between research, teaching and learning		+		
2	2.	The organization of higher and (or) postgraduate education must demonstrate the development of a culture of quality assurance, including in the context of EP		+		
3	3.	A commitment to quality assurance must apply to any activity carried out by contractors and partners (outsourcing), including joint/double degree education and academic mobility.		+		
4	4.	The management of the EP demonstrates transparency in the development of a development plan for the EP, containing the start date for implementation, based on an analysis of its functioning, the real positioning of the EP and the focus of its activities on meeting the needs of the state, employers, students and other interested parties		+		
5	5.	The leadership of the EP demonstrates the presence of mechanisms for the formation and regular review of the EP development plan and monitoring its implementation, assessing the achievement of learning goals, compliance with the needs of students, employers and society, making decisions aimed at continuous improvement of the EP			+	
6	6.	The management of the EP should involve representatives of stakeholder groups, including employers, students and teaching staff in the formation of a development plan for the EP		+		
7	7.	The leadership of the EP must demonstrate the individuality and uniqueness of the EP development plan, its consistency with national priorities and the development strategy of the organization of higher and (or) postgraduate education			+	
8	8.	The organization of higher and (or) postgraduate education must demonstrate a clear definition of those responsible for business processes within the EP, an unambiguous distribution of job responsibilities of staff, and delimitation of the functions of collegial bodies		+		
9	9.	The management of the educational program must provide evidence of the transparency of the educational program management system		+		
10	10.	The management of the EP must demonstrate the existence of an internal quality assurance system for the EP, including its		+		

		design, management and monitoring, their improvement, decision-making based on facts				
11	11.	The management of the educational institution must manage risks, including within the framework of the educational institution undergoing initial accreditation, and also demonstrate a system of measures aimed at reducing the degree of risk.			+	
12	12.	The management of the educational program must ensure the participation of representatives of employers, teaching staff, students and other interested parties in the collegial bodies governing the educational program, as well as their representativeness when making decisions on issues of managing the educational program		+		
13	13.	The EO must demonstrate innovation management within the EP, including the analysis and implementation of innovative proposals		+		
14	14.	The management of the EP must demonstrate evidence of readiness for openness and accessibility for students, teaching staff, employers and other interested parties		+		
15	15.	EP management must undergo training in educational management programs		+		
Total by the standard			0	12	3	0
Information Management and Reporting Standard						
16	1.	The organization must demonstrate that it has a system for collecting, analyzing and managing information based on the use of modern information and communication technologies and software, and that it uses a variety of methods to collect and analyze information in the context of the organization.		+		
17	2.	The management of the EP must demonstrate the existence of a mechanism for the systematic use of processed, adequate information to improve the internal quality assurance system		+		
18	3.	EP management must demonstrate fact-based decision making		+		
19	4.	The EP should provide for a system of regular reporting, reflecting all levels of the structure, including assessment of the effectiveness and efficiency of the activities of departments and departments, scientific research		+		
20	5.	The EO must establish the frequency, forms and methods of assessing the management of the EP, the activities of collegial bodies and structural divisions, senior management, and the implementation of scientific projects		+		
21	6.	The EO must demonstrate the determination of the procedure and ensuring the protection of information, including the identification of responsible persons for the accuracy and timeliness of information analysis and data provision		+		
22	7.	An important factor is the presence of mechanisms for involving students, employees and teaching staff in the processes of collecting and analyzing information, as well as making decisions based on them		+		
23	8.	The management of the EP must demonstrate the existence of a communication mechanism with students, employees and other interested parties, as well as conflict resolution		+		

		mechanisms				
24	9.	The educational organization must demonstrate the presence of mechanisms for measuring the degree of satisfaction of the needs of teaching staff, staff and students within the educational program		+		
25	10.	The EO must provide for an assessment of the effectiveness and efficiency of activities, including in the context of EP		+		
		<i>Information intended for collection and analysis within the framework of the OP should take into account:</i>				
26	11.	key performance indicators		+		
27	12.	dynamics of the student population in terms of forms and types		+		
28	13.	grade level, student achievement and dropout		+		
29	14.	student satisfaction with the implementation of the EP and the quality of education at the university		+		
30	15.	Availability of educational resources and support systems for students	+			
31	16.	The public organization must confirm the implementation of procedures for processing personal data of students, employees and teaching staff based on their documented consent		+		
Total by the standard			1	15	0	0
Standard “Development and approval of an educational program”						
32	1.	The PA must define and document procedures for developing EP and their approval at the institutional level		+		
33	2.	The management of the EP must ensure that the content of the EP corresponds to the established goals, including the intended learning outcomes		+		
34	3.	The management of the EP must demonstrate the existence of mechanisms for revising the content and structure of the EP, taking into account changes in the labor market, the requirements of employers and the social demands of society		+		
35	4.	The management of the EP must ensure the availability of developed models of the EP graduate that describe the learning outcomes and personal qualities		+		
36	5.	The management of the EP must demonstrate the conduct of external examinations of the content of the EP and the planned results of its implementation		+		
37	6.	The qualification awarded upon completion of the EP must be clearly defined and correspond to a certain level of the NQF and QF-EHEA		+		
38	7.	The management of the educational program must determine the influence of disciplines and professional practices on the formation of learning outcomes		+		
39	8.	An important factor is the possibility of preparing students for professional certification		+		
40	9.	The management of the EP must provide evidence of the participation of students, teaching staff and other interested parties in the development of the EP and ensuring its quality		+		
41	10.	The management of the EP must ensure that the content of academic disciplines and planned results correspond to the level of study (bachelor's, master's, doctoral)		+		

