



«АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТІҢ
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 for assessment of compliance with the requirements of standards for specialized accreditation of educational programs

6B08701 – Agricultural energy supply, 6B06306 – Information security systems, 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control

NON-PROFIT JOINT STOCK COMPANY "ALMATY UNIVERSITY
OF POWER ENGINEERING AND TELECOMMUNICATIONS
NAMED AFTER GUMARBEK DAUKEYEV"

from 14 to 16 March, 2024

INDEPENDENT AGENCY FOR ACCREDITATION AND RATING
External Expert Commission

Addressed to the
NAAR
Accreditation Council



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Almaty city

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(I) LIST OF DESIGNATIONS AND ABBREVIATIONS

NPJSC	Non-profit joint stock company
SAC	The State Attestation Commission
SGESE	the state general education standard of education
UNT	Unified national testing
ICT	information and communication technologies
IS	information system
IEP	Individual education plan
AUPET	Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev
CED	catalog of elective disciplines
IAAR	Independent agency for accreditation and rating
MSHE RK	Ministry of Science and Higher Education of the Republic of Kazakhstan
RW	Research work
SRWS	Scientific research work of students
ERWS	educational and research work of students
EP	Educational program
TS	Teaching staff
PLO	Planned learning outcomes
RK	Republic of Kazakhstan
WC	Working curriculum
CED	catalog of elective disciplines
MM	Mass media
SC	Standard curriculum
IC	Individual curriculum
TM	Teaching materials
ED	Elective disciplines

(II) INTRODUCTION

In accordance with Order No. 7-24-OD dated 04.01.2024 of the Director General of the Independent Accreditation and Rating Agency, from March 14-16, 2024, an external expert commission assessed the compliance of educational programs 6B07108 – Automation and Control, 7M07105 – Automation and Control, 8D07103 – Automation and Control at the NPJSC Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev (Almaty city) standards of specialized accreditation of the educational program of the organization of higher and postgraduate education of the IAAR (No.57-20-OD dated June 16, 2020, sixth edition).

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

The composition of the EEC:

Chairman of the IAAR EEC – Timur Arsenovich Tabishev, Candidate of Pedagogical Sciences, Associate Professor, Head of Education Quality Management, KBSU Kabardino-Balkarian State University named after H.M. Berbekov (Nalchik, Russian Federation) Off-line participation

Coordinator of the IAAR VEC – Nazyrova Gulfiya Ryvkatovna, Ph.D. in Economics, Project Manager for specialized and institutional accreditation

Foreign expert of IAAR – Razinkina Elena Mikhailovna Doctor of Pedagogical Sciences, V.A. Almazov National Medical Research Center of the Ministry of Health of Russia (St. Petersburg, Russia) Off-line participation

The national expert of IAAR is Alimgazin Altai Shurumbaevich, Doctor of Technical Sciences, L.N. Gumilyov Eurasian National University Off-line participation

IAAR national expert – Talipov Olzhas Manarbekovich, PhD, Toraighyrov University (Pavlodar, Republic of Kazakhstan) Off-line participation

IAAR national expert - Mehtiyev Ali Javanshirovi Candidate of Technical Sciences, Associate Professor S. Seifullin KATRU (Astana, RK)

IAAR national expert - Ospanov Erbol Amangazovich, PhD, D. Serikbayev East Kazakhstan Technical University Off-line participation

IAAR expert, Employer – Kan Alexey Vladislavovich, Head of EXPLORATION PRODUCTION LLP (Almaty, Republic of Kazakhstan) Online participation

IAAR expert, Student – Bakirbaeva Anar Akyldaevna, 1st year doctoral student, Abylka Saginov Karaganda Technical University (Karaganda, Republic of Kazakhstan) Online participation

IAAR expert, Student – Aubakirova Zulfiya Akyldaevna, 1st year doctoral student, Abylka Saginov Karaganda Technical University (Karaganda, Republic of Kazakhstan) Online participation

IAAR expert, Student – Anapyanova Samal Bagdatovna, 2nd year doctoral student, Kazakh National Agrarian Research University, Online participation

(III) REPRESENTATION OF THE EDUCATIONAL ORGANIZATION

History. In 1960, for the first time in Kazakhstan, on the basis of the Kazakh Polytechnic Institute (KazPTI), training of power engineers for the energy industry of Kazakhstan was started. For this purpose, in 1961, the KazPTI opened an energy faculty, which in 1975, in accordance with the decisions of the Central Committee of the CPSU and the Council of Ministers of the USSR and the Central Committee of the Communist Party of Kazakhstan and the Council of Ministers of the Kazakh SSR, was transformed into an independent educational institution - the **Almaty Power Engineering Institute (APEI)**.

In 1996, by a decree of the Government of the Republic of Kazakhstan, the Almaty Power Engineering Institute was joined to the Kazakh National Technical University as an educational and scientific complex of Energy and Telecommunications. But already in May 1997, by Decree of the Government of the Republic of Kazakhstan, the university again gained independence as a non-governmental one and was renamed, taking into account the training of specialists in power engineering and communications, as: "**Almaty Institute of Power Engineering and Telecommunications**" (AIPET).

Since July 1, 2010, the Almaty Institute of Power Engineering and Telecommunications has received the status of a university – **a non-profit Joint-Stock Company "Almaty University of Power Engineering and Telecommunications"** - with the right to prepare masters and PhD doctors. Since 2019, the university has been named after Gumarbek Daukeyev - **a non-profit Joint-stock Company "Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev"** (AUPET).

Personnel training at the AUPET is carried out in accordance with the indefinite State license for educational activities **No. KZ 80LAA00018161 dated 05.05.2020**, in 2021, the licensing control for compliance with the qualification requirements of the MSHE of the RK was passed.

Quality. Currently, AUPET, positioning itself as a practice-oriented university, conducts training in the areas of information and communication technologies, information security, telecommunications, engineering and engineering, occupational health and safety and agricultural engineering. Since 2006, the university has been certified according to the international quality management system. An external inspection audit is conducted annually along with an internal audit, and recertification audits are conducted every three years. In 2020-2021 A recertification audit was conducted at NPJSC AUPET for compliance with the requirements of the ISO 9001:2015 standards, which resulted in a certificate of conformity issued by the Russian Register Certification Association. The activities of AUPET are aimed at ensuring the competitiveness of the country through high-quality training for the real sector of the economy by improving the quality of education, integrating science, education, business and production, expanding international cooperation and creating favorable conditions for all participants in the educational process, which is reflected in the results of the activities of AUPET

Educational programs of the university. The University has developed 35 educational programs (hereinafter referred to as EP) for bachelor's degree, 25 Master's degree programs and 6 doctoral degree programs.

Employment. In general, 81% of bachelor's degree graduates and 90% of master's degree graduates were employed on average in 2019-2023.

The contingent of students of the university. As of 01.10.2023, there are 5,965 students, including 5,590 students (5032 of them on the basis of a state educational grant), 319 undergraduates (294 of them on the basis of a state educational grant), 56 doctoral students (50

of them on the basis of a state educational grant).

The teaching staff. For 2022-2023, the total number of full-time teachers at the university is 540 people, including 29 Doctors of Sciences, 113 candidates of sciences, 43 PhD, 172 Masters of Sciences. The academic degree holders rate of full-time teaching staff is 35%.

Structure. The organizational structure of the University includes 4 institutes – the Institute of Energy and Green Technologies, the Institute of Natural Sciences and Humanities, the Institute of Automation and Information Technology, the Institute of Communication and Space Engineering, which includes 14 departments, 10 of them are graduates. The scientific infrastructure is represented by four scientific and technical centers (STC) and nine research laboratories (RL) engaged in research activities related to the implementation of specific scientific projects commissioned by enterprises.

The material and technical base. The university campus includes 3 academic buildings with a total area of 29473 m² (academic building A - 13715.8 m², academic building B - 7902.7 m², academic building named after Daukeyev G.Zh. - 7164.5 m²) with canteens and cafes, lecture halls and an assembly hall. All academic buildings and 3 dormitories are located on a total area of 4.86 hectares owned by the university on private property rights. There is a printing house and a library with an area of 500 square meters of reading rooms, gyms and football fields with a total area of 4149.8 square meters. On the territory of the university, an outdoor sports ground with an area of 2977.5 m² with three fields for mini football, a gymnastic playground, running tracks 65 m long and 195 m around the sports ground is located between the academic buildings.

Ratings. AUPET has a stable image as a prestigious specialized technical university. In subsequent years, AUPET consistently ranks high in its traditional specialties of energy and telecommunications. According to employers, AUPET is one of the top ten universities in Kazakhstan. In 2023, according to the League of Honesty, Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev (average score – 78.20%) took 5th place among universities in Kazakhstan.

Membership. In order to improve the quality of services, competitiveness and exchange of experience, AUPET participates in international, national and regional professional associations and alliances, carrying out mutually beneficial cooperation. AUPET is a member of the Kazakhstan Electric Power Association and the Kazakhstan Information Security Association, is a member of the Alliance of Universities, and is a member of the League of Academic Integrity. On April 28, 2021, the Alliance of Universities "University Alliance of Science and Technology" (hereinafter - UAST) was established in the city of Nur Sultan. The purpose of the Alliance is to create an integrated scientific and educational environment for the training of competitive personnel by consolidating human, logistical and other resources. AUPET publishes the scientific journal "Bulletin of AUPET".

Brief description of accredited EP:

6B07108 – Automation and control.

The purpose of the EP is to train highly qualified personnel in the field of development, design and operation of automation systems for technical facilities and technological processes, organization of work on the creation of automatic control systems.

Field of education – 6B07 Engineering, manufacturing and construction industries - 6B071 Engineering, group of educational programs - B063 Electrical Engineering and Automation.

The field of professional activity is the development, design, modeling and execution of automation projects, informatization of production and technological processes, taking into account energy, technological, design, operational, ergonomic and economic indicators.

Since 2018, the term of study in the register of EP is 4 years. Language of instruction: Russian, Kazakh. English Level of the NQF, IQF: 6. State license for educational activities No. KZ80LAA00018161 dated 05.05.2020

7M07105 – Automation and control.

The purpose of the EP is to train highly qualified personnel in the field of development, design and operation of automation systems for technical facilities and technological processes, organization of work on the creation of automatic control systems. Fields of education - 7M07 Engineering, manufacturing and construction industries - 7M071 Engineering and Engineering, group of educational programs - M100 Automation and Control.

The field of professional activity is the development, design, modeling and execution of automation projects, informatization of production and technological processes, taking into account energy, technological, design, operational, ergonomic and economic indicators.

Since 2018, the training period has been in the register of EP for 2 years. Language of instruction: Russian, Kazakh. NQF, IQF level: 7. State license for educational activities No. KZ80LAA00018161 dated 05.05.2020,

8D07103 – Automation and control.

The purpose of the EP is to train highly qualified scientific and pedagogical personnel who know modern methods of design and research, who are able to solve automation and control problems in various industries, education and other spheres of human activity.

Field of education – 8D07 Engineering, Manufacturing and construction industries – 8D071 Engineering and Engineering, group of educational programs – D100 Automation and Control.

The field of professional activity is the development of automation and control systems based on modern achievements of science and technology in the fields of industrial automation, IT technologies and computerization of production, taking into account energy, technological, design, operational, ergonomic and economic indicators.

Since 2018, the term of study in the register of EP is 3 years. Language of instruction: Russian, Kazakh. NQF, IQF level: 8. State license for educational activities No. KZ 80LAA00018161 dated 05.05.2020

(IV) DESCRIPTION OF THE PREVIOUS ACCREDITATION PROCEDURE

The University passed institutional and specialized accreditations with the Independent Accreditation and Rating Agency (IAAR) in 2019. Educational programs 6B07108 – Automation and control, 7M07105 – Automation and control and 8D07103 – Automation and control are accredited by the agency for 5 years.

(V) DESCRIPTION OF THE EEC VISIT

The work of the EEC was carried out on the basis of the approved Program of the visit of the expert commission on specialized accreditation of educational programs to the NPJSC Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev in the period from March 13-16, 2024.

In order to coordinate the work of the EEC, an introductory meeting was held, during which powers were distributed among the members of the commission, the schedule of the visit was clarified, and agreement was reached on the choice of examination methods.

To obtain objective information about the quality of the educational program and the entire infrastructure of the university, to clarify the content of the self-assessment report, meetings were held with vice-rectors in areas of activity, heads of structural divisions, directors of institutes, heads of departments, teachers, students, employers and graduates. A total of 47 representatives took part in the meetings.

During the tour, the members of the EEC got acquainted with the state of the material and technical base of the university. They viewed: Automation equipment (A421), Hardware and Software of control Systems (A425), the National Instruments Center for Measurements and Automation of Scientific Research (A428), the Honeywell Educational and Research Center for the Design and Implementation of Control Systems (A429), SIEMENS Training and Advanced Training Center in the field of industrial automation, SCADA, MES and EPR – systems (A430), Modeling and research of control systems (A432), Information Technology in Automation Systems (A434), Automated Process Control Systems (A435), Schneider Electric Competence Center for Industrial Automation (A437).

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

Classes were attended during the accreditation period:

- "Metrology, standardization, certification and quality management" (Bachelor's degree, 2nd year, spec. Automation and control, number of people present - 12), lecturer – senior lecturer Tleubaeva Zh.S.;

– "Microprocessor complexes in control systems " (bachelor's degree, 3rd year, spec. Automation and control, number of people present - 10), lecturer – senior lecturer Kim E.S.

Interactive whiteboards, projectors, flipcharts were observed in the classrooms, slides and video lectures were used. The process of conducting classes was carried out in the form of an oral and combined survey, protection of the presentation of homework.

The EEC experts analyzed the conditions of the student's practice bases, and also asked questions to the heads of organizations: Honeywell – ACS LLP, Buran Boiler LLP, IT-Partners LLP, Schneider Electric LLP.

In accordance with the accreditation procedure, an online survey was conducted of 10 teachers and 16 students.

In order to confirm the information provided in the Self-assessment Report, external experts requested and analyzed the working documentation of the university. Along with this, the experts studied the Internet positioning of the university through the official website of the university (<https://aues.edu.kz/>).

Within the framework of the planned program, recommendations for improving accredited educational programs of the NPJSC "Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev", developed by the EEC based on the results of the examination, were presented at a meeting with the leadership on 03/16/2024.

(VI) COMPLIANCE WITH SPECIALIZED ACCREDITATION STANDARDS

6.1. The standard "Educational Program Management"

- ✓ *The university must have a published quality assurance policy.*
- ✓ *The quality assurance policy should reflect the relationship between scientific research, teaching and learning.*
- ✓ *The university must demonstrate the development of a culture of quality assurance, including in the context of EP.*
- ✓ *Commitment to quality assurance should apply to any activity performed by contractors and partners (outsourcing), including in the implementation of 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 orientation of its activities to meet the needs of the state, employers, stakeholders and students.*
- ✓ *The management of the EP demonstrates the functioning of mechanisms for the formation and regular revision of the development plan of the EP and monitoring its implementation, evaluating the achievement of learning goals, meeting 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 groups of interested persons, including employers, students and teaching staff in the formation of a development plan for the EP.*
- ✓ *The management of the educational institution must demonstrate the individuality and uniqueness of the educational institution's development plan, 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 framework of the EP, an unambiguous distribution of staff responsibilities, and the differentiation of functions of collegial bodies.*
- ✓ *The management of the educational institution 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 fact-based decision-making.*
- ✓ *The management of the EP should carry out risk management.*
- ✓ *The management of the educational institution should ensure the participation of representatives of interested persons (employers, teaching staff, students) in the collegial management bodies of the educational program, as well as their representativeness in making decisions on the management of the educational program.*
- ✓ *The university must demonstrate innovation management within the framework of the EP, including the analysis and implementation of innovative proposals.*
- ✓ *The management of the educational institution must demonstrate evidence of openness and accessibility for students, teaching staff, employers and other interested persons.*
- ✓ *The management of the EP must be trained in educational management programs.*
- ✓ *The management of the EP should strive to ensure that the progress made since the last external quality assurance procedure is taken into account when preparing for the next procedure.*

The evidentiary part

The following are presented as planning and strategic documents: The Transformation Strategy until 2025. (https://aues.edu.kz/frontend/web/uploads/document/1582608703_M8Gjf.pdf), Strategic Development Plan for 2021-2023 (https://aues.edu.kz/frontend/web/uploads/document/1646385977_IQ79To.pdf), Internationalization strategy for 2021-2023 (https://aues.edu.kz/frontend/web/uploads/document/1643872190_x3LJUX.pdf), Environmental policy (https://aues.edu.kz/frontend/web/uploads/document/1582608183_TxiZ2K.pdf). There is no strategy for the development of the University in the near future.