42	11.	The structure of the EP should provide for various types of activities to ensure that students achieve the planned learning outcomes		+		
43	12.	An important factor is the correspondence of the content of the EP and the learning outcomes of the EP implemented by organizations of higher and (or) postgraduate education in the EHEA		+		
Total by the standard			0	11	0	0
Standard “Continuous monitoring and periodic evaluation of educational programs”						
44	1.	The educational institution must determine mechanisms for monitoring and periodically evaluating the educational program to ensure the achievement of the goal and meet the needs of students and society and show the focus of the mechanisms on the continuous improvement of the educational program.		+		
		Monitoring and periodic evaluation of the EP should include:				
45	2.	the content of the program in the light of the latest scientific achievements in a particular discipline to ensure the relevance of the taught discipline		+		
46	3.	changes in the needs of society and the professional environment		+		
47	4.	workload, performance and graduation of students		+		
48	5.	effectiveness of student assessment procedures		+		
49	6.	expectations, needs and satisfaction of students with EP training		+		
50	7.	educational environment and support services, and their compliance with the goals of the EP		+		
51	8.	The management of the EP must demonstrate a systematic approach to monitoring and periodically assessing the quality of the EP		+		
52	9.	EO, OP management must determine a mechanism for informing all interested parties about any planned or taken actions regarding the EO			+	
53	10.	All changes made to the EP must be published			+	
Total by the standard			0	8	2	0
Standard “Student-centered learning, teaching and assessment”						
54	1.	The management of the educational program must ensure respect and attention to different groups of students and their needs, provide them with flexible learning paths	+			
55	2.	The management of the educational program should provide for the use of various forms and methods of teaching and learning		+		
56	3.	An important factor is the presence of your own research in the field of teaching methods of EP academic disciplines		+		
57	4.	The management of the educational program must demonstrate the presence of feedback mechanisms on the use of various teaching methods and evaluation of learning outcomes		+		
58	5.	The management of the educational program must demonstrate the presence of mechanisms to support student autonomy with simultaneous guidance and assistance from the teacher		+		

59	6.	The management of the educational program must demonstrate the existence of a procedure for responding to student complaints		+		
60	7.	The educational institution must ensure consistency, transparency and objectivity of the mechanism for assessing learning outcomes for each educational program, including appeal		+		
61	8.	The educational organization must ensure that the procedures for assessing the learning outcomes of EP students comply with the planned results and goals of the program, publishing criteria and assessment methods in advance		+		
62	9.	The educational institution must define mechanisms to ensure that each graduate of the educational program achieves learning outcomes and ensure the completeness of their formation		+		
63	10.	Evaluators must be proficient in modern methods of assessing learning outcomes and regularly improve their skills in this area		+		
Total by the standard			1	9	0	0
Standard "Students"						
64	1.	The educational organization must demonstrate the existence of a policy for the formation of a contingent of students in the context of the educational program, ensure transparency and publication of its procedures regulating the life cycle of students (from admission to completion)		+		
		The management of the EP must determine the procedure for forming the student population based on:				
65	2.	minimum requirements for applicants		+		
66	3.	maximum group size when conducting seminars, practical, laboratory and studio classes		+		
67	4.	forecasting the number of government grants		+		
68	5.	analysis of available material, technical, information resources, human resources			+	
69	6.	analysis of potential social conditions for students, incl. provision of places in a hostel		+		
70	7.	The management of the educational program must demonstrate readiness to conduct special adaptation and support programs for newly admitted and foreign students		+		
71	8.	The public organization must demonstrate compliance of its actions with the Lisbon Recognition Convention, the presence of a mechanism for recognizing the results of academic mobility of students, as well as the results of additional, formal and informal training		+		
72	9.	The PA should cooperate with other educational organizations and national centers of the “European Network of National Information Centers for Academic Recognition and Mobility/National Academic Recognition Information Centers” ENIC/NARIC in order to ensure comparable recognition of qualifications		+		
73	10.	The educational institution must provide the opportunity for external and internal mobility of students of educational programs, as well as readiness to assist them in obtaining external grants for training		+		

74	11.	The management of the educational program must demonstrate its readiness to provide students with places of practice, facilitate the employment of graduates, and maintain contact with them.			+		
75	12.	The educational institution must provide for the possibility of providing graduates of the educational program with documents confirming the qualifications obtained, including the achieved learning outcomes, as well as the context, content and status of the education received and evidence of its completion			+		
Total by the standard			0	10	2	0	
Standard “Faculty and teaching staff”							
76	1.	The EO must have an objective and transparent personnel policy, including in the context of EP, including recruitment, professional growth and development of personnel, ensuring the professional competence of all staff			+		
77	2.	The EO must demonstrate compliance of the staff potential of the teaching staff with the specifics of the EP			+		
78	3.	The management of the EP must demonstrate awareness of responsibility for its employees and provide them with favorable working conditions			+		
79	4.	The management of the educational program must demonstrate a change in the role of the teacher in connection with the transition to student-centered learning			+		
80	5.	The EO must determine the contribution of the teaching staff of the EP to the implementation of the development strategy of the PA, and other strategic documents			+		
81	6.	The educational institution should provide opportunities for career growth and professional development of teaching staff of the EP			+		
82	7.	The management of the EP must demonstrate its readiness to involve practitioners in relevant sectors of the economy in teaching.			+		
83	8.	The educational organization must demonstrate the motivation for the professional and personal development of teachers of the educational program, including encouragement for the integration of scientific activities and education, the use of innovative teaching methods			+		
84	9.	An important factor is readiness to develop academic mobility within the EP and attract the best foreign and domestic teachers			+		
Total by the standard			0	9	0	0	
Standard “Educational Resources and Student Support Systems”							
85	1.	The educational institution must guarantee a sufficient number of educational resources and student support services to ensure the achievement of the educational objectives			+		
86	2.	The educational institution must demonstrate the sufficiency of material and technical resources and infrastructure, taking into account the needs of various groups of students in the context of educational institutions (adults, working people, foreign students, as well as students with disabilities)			+		

87	3.	The management of the educational program must demonstrate the availability of procedures for supporting various groups of students, including information and consultation		+		
		The management of the EP must demonstrate the compliance of information resources with the specifics of the EP, including:				
88	4.	technological support for students and teaching staff (for example, online learning, modeling, databases, data analysis programs)		+		
89	5.	library resources, including a fund of educational, methodological and scientific literature on general education, basic and major disciplines on paper and electronic media, periodicals, access to scientific databases		+		
90	6.	examination of research results, graduation works, dissertations for plagiarism		+		
91	7.	access to educational Internet resources		+		
92	8.	functioning of WI-FI on the territory of the educational organization		+		
93	9.	The EO demonstrates planning to provide EP with educational equipment and software similar to those used in the relevant sectors of the economy			+	
Total by the standard			0	8	1	0
Public Information Standard						
		The public organization must publish reliable, objective, up-to-date information about the educational program and its specifics, which should include:				
94	1.	expected learning outcomes of the educational program being implemented			+	
95	2.	qualifications and (or) qualifications that will be awarded upon completion of the educational program		+		
96	3.	approaches to teaching, learning, as well as the system (procedures, methods and forms) of assessment			+	
97	4.	information about passing scores and educational opportunities provided to students		+		
98	5.	information about employment opportunities for graduates		+		
99	6.	The management of the EP should provide for a variety of ways to disseminate information, including the media, information networks to inform the general public and interested parties		+		
100	7.	Public information should include support and explanation of the country's national development programs and the system of higher and postgraduate education		+		
101	8.	The educational organization must demonstrate the reflection on the web resource of information characterizing it in general and in the context of educational programs		+		
102	9.	An important factor is the availability of adequate and objective information about the teaching staff of the EP		+		
103	10.	An important factor is informing the public about cooperation and interaction with partners within the framework of the EP		+		
Total by the standard			0	8	2	0
Total			2	91	10	0

Appendix 2 PROGRAM OF THE VISIT TO THE EDUCATIONAL ORGANIZATION

Date and time	Work of the EEC with target groups	Position and Last name, Name Patronymic name target group participants	Contact form
<i>March 25, 2024</i>			
During the day	Arrival of the External Expert Commission members		
16.00-17.00	Preliminary meeting of the EEC	<i>IAAR External Experts</i>	Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 681 3032588
20.00	Dinner	<i>IAAR External Experts</i>	
<i>Day 1: March 26, 2024</i>			
09.30-10.00	Transfer from the hotel to the University	<i>External IAAR experts, university coordinator –</i>	
10.00-10.20	Distribution of responsibilities of experts, solution of organizational issues	<i>IAAR External Experts</i>	302 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 681 3032588
10.20-11.00	Interview with the rector and vice-rectors	Chairman of the Board – Rector – <i>Begentaev Meiram Mukhametrakhimovich, Doctor of Economics</i> Member of the Board – First Vice-Rector for International Cooperation and Strategic Development – <i>Yermekbaev Samgat Kuatovich,</i> Member of the Board - Vice-Rector for Academic Affairs – <i>Uskenbaeva Raisa Kabievna, Doctor of Technical Sciences, Professor</i> Member of the Board - Vice-Rector for Science and Corporate Development – <i>Kuldeev Erzhan Itemenovich, Ph.D., Professor</i> Member of the Board – Vice-Rector for Administrative, Social and Educational Work – <i>Shalabaev Sapar Kataevich</i>	302 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 6813032588
11.00-11.10	Technical break		
11.10-11.50	Interview with heads of structural	Director of the Department of Finance and Accounting – Chief Accountant – <i>Togzhigitova Gulnara Beisengazievna</i>	316 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588

Date and time	Work of the EEC with target groups	Position and Last name, Name Patronymic name target group participants	Contact form
	divisions of the public organization	Director of the Infrastructure Management Department – <i>Tynybekov Rishat Imelovich</i> Director of the Center for Public Relations – <i>Balgabaeva Madina Kadyrovna, MBA</i> Director of the Department for Support of Scientific Projects and Postgraduate Education – <i>Alshimbaeva Dina Unerbekkyzy</i> Director of the Strategic Development Department – <i>Yensebaeva Marzhan Zaitovna, Ph.D.</i> Director of the Office Registrar – <i>Nurlan Kuttybaevich Kyzylbayev</i> Director of the Institute of Digital Technologies and Professional Development – <i>Simonov Andrey Gennadievich</i> Director of HR Service – <i>Azhar Kairollovna Beisova</i> Director of the Scientific Library – <i>Omirezakova Sholpan Medetbekovna</i> Director of the Department of Youth Affairs and Sports – <i>Tolepbergen Adilkhan Temirkhanuly</i> Head of the Office of International Cooperation – <i>Akataeva Aliya Askarovna</i> Responsible Secretary of the Admissions Committee - <i>Narbaev Mars Tursynbekovich</i> Chairman of the trade union committee - <i>Marlanuly Serik</i>	13032588 Conference ID: 681 3032588
11.50-12.00	Exchange of views among members of the external expert commission	<i>IAAR External Experts</i>	302 OC Join a Zoom meeting https://us02web.zoom.us/j/82972841841 Conference ID: 82972841841
12.00-12.40	Interviews with deans and heads of departments	Director of the Institute of Energy and Mechanical Engineering – <i>Elemesov Kasym Koptleuovich, Ph.D., professor</i> Director of the Mining and Metallurgical Institute – <i>Rysbekov Kanay Bakhytovich, Ph.D., professor</i> Director of the Institute of Project	316 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 6813032588

Date and time	Work of the EEC with target groups	Position and Last name, Name Patronymic name target group participants	Contact form
		<p>Management – <i>Amralinova Bakytzhan Bazarbekovna, PhD</i></p> <p>Deputy Director of the Institute of Automation and Information Technologies – <i>Zhuldyz Beishenalievna Kalpeeva, Doctor Ph.D. associate professor</i></p> <p>Head of the Department of Electronics, Telecommunications and Space Technologies – <i>Tashtay Erlan, Ph.D., Assoc. Professor</i></p> <p>Head of the Department of Software Engineering – <i>Abdoldina Farida Nauryzbaevna, Ph.D., Assoc. Professor</i></p> <p>Head of the department “Standardization, certification and metrology” – <i>Erezhep Darkhan Yeseyuly, candidate of technical sciences, doctor PhD</i></p> <p>Head of the Department of Metallurgy and Mineral Processing – <i>Madina Bogembaevna Barmenshinova, Ph.D., Associate. Professor</i></p> <p>Head of the Department of “Management and Mathematical Economics” – <i>Turegeldinova Aliya Zhumabekovna, Ph.D., Ph.D.</i></p>	
12.40-13.00	EEC work	<i>IAAR External Experts</i>	302 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
13.00-14.00	Lunch		
14.00-14.40	Interview with teaching staff	<i>Appendix 1</i>	Cluster 1 - 302 OC Cluster 2 and 3 - 316 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
14.40-15.40	Survey of teaching staff (in parallel)	<i>Appendix 1.1</i>	The link is sent to the teacher’s e-mail personally
14.40-15.10	Exchange of views among members of the external expert commission		302 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588