There is no quality assurance policy for the current period, a Quality Assurance Policy for the 2022-2023 academic year is presented (<https://aues.edu.kz/ru/pages?id=2>).

The Department of Automation and Control has developed a Development plan for EP 6B07108 – Automation and Control (bachelor's degree) for 2023-2028, approved by the director

of IAIT I.A. Fedorenko 2023, Development Plan **7M07105 – Automation and Control** (Master's degree) for 2023-2028, approved by the director of IAIT I.A. Fedorenko 2023. Development plan **8D07103 – Automation and Control** (doctoral degree) for 2023-2028, approved by IAIT Director I.A. Fedorenko 2023. The development plans of the EP were considered at a meeting of the CEM of the Department of Automation and Control, a representative of students (master's degree) was included in the membership of the CEM, representatives from key employers were invited to the meeting.

The mechanisms for the formation and revision of the development plan and the content of educational programs involve regular discussion of the EP at a meeting of the department with the involvement of employers. All changes are taken into account and reflected in the adjustments made to the Program (experts are presented with Extracts from meetings of the Department of Automation and Control with discussion and revision of the EP).

The annual report plan of the Department of Automation and Management, which is being developed on the basis of the Development Plan of the EP, identifies promising areas of activity to achieve the set goals and improve the quality of student learning. All the goals and objectives of the department are aimed at student-centered learning, all types of work on student-centered learning are reflected in the development plans of the EP developed by the department (presented to experts).

The monitoring of the EP is carried out by the University by analyzing: 1) the level of graduate training, taking into account the satisfaction of representatives of educational institutions and representatives of business communities during professional practices; 2) information resources and processes for disseminating information about plans for the development of educational programs; 3) mechanisms of resource provision and management structure aimed at the implementation of educational programs; 4) internal and external environment and market to determine the initial parameters of the development of educational programs.

The assessment of the effectiveness of the EP is determined by discussing and analyzing the results of academic performance, passing all types of practices, the level of residual knowledge, the quality of graduation papers and state exams (in the future) at meetings of collegial bodies of the university (meetings of departments, CEM and BS of the University).

All of these mechanisms are used in the program management process.

Measures to control the quality of the educational process carried out at different levels are recorded in the form of records, acts, reports and discussed at meetings of the department, institute. Based on the analysis and evaluation of control indicators, preventive and corrective measures are being developed. Their effectiveness and efficiency are reviewed at the meetings of the department.

The educational process is organized on the interaction of teaching, scientific research and training in the quality assurance policy. At the same time, domestic and foreign best practices are used.

AUPET regularly informs the public and key stakeholders about all aspects of its activities, conditions and features of the implementation of accredited EP. Informing interested parties about planned or undertaken actions in relation to the EP is carried out through e-mail, mass media, scientific journals, specialized events, publications and portals of university partners, design of information stands, posters, banners, information booklets on the EP, posting information on the university portal, holding meetings of the Institute's advisory council, meetings of departments.

The management of the EP is carried out by the head of the department, the head of the EP, public bodies (meetings of departments, CEM of the institute, CEM and BS of the university), which include representatives of employers, teaching staff, students (experts are presented with the job description of the head of the department, approved by Rector Syzdykov M.K. 05/15/2023). The control of the implementation of the EP is carried out by the director of the profile institute and the profile Vice-Rector.

The management of the EP identifies and systematizes risks in the risk management register, which are formed by each department of the university, are responsible for the timely completion

and revision of the register items: the risk owner, the risk group, the level of influence (1 – low, 2 – medium, 3 –high), the level of Probability (1 – low, 2 – medium, 3 – high), risk factors (causes); risk management measures, consequences of risk realization.

At the beginning of each academic year, at a meeting of the department, a risk management action plan is discussed and taken into account, responsible executors and deadlines are appointed (presented to experts).

Every year, as part of the initiative of the National Chamber of Entrepreneurs "Atameken", together with the Ministry of Science and Higher Education, work is carried out to update disciplines by 30%. The actualization of the EP contributes to the introduction of innovative and high-tech disciplines into educational programs.

The introduction of innovations is carried out on the basis of scientific research of the department. In the 2023-2024 academic year, the staff of the department participated in three grant research projects (contracts were submitted to experts).

The analytical part

Experts note that the university and the management of the EP have demonstrated the development of a culture of quality assurance, including in the context of the EP, a commitment to ensuring which applies to all ongoing processes, however, the formation of quality assurance for the EP 1 cluster is based on a Quality Assurance Policy, which is valid for 2022-2023. The strategic plan for the development of the University is presented on the university's website for 2021-2023.

The experts were presented with plans for the development of the EP during the development, which took into account planning and strategic documents that have lost their validity, there is no Strategy for the development of the University in the near future.

The definition of those responsible for business processes within the framework of the EP cluster, the distribution of staff responsibilities, the differentiation of functions of collegial bodies requires specification in the local regulatory framework of the University.

The management of the EP improves their qualifications in various types of activities, however, certificates of advanced training in the field of management in education from the head of the Department of Automation and control, heads of the EP 6B07108 – Automation and control (bachelor's degree), 7M07105 – Automation and control (master's degree) are not presented to experts.

Strengths

Not identified.

EEC recommendations for EP 6B07108, 7M07105, 8D07103 – Automation and control

- To develop and approve an updated strategic plan for the development of the university. Due date: 06/01/2024
- To undergo advanced training in the field of management in education for heads of departments, heads of EP. Due date: 30.08.2024
- Update the risk management plan for EP 6B07108, 7M07105, 8D07103 – Automation and control. Due date: 30.08.2024

Conclusions of the EEC:

According to the standard "Educational program Management", 17 criteria are disclosed, of which: 14 criteria have a satisfactory position, 3 criteria require improvement.

6.2. The Information Management and Reporting Standard

- *The university must ensure the functioning of the information collection, analysis and management system based on the use of modern information and communication technologies and software.*
- *The management of the EP must demonstrate the systematic use of processed, adequate information to*

improve the internal quality assurance system.

- *Within the framework of the EP, there should be a system of regular reporting reflecting all levels of the structure, including an assessment of the effectiveness and efficiency of the activities of departments and departments, scientific research.*
- *The university should establish the frequency, forms and methods of evaluating the management of the EP, the activities of collegial bodies and structural units, senior management, and the implementation of scientific projects.*
- *The university must demonstrate the definition of the procedure and ensuring the protection of information, including the identification of responsible persons for the reliability 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 them.*
- *The management of the EP should demonstrate the existence of a mechanism for communication with students, employees and other stakeholders, including the existence of conflict resolution mechanisms.*
- *The university must ensure that the degree of satisfaction with the needs of teaching staff, staff and students within the framework of the EP is measured and demonstrate evidence of the elimination of the detected shortcomings.*
- *The university should evaluate the effectiveness and efficiency of its activities, including in the context of the EP.*
- *The information collected and analyzed by the university within the framework of the EP should take into account:*
 - *Key performance indicators;*
 - *dynamics of the contingent of students in the context of forms and types;*
 - *Academic performance, student achievements and expulsion;*
 - *satisfaction of students 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 development of graduates.*
- *Students, employees and teaching staff must document their consent to the processing of personal data.*
- *The management of the EP should facilitate the provision of all necessary information in the relevant fields of science.*

The evidentiary part

In order to automate the process of collecting, analyzing, managing information and organizing the educational process, the University has implemented and operates:

- The University's website (<https://aues.edu.kz/ru>);
- AIS "Platonus" (<https://edu2.aues.kz/>, to track the number of students and consulting activities);
- automated library and information system (<https://library.aues.kz/MegaPro/Web>, to account for available resources);
- automated system "AUPET" (for the formation of modular educational programs, preparation of approval protocols, staffing and individual curricula of students);
- automated 1C system (financial accounting, document management).