Date and time	Work of the EEC with target groups	Position and Last name, Name Patronymic name target group participants	Contact form
15.10-15.50	Interviews with students	<i>Appendix 2</i>	Cluster 1 - 302 OC Cluster 2 and 3 – 316 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
15.50-16.550	Questioning of students (in parallel)	<i>Appendix 2.1</i>	The link is sent to the student's e-mail personally
15.50-16.20	Exchange of views among members of the external expert commission Technical break		
16.20-17.00	Interview with alumni	<i>Appendix 3</i>	Cluster 1 - 302 OC Cluster 2 and 3 – 316 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
17.00-17.20	Technical break		
17.20-18.00	Meeting with stakeholders (representatives of practice bases and employers)	<i>Appendix 4</i>	Cluster 1 - 302 OC Cluster 2 and 3 – 316 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
18.00-18.10	EEC work. Opinion exchange		302 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
18.10-19.00	Dinner		
Day 2: March 27, 2024			
08.10-09.00	Transfer from the hotel to the University	<i>External IAAR experts, university coordinator –</i>	
09.00-09.15	EEC work	<i>IAAR External Experts</i>	302 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
09.15-10:50	Attendance at scheduled classes (Appendix: links)	<i>Appendix 5</i>	

Date and time	Work of the EEC with target groups	Position and Last name, Name Patronymic name target group participants	Contact form
	to classes)		
10.50-11.00	Technical break		
11.00-12.30	Visual inspection of the material, technical and educational laboratory base of the public organization	<i>Appendix 6</i>	
12.30-13.00	EEC work	<i>IAAR External Experts</i>	302 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
13.00-14.00	Lunch		
14.00-14.15	Technical break		
14.15-16.00	EEC work with documents, visiting departments		302 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
16.00-18.00	EEC work with documents Selective visits to EP practice bases	<i>Appendix 7</i>	302 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
18.00-19.00	Dinner		
Day 3: March 28, 2024			
08.30-09.00	Transfer from the hotel to the University	<i>External IAAR experts, university coordinator –</i>	
09.00-11.00	Discussion of results, voting (recorded)	<i>IAAR External Experts</i>	
11.00-11.15	Technical break		
11.15-12.30	Discussion of parameters, voting (recorded)	<i>IAAR External Experts</i>	
12.30-13.00	Final meeting of the EEC with the university management	Member of the Board - Vice-Rector for Academic Affairs - <i>Uskenbaeva Raisa Kabievna</i> Director of the Institute of Energy and	302 OC Join a Zoom meeting https://us02web.zoom.us/j/6813032588

Date and time	Work of the EEC with target groups	Position and Last name, Name Patronymic name target group participants	Contact form
		<p>Mechanical Engineering – <i>Elmesov Kasym Koptleuovich, Ph.D., professor</i></p> <p>Director of the Mining and Metallurgical Institute – <i>Rysbekov Kanay Bakhytovich, Ph.D., professor</i></p> <p>Director of the Institute of Project Management – <i>Amralinova Bakytzhan Bazarbekovna, PhD</i></p> <p>Deputy Director of the Institute of Automation and Information Technologies – <i>Kalpeeva Zhuldyz Beishenalievna Doctor Ph.D. associate professor</i></p> <p>Head of the Department of Electronics, Telecommunications and CT - <i>Tashtay Erlan, Ph.D., Assoc. Professor</i></p> <p>Head of the Department of Software Engineering – <i>Abdoldina Farida Nauryzbaevna, Ph.D., Assoc. Professor</i></p> <p>Head of the department “Standardization, certification and metrology” – <i>Erezhep Darkhan Yeseyuly, candidate of technical sciences, doctor PhD</i></p> <p>Head of the Department of Metallurgy and Mineral Processing – <i>Madina Bogembaevna Barmenshinova, Ph.D., Associate. Professor</i></p> <p>Head of the Department of “Management and Mathematical Economics” – <i>Turegeldinova Aliya Zhumabekovna, Ph.D., Ph.D.</i></p>	Conference ID: 681 303 2588
13.00-14.00	Lunch		
14.00-16.00	EEC work with reports	<i>IAAR External Experts</i>	
16.00-16.15	Technical break		
16.15-18.00	EEC work with reports	<i>IAAR External Experts</i>	
18.00-19.00	Dinner		

Appendix 3. RESULTS OF A SURVEY OF TEACHERS

1. Total number of questionnaires: 51

2. Which EP do you serve:

7M06102 Machine Learning & Data Science	12	23,5%
8D06102 Machine Learning & Data Science	5	9,8%
6B07121 Space engineering and technology	5	9,8%
7M07138 Space engineering and technology	1	1%
6B07104 Electronic and Electrical Engineering	5	9,8%
7M07502 Metrology (by industry)	9	17,6%
6B07213 Mineral processing	5	9,8%
7M04105 MBA in mining and metallurgical complex	9	17,6%

3. Job title

Professor	10	19,6%
Assistant professor	14	27,5%
Seniour Lecturer	21	41,2%
Lecturer	3	5,9%
Department head	1	2%
Acting professor	2	4%
Acting assistant professor	0	0%

4. Academic degree, academic title

Honored Worker of the Republic of Kazakhstan	0	0%
Science doctor	1	2%
Science candidate	19	37,3%
Master's grad	16	31,4%
PhD	15	29,4%

5. Work experience

Less than 1 year	4	7,8%
1 year – 5 years	11	21,6%
Over 5 years	36	70,6%

No	Questions	Very good	Good	Relatively bad	Bad	Very bad	No answer
1.	To what extent does the content of the educational program meet your scientific and professional interests and needs?	33 (64,7%)	18 (35,3%)	0 (0%)	0 (0%)	0 (0%)	-
2.	How do you assess the opportunities provided by the University for the professional development of teaching staff?	30 (58,8%)	19 (37,3%)	2 (3,9%)	0 (0%)	0 (0%)	-
3.	How do you assess the opportunities provided by the University for career growth of	24 (47,1%)	23 (45,1%)	4 (7,8%)	0 (0%)	0 (0%)	-

	teaching staff?						
4.	How do you assess the degree of academic freedom of the teaching staff?	21 (41,2%)	27 (52,9%)	2 (3,9%)	1 (2%)	0 (0%)	-
5.	To what extent can teachers use their own						
	– Strategies	28 (54,9%)	22 (43,1%)	1 (2%)	0 (0%)	0 (0%)	-
	– Methods	(52,9%)	(45,1%)	0 (2%)	0 (0%)	0 (0%)	-
	– Innovation in the learning process	28 (54,9%)	23 (45,1%)	0 (0%)	0 (0%)	0 (0%)	-
6.	How do you evaluate the work on organizing medical care and preventing diseases at the university?	17 (33,3%)	28 (54,9%)	5 (9,8%)	1 (2%)	0 (0%)	-
7.	How much attention is paid by the management of the educational institution to the content of the educational program?	28 (52,9%)	23 (45,1%)	1 (2%)	0 (0%)	0 (0%)	-
8.	How do you assess the sufficiency and accessibility of the necessary scientific and educational literature in the library?	24 (47,1%)	24 (47,1%)	3 (5,9%)	0 (0%)	0 (0%)	-
9.	Assess the level of created conditions that take into account the needs of different groups of students?	18 (35,3%)	32 (62,7%)	1 (2%)	0 (0%)	0 (0%)	-
10.	Evaluate the accessibility of the manual						
	– For students	31 (60,8%)	19 (37,3%)	1 (2%)	0 (0%)	0 (0%)	-
	– For teachers	29 (56,9%)	20 (39,2%)	1 (2%)	0 (0%)	0 (2%)	-
11.	Assess the involvement of teaching staff in the process of making management and strategic decisions	16 (31,4%)	31 (60,8%)	2 (3,9%)	0 (0%)	2 (3,9%)	-
12.	How are innovative activities of teaching staff encouraged?	21 (41,2%)	26 (51%)	3 (5,9%)	0 (0%)	1 (2%)	-
13.	Assess the level of feedback from teaching staff to management	20 (39,2%)	27 (52,9%)	3 (5,9%)	0 (0%)	1 (2%)	-
14.	What is the level of stimulation and involvement of young specialists in the educational process?	22 (43,1%)	27 (52,9%)	1 (2%)	0 (0%)	1 (2%)	-
15.	Evaluate the opportunities created for professional and personal growth for each teacher and staff member	21 (41,2%)	27 (52,9%)	1 (2%)	1 (2%)	1 (2%)	-

16.	Assess the adequacy of recognition of teachers' potential and abilities	23 (45,1%)	25 (49%)	1 (2%)	1 (2%)	1 (2%)	-
17.	How is the work delivered?						
	– For academic mobility	19 (37,3%)	28 (54,9%)	3 (5,9%)	1 (2%)	0 (0%)	-
	– To improve the qualifications of teaching staff	22 (43,1%)	25 (49%)	3 (5,9%)	1 (2%)	0 (0%)	-
18.	Rate the support of the university and its leadership						
	– Research initiatives of teaching staff	21 (41,2%)	26 (51,8%)	3 (5,9%)	0 (0%)	1 (2%)	-
	– Development of new educational programs/academic disciplines/methods	25 (49%)	26 (51%)	0 (0%)	0 (0%)	0 (0%)	-
19.	Assess the level of ability of teaching staff to combine teaching						
	– With scientific research	21 (41,2%)	25 (49%)	2 (3,9%)	2 (3,9%)	1 (2%)	-
	– With practical activities	20 (39,2%)	26 (51%)	4 (7,8%)	1 (2%)	0 (0%)	-
20.	Assess how well the students' knowledge acquired at this university corresponds to the realities of the requirements of the modern labor market	24 (47,1%)	25 (49%)	1 (2%)	1 (2%)	0 (0%)	-
21.	How do the management and administration of the university perceive criticism addressed to them?	15 (29,4%)	29 (56,9%)	6 (11,8%)	0 (0%)	1 (2%)	-
22.	Assess how well your workload meets your expectations and capabilities	16 (31,4%)	31 (60,8%)	4 (7,8%)	0 (0%)	0 (0%)	-
23.	Assess the focus of educational programs/curricula on developing students' skills and abilities to analyze the situation and make forecasts	24 (47,1%)	26 (51%)	1 (2%)	0 (0%)	0 (0%)	-
24.	Assess how well the educational program meets the expectations of the labor market and employers in terms of content and quality of implementation	26 (51%)	22 (43,1%)	2 (3,9%)	1 (2%)	0 (0%)	-

6. Why do you work at this university?

- *The prestigious ktechnical University in Kazakhstan*
- *as a graduate of this University and Technical University No. 1*
- *Bachelor graduated from this university*
- *Polytech is the best! I am a patriot of my university!*

- *This university is one of the most prestigious technical universities in the Republic of Kazakhstan and provides an opportunity to combine science and education.*
- *Openness, opportunities for growth and implementation.*
- *This university is the most important and technical university in the country. There are many specialists being trained here for the whole country. It has a long history and we are recognized in many countries.*
- *National university*
- *Leading technical university, good opportunities for growth as a teacher and research*
- *To contribute to the country*
- *There are several reasons: collective, the load is more effective compared to other universities*
- *Comfortable environment for combining science and education*
- *For science and practice*
- *Prestige and hope for the future regarding self-realization*
- *I work here in my specialty, there is a good atmosphere at the university, a good and friendly team.*
- *technical*
- *The best technical university of the Republic of Kazakhstan and my Alma mater*
- *I graduated from this university, there is an opportunity to engage in scientific work. I am interested in my work in this team.*
- *And I am a graduate of this university. I consider this university a leading Technical University in Kazakhstan. For this reason, working at this university is considered a privilege for me*
- *Opportunity to combine research and teaching*
- *Because here I realize myself as a teacher and researcher*
- *Studied at this university*
- *Knows how to truly appreciate the work of employees.*
- *Satbaev University is the first technical university, I am a graduate of this university, there is an opportunity to realize all creative needs.*
- *I like working with students, I like working graphics, my collector*
- *The university has prospects in which I can be integrated*
- *Because this is the best university in the Republic of Kazakhstan and it is the only university that has a complete Microsoft 365 Education A3/A5+Moodle system, which allows you to apply the most advanced teaching methods, including those using AI.*
- *Study at this university, graduate school at this educational institution*
- *The reason for choosing my position is that this university is a leading Technical University in Kazakhstan*
- *Because conditions are created here for both students and employees*
- *I like to work.*
- *I studied here*
- *everything is fine*
- *the salary corresponds to the workload, the material and technical base is sufficient for carrying out research work in the field of metrology, friendly staff, the university management and the head of the department support and stimulate the development of the teacher both in teaching and scientific activities, a good canteen*
- *satisfy all working conditions*
- *I like*
- *A familiar university, I have been working since 1976.*
- *I have a basic diploma, a master's degree in this specialty, a doctorate in "Metallurgy"*
- *First technical university*