The information of interested persons about educational programs and events taking place in the AUPET is also carried out on social networks.

Access to information in the AIS "Platonus" is carried out only for an authorized user and is differentiated depending on the needs of users and the functional responsibilities of the service personnel.

The analysis of information is carried out by methods of comparing indicators, the evaluation criteria of which are presented in departmental regulatory documents and local regulations of the University. The results of the analysis are reflected in the certificates, reports of the structural units of the university and provided to responsible persons for making decisions on improving the process. For example, information about teaching staff is collected from DAA, IEGT, the HR department in the form of plans-reports on the work of departments, as well as through the rating of teaching staff and departments. They reflect information on the implementation of individual teaching staff plans, professional development, scientific publications, participation in research and development, which is used by the personnel service

and the Academic Council during the competition for the position of teaching staff, as well as when forming plans for professional development. The information accumulated in the HR department about employees allows you to more effectively form the staffing table and build an individual trajectory of their professional growth.

The management of the EP collects and analyzes data obtained as a result of a survey and questionnaire to assess the quality assurance system of education by indicators:

- the level of academic achievement of students;
- students' satisfaction with the quality of implemented EP;
- educational resources and the effectiveness of AUPET activities;
- satisfaction of the employers' organizations and the demand for graduates in the labor market;
- compliance with the requirements of the results and objectives of the educational program, etc.

The data obtained are heard at meetings of the Academic Council of the University, the Rector's Office, and the CEM of the Institute and are used to update learning goals, improve the organization and quality of the educational process (stored in paper form and in specialized databases).

The assessment of the management of accredited EP is carried out on the basis of local regulations of the University on undergraduate educational programs:

- management of educational activity processes;
- planning and evaluation of the university's activities;
- the procedure for conducting a comprehensive audit, etc.

The tools for ensuring the quality of education are: State mandatory standards of education; university regulations; commissions for quality control of the educational process of educational units; surveys of students about satisfaction with the organization of training; CEM, etc.

In order to prevent and resolve conflict situations, the University has developed and operates the "Code of Honor of the student", the "Code of Honor of teachers and employees of the University "AUPET" (the Code of honor of a teacher and an employee of AUPET and the Code of Honor of a student of AUPET (<https://aipet.kz/kodeks-chesti-studenta-aues/>), The University's internal Regulations.

In accordance with the Law of the Republic of Kazakhstan "On Personal Data" at the university, the procedure for obtaining consent from students, employees and teaching staff for the processing of personal data is assigned to the service of the Department of IT and Information and Library Resources and is carried out during the registration of these users of the university's corporate network.

The analytical part

Experts note that information management and reporting are provided at the University based on the use of modern digital technologies and software tools. The effectiveness and efficiency of the departments' activities within the framework of the implementation of the EP assigned to them is reflected in the annual reports on the main types of activities: educational and methodological work, research, educational work, etc., considered at meetings of the department, the Council of the Institute, the CEM, AC of the University. External experts (Independent accreditation agencies, representatives from employers) are also involved to assess the effectiveness and efficiency of the EP.

In general, information management and regular reporting at the University are provided at the required level, however, the phased transition in the 2023-2024 academic year from the AIS of AUPET's own development to the AIS "Platonus" requires regulation of the introduction of a new system.

The university reports contain data on questionnaires, but the work of discussing their results and taking measures is inactive.

Strengths/best practices

Not identified.

EEC recommendations for EP 6B07108,7M07105, 8D07103 – Automation and control

- The results of the questionnaire on the satisfaction of the needs of teaching staff and students should be discussed with interested parties. Due date: until 30.06.2024.

Conclusions of the EEC:

According to the standard "Educational program Management", 17 criteria are disclosed, of which: 16 criteria have a satisfactory position, 1 criterion requires improvement.

6.3. The standard "Development and approval of an educational program"

- The university should define and document the procedures for the development of the EP and their approval at the institutional level.*
- The management of the EP should ensure that the developed EP meets the established goals, including the expected learning outcomes.*
- The management of the EP should ensure that there are developed models of the graduate of the EP describing learning outcomes and personal qualities.*
- The management of the EP must demonstrate the conduct of external expertise of the EP.*
- The qualifications obtained upon completion of the EP should be clearly defined, explained and correspond to a certain level of the NQS.*
- The management of the EP should determine the impact of disciplines and professional practices on the formation of learning outcomes.*
- An important factor is the possibility of preparing 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, ensuring their quality.*
- The labor intensity of the EP should be clearly defined in Kazakhstani loans and ECTS.*
- The management of the EP should 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 availability of joint EP with foreign educational organizations.*

The evidentiary part

The development of the EP is carried out in accordance with the main regulatory documents for the development of the OP, the Law "On Education", the Law "On Science", the State Mandatory Standard of Higher Education and Postgraduate Education, the Lisbon Convention "On the Recognition of Qualifications related to Higher Education in the European Region", the Rules for the organization of the educational process on credit technology training, standards and recommendations for quality assurance in the European Higher Education Area (ESG) and Guidance on the use of ECTS, they also strictly adhere to the Rules of the organization of the educational process in the NPJSC AUPET on credit technology of education, the Regulations on the development of higher and postgraduate education based on professional standards, taking into

account the requirements of the market.

The choice of specializations in the direction of: EP ISS is carried out taking into account the requirements of the Professional standard "Information infrastructure security specialists, as well as the Professional standard "Information Security"; EP AC is carried out taking into account the requirements: "Management and design of computer hardware and embedded systems"; "Maintenance of auxiliary systems, control and measuring devices and automation"; "Operation and repair of thermal automation and measuring instruments".

The EP is developed by the teaching staff of the department taking into account the recommendations of employers (<https://drive.google.com/drive/folders/1oviLt5GeXEUBiW3D3OZOofHy-xPfSxFdW>), students, representatives of IT companies and production, are considered and discussed at meetings of departments, coordinated with leading companies, associations, then at a meeting of the scientific and methodological council of the Institute.

All types of work related to the procedure and technology of EP development are supervised by the heads of the Department of Automation and Control and the institutes of AIT and IEGT. EP ESA, EP ISS and EP 6B07108/7M07105(113)/8D07103 AC have clearly formulated goals that are consistent with the mission of the AUPET, which is indicated by the link <https://aues.edu.kz/ru/site/documentation>.

Graduate model of EP ESA, EP ISS and EP 6V07108/7M07105(113) "Automation and control" reflect the characteristics and areas of professional activity of the graduate, tasks and competencies (Presented to experts).

The management of the EP annually engages external experts to assess the content of the EP and the planned results of its implementation.

The management of EP AC at all levels works in close cooperation with Honeywell-ASU LLP in the Kazakhstan representative office of the recognized leader in the field of automation Honeywell.

The adjustment of the draft educational programs in the specialties of EP cluster 1 is being carried out on the basis of the recommendations received, noted in the expert opinions (Protocol No. 8 of 04/11/2023 was submitted to the experts). The development of the EP is carried out in accordance with the Regulations on the development of educational programs based on professional standards (https://aues.edu.kz/frontend/web/uploads/academic-calendar/ru/1609231688_SQq0yF.pdf), which also presents the procedure for evaluating the quality of educational programs. The EP rating is based on the analysis of academic statistics, expert assessments and the results of surveys of employers. EP is developed by faculty of departments, employers, students, representatives of companies, reviewed and discussed at meetings of departments, coordinated with leading companies, associations, and then at a meeting of the Institute's Council. The final approval of the EP takes place at the CEM and the Academic Council of the University. At the stage of the implementation of the EP, the university conducts systematic monitoring and assessment of the quality of the EP with the participation of students, employees and other interested parties. Icore Integration LLP (Shikina A.), Sberbank JSC (Bakaeva D.A.), ALE KISA (Pokusova V.), Siemens Energetics LLP (Tipakov E.) participate in the development of OP 1 cluster. The catalog of elective disciplines (CED) for each accredited specialty for the upcoming academic year is compiled in January-February and contains a list of disciplines by cycles (basic and profiling), their volume in credits, brief annotations of disciplines, pre- and post-requirements. The QED is electronically posted on the university's website. Students are given academic freedom to choose the type of final certification, real topics of an applied nature. The University has developed an algorithm for designing a graduate's competence model based on which graduate models are formed for each EP, taking into account the personal qualities of students and a description of learning outcomes. The special competencies of the Bachelor's degree EP are developed on the basis of professional standards and standard qualification characteristics of specialists, taking into account the requirements of employers and the social request of society. The general requirements for the level of training are: professional competence

of a bachelor, defined as a set of theoretical and practical skills established by a professional educational program; the ability to perform professional functions within one or more types of activities; understanding the main trends in the development of theory and practice in your professional field. A graduate of the Bachelor's degree EP must have general professional competencies, as well as special competencies that will allow him to obtain a position and perform work:

- in the field of settlement and design activities;
- in the field of production and technological activities;
- in the field of experimental activities;
- in the field of organizational and managerial activities;
- in the field of installation and commissioning and maintenance activities.