- *I like it, I feel comfortable*
- *After all, in this higher educational institution I studied, my basic and master's diplomas in this specialty (mineral processing, primary processing*
- *I really like the close connection between production and education, the corporate spirit*
- *Because this University is my native University, where I studied.*
- High quality of training

7. How often are master classes and readings on topics with the participation of practitioners held as part of your course?

(Often)	7	13,7%
(often)	32	62,7%
(Sometimes)	12	23,5%
(very rarely)	0	0%
(never)	0	0%

8. How often do external teachers (domestic and foreign) participate in the learning process?

(Often)	5	9,8%
(often)	30	58,8%
(Sometimes)	14	27,5%
(very rarely)	2	3,9%
(never)	0	0%

9. How often do you encounter the following problems in your work: (please give the answer on each line)

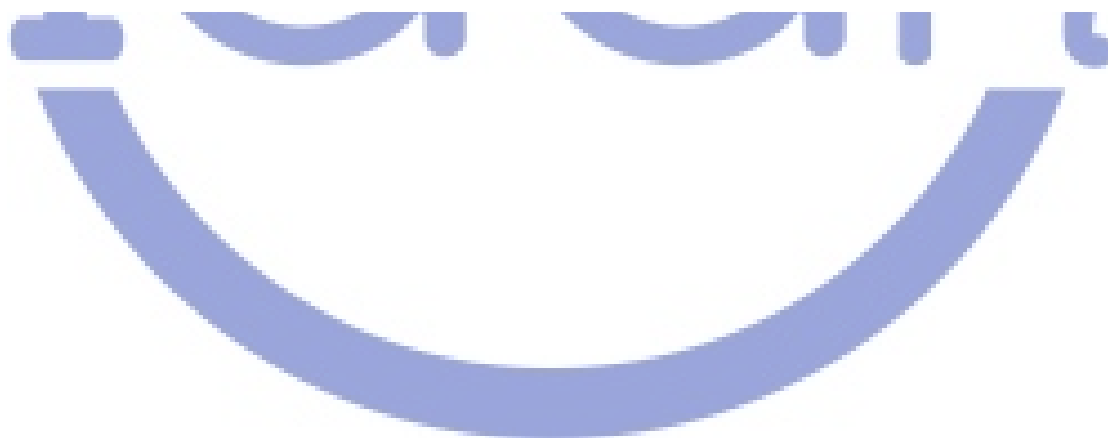
	Often	Sometimes	Never	No answer
Lack of classrooms	3 (5,9%)	20 (39,2%)	28 (54,9%)	-
Imbalance of teaching load across semesters	2 (3,9%)	19 (37,3%)	30 (58,8%)	-
Inaccessibility of necessary literature in the library	4 (7,8%)	19 (37,3%)	28 (54,9%)	-
Overcrowding of study groups (too many students in a group)	5 (9,8%)	18 (35,9%)	28 (54,9%)	-
Inconvenient schedule	5 (9,8%)	23 (45,1%)	23 (45,1%)	-
Inadequate classroom conditions	2 (3,9%)	27 (52,9%)	22 (43,1%)	-
Lack of Internet access/weak Internet	9 (17,6%)	28 (54,9%)	14 (27,5%)	-
Lack of interest among students in learning	1 (2%)	29 (56,9%)	21 (41,2%)	-
Late receipt of information about events	1 (2%)	18 (35,3%)	32 (62,7%)	-
Lack of technical equipment in classrooms	4 (7,8%)	29 (56,9%)	18 (35,3%)	-
Other problems	– no			

	<ul style="list-style-type: none"> - <i>no</i> - <i>no</i> - <i>-</i> - <i>no problems</i> - <i>Lack of funds to invite scientists from far abroad.</i> - <i>Problem with the Internet</i> - <i>-</i> - <i>Low salary</i> - <i>In some university buildings, for example, the State University of Culture, there is very poor Wi-Fi</i> - <i>questions in working order</i> - <i>we solve problems as they arise, the management of the institute and the university as a whole are open, always contribute to the timely resolution of problems that arise</i> - <i>If there were more computer classes</i> - <i>Inconsistency of the requirements of the Ministry of Education and Science for OP documents and the business process with modern new requirements that have arisen due to scientific and technological progress. The MES requirements were developed long before the advent of such services as Chat GPT Plus and Microsoft Copilot bots. The appearance of these bots has made many of the requirements of the Ministry of Education and Science meaningless. Something needs to be done about this, because otherwise all these requirements will come into catastrophic contradiction with reality.</i> - <i>No problems at all</i> - <i>Stand won't work</i> - <i>Laboratory and technical base is lame</i> - <i>There are no normal projectors, I had to buy HDM drives myself, no marker boards, no markers (a small thing, but still).</i> - <i>renovation of classrooms</i> - <i>Everything is all right</i> - <i>No</i> - <i>No</i>
--	---

10. There are many different sides and aspects in the life of a university that in one way or another affect every teacher and employee. Rate how satisfied you are:

Question	Completely satisfied	Partially satisfied	Unsatisfied	Difficult to answer
The attitude of the university management towards you	38 (74,5%)	10 (19,6%)	2 (3,9%)	1 (2%)
Relationships with immediate management	36 (70,6%)	9 (17,6%)	4 (7,8%)	2 (3,9%)