The relationship between competencies and disciplines (sections, modules) is carried out through the correspondence table (matrix), the matrix indicates which competencies from the full list should be mastered as a result of studying the disciplines of each module.

The quality of the EP is checked by conducting an audit of the EP, a prerequisite for which is the submission of an expert opinion of employers on the EP. External expertise is carried out taking into account the involvement of specialists in the assessment of the quality of educational programs in the person of the chairmen of the AC, heads of practices, interested employers, as well as through the functioning of Industrial Committees.

Production practices, depending on the level of training, can be implemented in the following forms: practice in obtaining professional skills and professional experience, research work, pedagogical practice, etc. determined by the educational program, are conducted in production, research organizations, IT companies whose main activity determines the presence of objects and types of professional activity of graduates in this EP. The University fully provides students with internship places.

After completing the EP, graduates can continue their studies in the master's and doctoral programs.

The analytical part

Experts note that the University defines goals for each developed and approved program, the basis of which are the State educational standards, regulatory acts of the Republic of Kazakhstan and the needs of the labor market. When determining the contribution of disciplines to the process of determining learning outcomes, the recommendations and suggestions of employers are taken into account. The University has favorable conditions for offering students a variety of disciplines within the framework of the field of study, building an individual learning trajectory. The list of disciplines listed in the CED fully corresponds to the modular curricula of accredited specialties approved by the Academic Council of the University. To obtain additional competencies, all students are given the opportunity to choose Minor programs, provided they achieve high academic performance and comply with pre- and post-visa relations.

The graduate models developed by the University fully reflect the main goals and objectives of graduate training, as well as the requirements formulated from the standpoint of the competence paradigm. An indicator of the success of EP is an independent assessment of the rating of NCE "Atameken", according to which AUPET was named the second technical private university in 2023.

Experts note that last academic year, the University revised curricula towards increasing theoretical hours, however, according to the results of surveys of employers and students, for more rapid adaptation after graduation in the workplace, an increase in practice-oriented training with the active involvement of employer representatives in this process, involving students in real projects from partner employers is required University. In general, the university is ready to expand its work and move to large-scale practice-oriented training. Due to the potential of the university and the high competition in the field of Automation and Control, it is necessary to intensify measures to position the EP.

Strengths/best practices

Not identified.

EEC recommendations for EP 6B07108,7M07105, 8D07103 – Automation and control

- The management should intensify measures to position EP in the educational market, expand the representation of the university brand in social networks, in the media at the regional and national levels before the start of the admission committee in 2024.

- - To work out the issue of joint development of a two-degree educational program. Establish partnerships with leading foreign universities to create joint educational programs (two-degree education). The deadline is 2028-2029 academic year.

Conclusions of the EEC:

According to the standard "Educational program Management", 12 criteria are disclosed, of which: 10 criteria have a satisfactory position, 2 criteria require improvement.

6.4. The standard "Continuous monitoring and periodic evaluation of educational programs"

- *The university should 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:*
- *The content of the programs in the light of the latest scientific achievements in a particular discipline to ensure the relevance of the discipline taught;*
- *Changes in the needs of society and the professional environment;*
- *Workload, academic performance and graduation of students;*
- *Effectiveness of student assessment procedures;*
- *Expectations, needs and satisfaction of students;*
- *The educational environment and support services and their compliance with the goals 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 stakeholders should be informed of any planned or undertaken actions regarding the EP. All changes made to the EP must be published.*
- *The management of the EP should ensure the 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.*

The evidentiary part

The University defines and consistently applies procedures for monitoring, periodic evaluation and revision of educational programs in order to ensure that they achieve their goals and meet the needs of students and society. The procedure for monitoring and periodic evaluation of EP at the university is carried out on the basis of internal documents: "Regulations on the development of educational programs of higher and postgraduate education (dated 02/24/2020), Academic Policy (08/03/2020).

The University ensures the participation of students, potential employers and other stakeholders in the evaluation and revision of programs. This is confirmed by the participation of teaching staff, students and employers in Academic Committees, the presence of external expertise submitted to the experts of the EEC with proposals for studying and updating the MOS cluster.

The basis for these procedures are:

- changes in the State System of higher and postgraduate education;

- The introduction of new professional standards;
- proposals of potential employers formed based on the results of a survey or joint events with graduate departments;
- Recommendations from representatives of the practice bases;
- The results of the research activities of the University faculty in the field of automation;
- changes in the regulatory requirements for the development of the EP.

The improvement of educational programs includes procedures:

- Annual examination of methodological support at the level of the meeting of departments, the CEM of the university, the Academic Council of the university.
- Annual analysis and expansion of the CED with the involvement of employers.
- Maintaining feedback with stakeholders aimed at improving the EP (round tables, final conferences on industrial, pedagogical and research practices, joint scientific and methodological seminars).
- Monitoring of the implementation of the EP at the CEM level.
- Assessment of the quality of the EP by the main stakeholders.
- Annual internal audits to determine whether the processes of planning, organizing, monitoring and developing the quality of EP meet the established requirements.
- Analysis of the results of external quality assurance procedures.
- Review of the overall results of monitoring and evaluation of the EP, development of measures for improvement.

The assessment of the quality of the implementation of the EP is determined by analyzing the conducted open classes and mutual visits of teaching staff.

Students' academic performance is systematically monitored in the form of a discussion of the results of boundary controls 1 and 2, examination sessions in study groups. Corrective actions and decisions are taken based on the results.

The process of monitoring, evaluation and improvement is reflected in the decisions of the collegial bodies.

The quality of educational programs is assessed annually by the main stakeholders, namely:

- annual survey of students on the quality of the educational program, learning environment and support services;

- analysis of the organization of open classes and mutual visits of teaching staff;
- assessment of educational results of students of the EP is considered at meetings of departments, CEM;
- interaction of the department with representatives of the practice bases, including through the joint formation of a catalog of elective disciplines.

The management of accredited EP conducts coordinated work with stakeholders, interaction is carried out through joint coordination of educational and professional practice programs, participation in conducting training sessions, performing research, participating in seminars, organizing advanced training courses, discussing topics of diploma and master's works.

The internal evaluation of educational programs is carried out through the conclusion of an expert group. Based on the conclusion of the expert group, the educational program is reviewed and recommended for approval at meetings of departments, the educational and methodological Council of the university and approved by the Academic Council of the university. After passing all the stages of approval and approval, the educational program is introduced into the educational process.

All measures to control the quality of the educational process carried out at different levels are recorded in the form of records, acts, certificates, reports, etc., and are discussed at meetings of departments, CEM and the Academic Council of the University. Based on the analysis and evaluation of control indicators, measures are being developed to improve the quality of educational programs.

The workload, academic performance and graduation of students comply with regulatory requirements and SCES. According to the data of constant monitoring, a report on the results of the sessions is analyzed and formed. This issue is periodically considered at meetings of departments, CEM, and the Academic Council of the university in order to take the necessary measures to improve academic performance and achieve the desired results.

A student who does not agree with the results of the assessment on the exam has the right to appeal. In some cases (due to illness, family circumstances, or other objective reasons), the dean's office may allow the student to take an individual examination session.

An annual survey of students is conducted to assess the teaching activities of teaching staff, the analysis of the survey is carried out at meetings of departments. Based on the results of the discussion, the management of the EP decides on corrective actions.

The educational environment and support services correspond to the goals of the EP, so the educational process for accredited programs is implemented in specialized classrooms and training laboratories equipped with the necessary equipment and software.

The analytical part

The process of monitoring, evaluating and improving the EP is the responsibility of the head of the department and is controlled by the CEM. Documentary evidence of changes in educational programs are: decisions of collegial bodies; action plans for improving the EP; updated methodological support based on decisions of collegial bodies; protocols of events. The main objectives of discussing the results of monitoring and evaluation of the EP at collegial meetings are: to facilitate the evaluation of the educational program and its improvement; informing about changes in external requirements for the educational program; maintaining the exchange of ideas with other organizations implementing the educational program; harmonization of content with educational programs of Kazakhstani and foreign universities; determining areas for advanced training of teaching staff implementing the educational program; recommendation on passing external quality assurance procedures; determining the forms and content of feedback from stakeholders for the development of the educational program. *However, experts note the need to analyze the applied procedures for evaluating students for their effectiveness.*

Informing about changes in EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control are held at meetings of departments, educational and methodological councils, the Academic Council of the university. Also, interested persons are informed about upcoming meetings on the consideration of educational programs by means of communication (mobile communication/e-mail/WhatsApp). Facebook Instagram, Telegram), through which they inform all interested parties about the events held at the departments and at the university.

EEC experts want to draw the attention of the university management to the results of the survey of teaching staff (Appendix 3 of this report), which have unsatisfactory answers on the following points:

- *the involvement of teaching staff in the process of making managerial and strategic decisions – not satisfied – 25.8% of teaching staff, the adequacy of recognition by the university management of the potential and abilities of teachers – not satisfied – 16.1% of teaching staff, the ability of teaching staff to combine teaching with scientific research and practical activities – not satisfied with 19.6% of teaching staff, the perception of the leadership and administration of the university criticism in your address – 25.8% of the staff are not satisfied.*

Strengths / best practices:

Not identified.

EEC recommendations for EP 6B07108, 7M07105, 8D07103 – Automation and control:

1. The management of EP 6B07108, 7M07105, 8D07103 – Automation and control on the

university's website must annually post detailed information related to changes in the structure and/or content of the EP, graduate model, etc., to inform stakeholders about the decisions taken regarding the consideration of their proposals. *The deadline is within 10 days after the relevant changes are made.*

Conclusions of the EEC:

According to the standard "Continuous monitoring and periodic evaluation of educational programs", 10 criteria are disclosed, of which: 10 have a satisfactory position.

6.5. The standard "Student-centered learning, teaching and assessment of academic performance"

- *The management of the EP should ensure respect and attention to different groups of students and their needs, providing them with flexible learning paths.*
- *The management of the EP should ensure the use of various forms and methods of teaching and learning.*
- *An important factor is the availability of own research in the field of teaching methods of academic disciplines of the EP.*
- *The management of the EP should demonstrate the existence of a feedback system for the use of various teaching methods and evaluation of learning outcomes.*
- *The management of the EP should demonstrate support for the autonomy of students with simultaneous 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 learning outcomes assessment mechanism for each EP, including the appeal.*
- *The university must ensure that the procedures for evaluating the learning outcomes of students of the EP comply with the planned learning outcomes and program goals. The evaluation criteria and methods within the framework of the EP should be published in advance.*
- *The university should define mechanisms to ensure that each graduate of the EP learns the learning outcomes and ensures the completeness of their formation.*
- *Evaluators should be familiar with modern methods of evaluating learning outcomes and regularly improve their skills in this area.*

The evidentiary part

The proper level of attention and respect for different groups of students and their needs is demonstrated. The possibility of choosing elective disciplines (learning paths) based on CED is described. Flexible learning trajectories are provided in the AUPET for the Automation and Control EP, which is presented in detail in the Modular curricula of the EP. The flexibility of learning trajectories is due to the elective disciplines, as well as the choice of specialization, starting from the third year. The structure of EP 8B07108 – Automation and control allows, in the learning process, at the request of the student, to master additional competencies beyond training in the main educational direction, through the minors. The majors belong to the variable part of the EP and are implemented as a choice of a number of disciplines by students. The minors are offered for all students to choose from. Each student can choose to study one minor. The list of minors and disciplines of minors is provided to the student at the end of the first year. Also, within the framework of the educational program, at the request of the student, it is possible to master additional competencies in addition to training in the main educational direction through the disciplines of free choice.

During the academic year, teaching staff office hours are fixed, teaching staff consultation schedules are available at the departments, additional information is provided in syllabuses on disciplines, the student can also contact the teacher by e-mail.

The use of modern IT technologies in the teaching process (video lectures, distance learning

technologies, multimedia presentations) is emphasized. At the same time, the justification for the effectiveness of these methods and methods of teaching and learning in relation to EP, as well as monitoring the effectiveness of their application, *is not fully presented*.

Great importance is attached to the development and use of innovative methods and information technologies in the educational process. The experience of implementing the most relevant and effective methods becomes an object of exchange between teachers through demonstration and open classes and is recorded in journals of mutual visits of teachers and reflected in the work plans of the department. Lectures, training seminars, and open classes with the use of innovative technologies are systematically conducted.

Ensuring equal opportunities for students is achieved by developing educational, methodological, organizational, methodological and information support for the educational process in two languages of instruction: Kazakh and Russian.

In order to ensure social support for students, systematic work on social support has been organized - according to the strategic development plan, financial support for orphaned students and children left without parental care, financial support for students from low-income and socially vulnerable families, provision of places for nonresident and foreign students to live in student dormitories are provided.

The university supports talented young people.

For students to choose an individual educational trajectory, the necessary conditions are created, which include: the ability to choose the language of instruction, elective disciplines, teachers; electronic registration for elective disciplines; formation of an individual curriculum; organization of an additional semester for repeated or additional study of disciplines; the possibility of learning by distance technologies; familiarization with personal results of educational achievements; the possibility of learning within the framework of academic mobility; the opportunity to use the educational portal; the possibility of using the electronic library of the university, the Republican Interuniversity electronic Library; for conducting laboratory and practical work, students can use specialized laboratories, multimedia classrooms of the university and conditions for obtaining practical skills on the bases of practices.

The University monitors the effectiveness of the educational services provided by systematically conducting surveys of students using various standardized questionnaires. The main methods of periodic assessment of educational activities include questionnaires, conversations and surveys; internal audits; analysis of the rector's blog, "complaints and suggestions box"; media content analysis, etc.

In the learning process, a criterion generally accepted in world practice is used on a scale of alphabetic and numeric designations, reflecting the mechanism for implementing credit transfer based on the ECTS credit system. In accordance with this scale, estimates of the current, milestone and final control are set.

Knowledge assessment is carried out in accordance with the decision of the CEM meeting on the procedure for conducting exams and evaluating students' academic achievements (Protocol No. 2 dated 10/30/2023). In order to ensure that each graduate learns the learning results, it is established that students take exams in writing. *At the same time, experts note* that there are no internal approved documents regulating the procedure for conducting exams.

When implementing a student-centered approach, the feedback process takes into account the wishes and needs of students and makes decisions that are taken into account when compiling the EP. Feedback from students is carried out through the definition of an individual login and password, which creates the possibility of forming a two-way communication between the subjects of the educational process. Access to the necessary educational materials can also be obtained through the "Educational Portal" of the university's website.

The facts of the implementation of complaint procedures *are not presented* due to the absence of complaints received under EP 6B07108, 7M07105, 8D07103 –Automation and control.

The analytical part

The university carries out systematic work on monitoring the academic performance of

students. The NPJSC AUPET uses a modular rating system for assessing students' knowledge, a clear gradation of assessment is adopted, presented in syllabuses of disciplines, planning for advanced training of teaching staff is demonstrated, with the responsibility of the procedure for the management of departments and institutes.

Teaching staff EP 6B07108, 7M07105, 8D07103 –Automation and control within the educational process use traditional and interactive teaching methods. The members of the EEC IAAR note that as part of the educational process, the following innovative teaching methods and technologies are used in the preparation of bachelors: case study, business and role-playing games; round table, discussion, debate, press conference, brainstorming, presentations.

At the same time, the experts were not shown examples of their own developed teaching methods and the presence of a feedback mechanism for using various teaching methods and evaluating learning outcomes.