Relations with colleagues at the department	46 (90,2%)	4 (7,8%)	0 (%)	1 (2%)
Participation in management decision making	33 (64,7%)	13 (25,5%)	3 (5,9%)	2 (3,9%)
Relations with students	44 (86,3%)	6 (11,8%)	1 (2%)	0 (0%)
Recognition of your successes and achievements by the administration	34 (66,7%)	13 (25,5%)	3 (5,9%)	1 (2%)
Support for your suggestions and comments	32 (62,7%)	14 (27,5%)	3 (5,9%)	2 (3,9%)
Activities of the university administration	33 (64,7%)	15 (29,4%)	2 (3,9%)	1 (2%)
Terms of payment	20 (39,2%)	21 (41,2%)	9 (17,6%)	1 (2%)
Working conditions, list and quality of services provided at the university	33 (64,7%)	15 (29,4%)	3 (5,9%)	0 (0%)
Labor protection and safety	38 (74,5%)	10 (19,6%)	2 (3,9%)	1 (2%)
Managing changes in the activities of the university	36 (70,6%)	12 (23,5%)	2 (3,9%)	1 (2%)
Providing a social package: rest, sanatorium treatment, etc.	27 (52,9%)	14 (27,5%)	4 (7,8%)	6 (11%)
Organization and quality of food at the university	26 (51%)	20 (38,2%)	0 (0%)	5 (9,8%)
Organization and quality of medical care	26 (51%)	17 (33,3%)	2 (3,9%)	6 (11,8%)



Appendix 4. RESULTS OF THE STUDENT SURVEY

Total number of questionnaires: 43

1. **Your EP?**

7M06102 Machine Learning & Data Science (magistracy)	3	7%
8D06102 Machine Learning & Data Science (PhD)	2	4,7%
6B07121 Space engineering and technology (bachelor)	3	7%
7M07138 Space engineering and technology (magistracy)	2	4,7%
6B07104 Electronic and Electrical Engineering (bachelor)	20	46,5%
7M07502 Metrology (by industry) (magistracy)	1	2,3%
6B07213 Mineral processing (bachelor)	3	7%
7M04105 MBA in the mining and metallurgical complex (magistracy)	4	9,3%

2. **Sex**

Male	34	79,1%
Female	9	20,9%

3. **Rate how are you satisfied:**

Questions	Completely satisfied	Partially satisfied	Partially unsatisfied	unsatisfied	Difficult to answer
1. Relations with the dean's office	38 (88,4%)	4 (9,3%)	1 (2,3%)	0 (0%)	0 (0%)
2. Level of accessibility of the dean's office	37 (86%)	4 (9,3%)	0 (0%)	2 (4,7%)	0 (0%)
3. The level of accessibility and responsiveness of the university management	32 (74,4%)	10 (23,3%)	1 (2,3%)	0 (0%)	0 (0%)
4. Availability of academic advising to you	31 (72,1%)	11 (25,6%)	1 (2,3%)	0 (0%)	0 (0%)
5. Support with educational materials during the learning process	29 (67,4%)	13 (30,2%)	1 (2,3%)	0 (0%)	0 (0%)
6. Availability of counseling on personal problems	27 (62,8%)	14 (32,6%)	0 (0%)	1 (2,3%)	1 (2,3%)
7. Relationship between student and teacher	36 (83,7%)	7 (16,3%)	0 (0%)	0 (0%)	0 (0%)
8. Financial and administrative services of the educational institution	31 (72,1%)	10 (23,3%)	1 (2,3%)	0 (0%)	1 (2,3%)
9. Availability of health services	30 (69,8%)	8 (18,6%)	1 (2,3%)	1 (2,3%)	3 (7%)
10. Quality of medical care at the university	31 (72,1%)	7 (16,3%)	1 (2,3%)	1 (2,3%)	3 (7%)
11. Level of accessibility of library resources	32 (74,4%)	9 (20,9%)	0 (0%)	1 (2,3%)	1 (2,3%)

Questions	Completely satisfied	Partially satisfied	Partially unsatisfied	unsatisfied	Difficult to answer
12. The quality of services provided in libraries and reading rooms	32 (74,4%)	9 (20,9%)	0 (0%)	1 (2,3%)	1 (2,3%)
13. Satisfaction with the existing educational resources of the university	31 (72,1%)	11 (25,6%)	1 (2,3%)	0 (0%)	0 (0%)
14. Availability of computer classes	28 (65,1%)	13 (30,2%)	0 (0%)	0 (0%)	2 (4,7%)
15. Availability and quality of Internet resources	30 (69,8%)	11 (25,6%)	1 (2,3%)	1 (2,3%)	0 (0%)
16. Content and information content of the website of educational organizations in general and faculties (schools) in particular	31 (72,1%)	12 (27,9%)	0 (0%)	0 (0%)	0 (0%)
17. Study rooms, auditoriums for large groups	31 (72,1%)	11 (25,6%)	0 (0%)	0 (0%)	1 (2,3%)
18. Lounges for students (if available)	32 (74,4%)	8 (18,6%)	1 (2,3%)	0 (0%)	2 (4,7%)
19. Clarity of procedure for taking disciplinary action	31 (72,1%)	10 (23,3%)	0 (0%)	0 (0%)	2 (4,7%)
20. The quality of the educational program as a whole	33 (76,7%)	8 (18,6%)	2 (4,7%)	0 (0%)	0 (0%)
21. The quality of educational programs in the EP	36 (83,7%)	7 (16,3%)	0 (0%)	0 (0%)	0 (0%)
22. Teaching methods in general	32 (74,4%)	10 (23,3%)	1 (2,3%)	0 (0%)	0 (0%)
23. Quick response to feedback from teachers regarding the educational process	34 (79,1%)	8 (18,6%)	1 (2,3%)	0 (0%)	0 (0%)
24. The quality of teaching in general	34 (79,1%)	8 (18,6%)	1 (2,3%)	0 (0%)	0 (0%)
25. Academic load/requirements for the student	30 (69,8%)	12 (27,9%)	1 (2,3%)	0 (0%)	0 (0%)
26. Requirements of teaching staff for students	31 (72,1%)	10 (23,3%)	2 (4,7%)	0 (0%)	0 (0%)
27. Information support and explanation before entering the university of the rules of admission and the strategy of the educational program (specialty)	32 (74,4%)	10 (23,3%)	1 (2,3%)	0 (0%)	0 (0%)
28. Informing the requirements in order to successfully complete this educational program (specialty)	33 (76,7%)	8 (18,6%)	1 (2,3%)	0 (0%)	1 (2,3%)
29. The quality of examination materials (tests and examination questions, etc.)	32 (74,4%)	10 (23,3%)	1 (2,3%)	0 (0%)	0 (0%)
30. Objective assessment of knowledge, skills and other educational achievements	34 (79,1%)	7 (16,3%)	2 (4,7%)	0 (0%)	0 (0%)
31. Available computer classes	29 (67,4%)	11 (25,6%)	1 (2,3%)	0 (0%)	2 (4,7%)