The NPJSC AUPET has adopted a number of internal regulatory documents defining the principles of intermediate and final control of students. The main examples related to control are given according to EP 6B07108 and 7M07105 – Automation and control. When training specialists at the doctoral level in EP 8D07103 – Automation and control, the requirements for the criteria for evaluating research and development are not presented. In addition, the main purpose of a doctoral student's education should be considered to be the defense of a doctoral dissertation, assuming the required minimum of tasks (including publications, conferences and writing a dissertation), however, the report *does not mention* and does not directly indicate the *mechanisms for evaluating* the achievement of these results.

During interviews with employers, it was found out that a significant part of the classes are held in the (2+1) format, i.e. the emphasis is on lectures rather than practical and laboratory classes, i.e. there is a lack of practical classes

Strengths / best practices:

- Not identified.

EEC recommendations for EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control:

1. The management of EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control needs to monitor the applied teaching methods of specialized disciplines in order to improve the quality of teaching. *The deadline is annually.*

2. The EP management is recommended to increase the number of practical and laboratory hours instead of lecture hours when planning the academic load. *The deadline is by the beginning of the 2024-2025 academic year*

Conclusions of the EEC:

According to the standard "Student-centered learning, teaching and assessment of academic performance", 10 criteria are disclosed, of which according to EP 6B07108 – Automation and control, 7M07105 - Automation and control, 8D07103 – Automation and control:9 criteria have a satisfactory position, 1 criterion requires improvement.

6.6. The "Students" standard

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

- *The management of the EP should demonstrate the implementation of special adaptation and support programs for newly enrolled and foreign students.*
- *The university must demonstrate that its actions comply with the Lisbon Recognition Convention.*
- *The university 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.*
- *The management of the EP should 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 non-formal education.*
- *The university should provide an opportunity for external and internal mobility of students of the EP, as well as assist them in obtaining external grants for training.*
- *The management of the EP should make maximum efforts to provide students with internship places, promote the employment of graduates, and maintain contact with them.*
- *The university must provide graduates with documents confirming the acquired qualifications, including the achieved learning outcomes, as well as the context, content and status of the education received and evidence of its completion.*
- *An important factor is the monitoring of the employment and professional activities of graduates of the EP.*
- *The management of the educational institution should actively encourage students to self-education and development outside the main program (extracurricular activities).*
- *An important factor is the existence of an active alumni association/association.*
- *An important factor is the availability of a support mechanism for gifted students.*

The evidentiary part

AUPET has a policy of forming a contingent of students in the context of the EP from admission to graduation and ensures transparency of its procedures. The procedures governing the life cycle of students (from admission to completion) are defined, approved, and published in internal documents. Every year, the University approves the price list for paid educational services, agreed with the MSHE of the RK. For persons enrolled in the EP 1 cluster, the AUPET imposes the requirements established by the MSHE of the RK - the presence of an UNT certificate with a passing score (75) or a CTA (for college graduates).

The contingent of students of EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control is formed as a result of the annual competition for the state educational grant for GEP B063 "Electrical engineering and automation" and on a contractual basis. The dynamics of the student body according to EP 6B07108 "Automation and control" is presented in the table

Name of the specialty / EP	EP			
	2020	2021	2022	2023
Automation and control	378	222	199	132

For newly enrolled students, an orientation week is held, where introductory lectures are held, familiarization with educational and methodological documentation. Taking into account the information received, students form individual curricula, build educational trajectories, using the opportunity to choose academic disciplines, taking into account their needs in obtaining appropriate competencies within the chosen specialty.

For all students, the conditions necessary for the effective development of the chosen EP are created in accordance with their interests and needs, providing appropriate resources (library, consulting, information, etc.). The director of the institute, the head of the department, and leading teachers conduct introductory classes where applicants get acquainted with the specifics of studying the EP, the department, study the University Charter, rules of residence in the dormitory, the student self-government system, visit the library, reading rooms and subscriptions, where there

is an extensive electronic information search system.

Each student is provided with a reference guide, which provides step-by-step information about the educational process for the entire first year of study: the schedule of the educational process, the schedule of classes, the schedule of certification, sessions, vacations, summer additional educational events; the plan of public, scientific events of the university.

Students and visitors to the official website of the university can familiarize themselves with the rules of admission, transfer from course to course, from other universities, on the procedure for transferring credits mastered at other universities, deductions, etc.

Academic mobility in AUPET is determined by the existence of mutually beneficial cooperation agreements. The main criterion for selecting students for academic mobility abroad is the availability of an international certificate (for example, IELTS, TOEFL) or successful completion of a university test (advanced level) and a GPA score of at least 3.33. The final document confirming the student's education under the mobility program is a transcript of the training.

The degree of satisfaction of students with the management system at the university is carried out by the QMS department.

Purposeful work is carried out at the university on an ongoing basis, designed to help students in the learning process, in everyday life, relationships with peers, teachers, staff, etc. Teachers are on duty in university dormitories with round tables and discussions on various topics related to both the educational process and everyday problems. Teachers of the department conduct consulting hours on a monthly basis, as part of educational work, where they try to identify existing problems in order to eliminate them in a timely manner. In accordance with the current policy, visits to cultural events are organized on an ongoing basis in order to broaden the horizons of students.

At the Department "Automation and control" there is a mechanism for the support of educated students in the field of Khisarov Bolat Dzhantemirovich scholarship. Sponsors of these scholarships are graduates of the Department of AC in different years. In 2021, the first scholarship was awarded to three students: Kurmanov Nuraide Nurlanovna, student 3rd year – 2021, Kadyrgaliev Sagyngali Zhumabekuly, student 3rd year - 2022, Abilkairova Aruzhan - 2023.

An incentive scholarship in honor of the 35th anniversary of the creation of the Department of Automation and Control, from graduates of the Department of Automation and Control in 2012, was financially supported by a talented student Suleubaev Yeramir, a 2nd year student -2023.

Travel expenses are provided for participants of student organizations. Also, students who have won prizes in various competitions receive incentives from EP vendors.

All types of professional practices are planned and conducted in accordance with the academic calendar of the university and working curricula, according to which methodological guidelines have been compiled and approved, containing a detailed list of tasks for students, requirements for practical training, the content of practice, types of accounting documentation, samples of registration of accounting documents, etc. The referral of students to all types of practices is issued by the order of the rector of the AUPET with an indication of the terms of the internship, the practice base and the head(s) of the practice. Professors, associate professors, and experienced teachers of the department who are well aware of the specifics of the profession and the activities of the practice bases are appointed as heads of the practice. The organization of all types of practices begins with the department holding orientation conferences, where student trainees are instructed about the rules of SR, rules of conduct, and are introduced to the requirements for internship programs and accounting documentation. Each student - intern is given a package of documents, including a practice diary, an internship program, methodological manuals and a student report form. The work of the student interns is supervised by the heads of the practice from the department and the practice base.

During the implementation of the EP, special attention is paid to attracting students to research. The research work of students is realized through the implementation of program term papers and theses in educational and scientific laboratories of the AC department. Students of the

EP 1 cluster annually take part in the Republican subject Olympiad among students of higher educational institutions of the Republic of Kazakhstan and take prizes. Over the past 5 years, students of the EP 1 cluster have become winners and prize-winners of various scientific and creative competitions, among them the subject Olympiad, the republican research and development competition, the republican and international review competition of diploma projects, scientific and practical conferences of students. Students receive letters of thanks and diplomas.

The indicator of the demand for graduates, their success in finding employment is used as an indicator of compliance of graduate training with the social order and expectations of society, as an indicator of social security and guarantees of adaptation of graduates in new socio-economic conditions.

AUPET regularly hosts a Job Fair. The job fair is attended by representatives of leading enterprises and companies of various forms of ownership. AUPET students can directly interview specialists present at the fair, as well as view vacancies available from partner companies of the university.

The analytical part

The university demonstrated the policy of forming a contingent of students. The current model of forming a contingent of students complies with the legislation of the Republic of Kazakhstan, is based on the principle of transparency, unity, and consistency. To increase the number of applications for admission from applicants, the Institute is working to provide applicants with information about the university and specialties. The university regulates the procedures that ensure the life cycle of students (from admission to completion).

The management of the EP has demonstrated its readiness to provide students with places of practice.