Questions	Completely satisfied	Partially satisfied	Partially unsatisfied	unsatisfied	Difficult to answer
32. Available scientific laboratories	26 (60,5%)	13 (30,2%)	2 (4,7%)	0 (0%)	2 (4,7%)
33. Objectivity and fairness of teachers	33 (76,7%)	9 (20,9%)	1 (2,3%)	0 (0%)	0 (0%)
34. Informing students about courses, educational programs and academic degrees received	34 (79,1%)	7 (16,3%)	2 (4,7%)	0 (0%)	0 (0%)
35. Providing students with a hostel	27 (62,8%)	12 (27,9%)	0 (0%)	0 (0%)	4 (9,3%)

4. Please rate how much you agree:

Statement	Completely agree	Agree	Partially agree	Don't agree	Completely disagree	No answer
1. The course program was clearly presented	27 (62,8%)	13 (30,2%)	3 (7%)	0 (0%)	0 (0%)	-
2. Course content is well structured	29 (67,4%)	12 (27,9%)	2 (4,7%)	0 (0%)	0 (0%)	-
3. Key terms are sufficiently explained	30 (69,8%)	9 (20,9%)	4 (9,3%)	0 (0%)	0 (0%)	-
4. The material proposed by the teacher is relevant and reflects the latest achievements of science and practice	30 (69,8%)	9 (20,9%)	4 (9,3%)	0 (0%)	0 (0%)	-
5. The teacher uses effective teaching methods	29 (67,4%)	12 (27,9%)	2 (4,7%)	0 (0%)	0 (0%)	-
6. The teacher knows the material being taught.	32 (69,8%)	13 (30,2%)	0 (0%)	0 (0%)	0 (0%)	-
7. The teacher's presentation is clear	30 (74,4%)	8 (18,6%)	3 (7%)	0 (0%)	0 (0%)	-
8. The teacher presents the material in an interesting way.	29 (67,4 %)	9 (20,9 %)	5 (11,6 %)	0 (0%)	0 (0 %)	-
9. Objectivity in assessing knowledge, skills and other educational achievements	30 (69,8 %)	8 (18,6 %)	3 (7 %)	1 (2,3 %)	1 (2,3 %)	-
10. Timely assessment of students' educational achievements	32 (74,4%)	9 (20,9 %)	2 (4,7%)	0 (0%)	0 (0 %)	-
11. The teacher satisfies my requirements for personal development and professional formation	30 (69,8 %)	10 (23,3 %)	3 (7 %)	0 (0 %)	0 (0 %)	-

12. The teacher stimulates student activity	28 (65,1 %)	10 (23,3 %)	4 (9,3%)	1 (2,3 %)	0 (0 %)	-
13. The teacher stimulates creative thinking of students	28 (65,1 %)	11 (25,6 %)	4 (9,3%)	0 (0 %)	0 (0 %)	-
14. The appearance and manners of the teacher are adequate	33 (76,7 %)	10 (23,3 %)	0 (0 %)	0 (0 %)	0 (0 %)	-
15. The teacher shows a positive attitude towards students	34 (79,1 %)	9 (20,9 %)	0 (0 %)	0 (0 %)	0 (0 %)	-
16. The system for assessing educational achievements (seminars, tests, questionnaires, etc.) reflects the content of the course	32 (74,4 %)	10 (23,3 %)	1 (2,3 %)	0 (0 %)	0 (0 %)	-
17. The assessment criteria used by the teacher are clear	33 (76,7 %)	9 (20,9 %)	1 (2,3 %)	0 (0 %)	0 (0%)	-
18. The teacher objectively evaluates student achievements	31 (72,1 %)	10 (23,3 %)	1 (2,3 %)	1 (2,3 %)	0 (0 %)	-
19. The teacher speaks a professional language	34 (79,1 %)	8 (18,6%)	1 (2,3 %)	0 (0 %)	0 (0 %)	-
20. The organization of education provides sufficient opportunity for sports and other leisure activities	28 (65,1 %)	12 (27,9 %)	2 (4,7 %)	0 (0 %)	1 (2,3%)	-
21. Facilities and equipment for students are safe, comfortable and modern	29 (67,4 %)	12 (27,9 %)	1 (2,3 %)	0 (0 %)	1 (2,3 %)	-
22. The library is well equipped and has a fairly good collection of books	30 (69,8%)	11 (25,6 %)	1 (2,3 %)	0 (0 %)	1 (2,3 %)	-
23. Equal opportunities are provided to all students	31 (72,1 %)	11 (25,6 %)	0 (0 %)	1 (2,3 %)	0 (0 %)	-

5. Other concerns regarding teaching quality: 21 answers

- *I don't have any problems in learning*
- *No*
- *No*
- *Didn't see any problems*
- *Everything is all right*
- *If fully equipped classrooms (scientific laboratories) are provided*
- *it would be nice to open and provide not for the quality of education, but for fully equipped classrooms (scientific laboratories).*
- *There are no problems with getting an education*
- *No problem*
- *Fewer laboratory rooms*
- *There wasn't any problem*
- *Super*
- *I think there is no problem*
- *No*
- *it would be better if fully equipped training rooms were opened and considered*
- *I have no problems with training, but it would be nice to open more laboratory rooms for the EEE profession*
- -
- *It would be nice if fully equipped training rooms were opened*