The university provides an opportunity for external and internal mobility of EP students. Memoranda and contracts have been signed to develop interaction between internal and external mobility. After signing an agreement with the university, a coordinator for academic mobility is appointed, who provides advisory assistance to students in determining the list of disciplines to study and apply for. Based on the application received, the university issues an order on the terms of study, languages of study and specialty.

Strengths / best practices:

1. The management of the EP provides practice bases, facilitates the employment of graduates and maintains contacts with them.

EEC recommendations for EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control: ..

-There are no recommendations

Conclusions of the EEC:

According to the "Students" standard, 12 criteria are disclosed, of which according to EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control: 1 criterion has a strong position, 11 criteria have a satisfactory position.

6.7. The standard "Teaching staff"

- *The university should have an objective and transparent personnel policy, including in the context of the EP, including recruitment, professional growth and development of staff, ensuring the professional competence of the entire staff.*
- *The university must demonstrate that the staff potential of the teaching staff corresponds to the development strategy of the university and the specifics of the EP.*
- *The management of the EP must demonstrate awareness of responsibility for its employees and ensure favorable working conditions for them.*
- *The management of the EP should demonstrate the change in the role of the teacher in connection with the transition to student-centered learning.*
- *The university should determine the contribution of the Faculty of EP to the implementation of the university's development strategy, and other strategic documents.*
- *The university should 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 should ensure targeted actions for the development of young teachers.*
- *The university should demonstrate motivation for the professional and personal development of teachers of the EP, including encouraging both the integration of scientific activity 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 training, e-portfolio, MOOC, etc.).*
- *An important factor is the development of academic mobility within the framework of the EP, attracting the best foreign and domestic teachers.*
- *An important factor is the involvement of EP 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.).*

The evidentiary part

The personnel policy at the department generally comes from the general personnel policy of the university. Institutional procedures in relation to teaching staff and staff (recruitment, promotion, encouragement, reduction, dismissal, rights and duties, job descriptions) have been developed on the basis of the laws of the Republic of Kazakhstan "On Education", the Labor Code, the Charter of the NPJSC AUPET named after G.Daukeyev."

The process of personnel selection, determining the conformity of employees' qualifications, registration of their admission, relocation and dismissal, preparation of documents for approval in the positions of employees is managed by the Department of organizational and personnel work of the university together with the heads of structural divisions and in accordance with the staffing table. Currently, there are two forms of employment in AUPET: competitive selection of applicants for the position of teaching staff, followed by the conclusion of an employment contract; conclusion of an employment contract upon application for a period of up to one year.

The procedure for holding a competition to fill vacant positions is regulated by the regulatory documents of the Ministry of Education and Science of the Republic of Kazakhstan and the Regulations on the competition developed in the AUPET. The procedure for hiring teachers through a competition to fill vacant positions is regulated by the "Regulations on the competitive replacement of positions of the teaching staff of the non-profit JSC Almaty University of Power Engineering and Telecommunications" (edition 5 dated 04/25/2022). The existing mechanism allows you to get a holistic view of the professional competence of the teacher, to determine his compliance with the desired position. The competition commission conducts a qualitative analysis of the indicators of the teacher's educational, methodological and research activities, studies the characteristics from the last place of work, the motivated conclusion of the department on the applicant, the voting results of the members of the host department. Long-term practice shows that there is a steady tendency to give competitive preference to masters, candidates and doctors of sciences who can contribute to improving the human resources potential of the university.

A comprehensive assessment of the professional activity of teaching staff covers educational, methodical, scientific and educational work. The competence of teachers, evaluation of the effectiveness and quality of teaching is systematically evaluated by the administration of the university and the department. Students are involved in assessing the quality of teaching staff work. An anonymous student survey "Teacher through the eyes of students" is conducted at AUPET. The survey covers all students who came to classes on the day of the survey. The questionnaire includes two questions: the student's assessment of the teacher's work and informing about cases of violation of ethical standards of behavior by teachers. The AUPET has a rating system for the performance of teaching staff. The complex coefficient R (rating) in accordance with the "Methodology for determining allowances (taking into account the rating - KPI) to the official salaries of employees of the non-profit JSC AUPET is determined twice a year.

For high-quality teaching, teachers take various advanced training courses at universities and manufacturing enterprises in Almaty and far and near abroad. The results of the internship are introduced into the educational process and used in research work. *Experts note* the stable professional development of cluster 1 teaching staff within the framework of specialized disciplines of the IEP, which is confirmed by the availability of certificates.

Staffing of the teaching staff according to the staffing table is 100%. The basic education of the teaching staff of the AC department corresponds to the provision of high-quality training of specialists in the EP 1 cluster. The number of teaching staff corresponds to the contingent of students, the degree and quality of involvement of the teaching staff in interaction with students, the provision of curatorial and consulting assistance (educational consultations, admission on personal and academic issues, educational and curatorial work), the management of educational and industrial practices, research work of students and undergraduates.

The teaching staff involved in the implementation of Cluster EP 1 includes full-time teachers with extensive work experience in production, in research institutes.

Experts note that a lot of research work is being carried out at the AC department.

Articles in highly rated scientific journals (with quartile Q1 and Q2) for the last 3 years:

- Yunicheva N.R., Estimation of Filtration Properties of Host Rocks in Sandstone-type Uranium Deposits Using Machine Learning Methods, IEEE Access, 2022, DOI: 10.1109/ACCESS.2022.3149625;
- Utepbergenov I.T., Determination of the optimal shape of matrix elements partitioning on three abstract heterogeneous processors, Cogent Engineering (2020), 7: 1769948, Published online: 25 May 2020, 13p, <https://doi.org/10.1080/23311916.2020.1769948>;
- Yunicheva N.R., Analysis of the Correlation between Mass-Media Publication Activity and COVID-19 Epidemiological Situation in Early 2022, Information 2022, 13(9), <https://doi.org/10.3390/info13090434>;

In recent years, the faculty of the Department of Automation and Control has been actively participating in competitions for grant financing of scientific projects of the Science Committee of the Ministry of Science and Higher Education of the Republic of Kazakhstan:

- Scientific supervisor Utepbergenov Irbulat Turemuratovich, GF 2021-2023 "Development and implementation of a customer-oriented integrated automated system for calculating and manufacturing transformers" (MDDIAI project within the framework of the GSNS grant program "Stimulating productive innovations with the support of the World Bank). Members of the research group: Irbulat Turemuratovich Utepbergenov, Doctor of Technical Sciences, Professor, Adilbek Tazhibaev, 3rd year doctoral student;
- Scientific supervisor Toibayeva Shara Dzholdaspekovna, GF 2022-2024 "Research and development of digital technology to ensure consistency and consistency in the information space of normative documents of the quality management system" (Competition for grant funding of young scientists under the Zhas Galim project for 2022-2024). Members of the research group: Utepbergenov Irbulat Turemuratovich, Doctor of Technical Sciences, Professor; Toibaeva Shara Dzholdaspekovna
- Scientific supervisor Utepbergenov Irbulat Turemuratovich, GF 2022-2024 "Design and

manufacture of software and hardware complex for intelligent heat metering "Saiman-AUPET" (Grant financing of the most promising projects for commercialization of the results of scientific and (or) scientific and technical activities for 2022-2024). Members of the research group: Utepbergenov Irbulat Turemuratovich, Doctor of Technical Sciences, Professor, Ibrasheva Asem Tursyngalieva, Master of Technical Sciences, Sabazov Nurzhan Daurenovich, Master, Abylkasymov Almat Master, Toibayeva Shara Dzhholdaspekovna, PhD, Associate Professor.

- Scientific supervisor Utepbergenov Irbulat Turemuratovich, GF 2024-2026 "Creation and implementation of a smart household charging station for electric vehicles" (Competition for grant financing of the most promising projects for commercialization of the results of scientific and (or) scientific and technical activities for 2024-2026) Members of the research group: Utepbergenov Irbulat Turemuratovich, Doctor of Technical Sciences, Professor, Toibaeva Shara Dzhholdaspekovna, Doctor PhD, Associate Professor, Fedorenko Igor Anatolyevich, Ph.D. in Engineering, Associate Professor, Onaev Yerzhan Muratkanovich, Sabazov Nurzhan Daurenovich, Master's degree, Dzheksembayeva Aisholpan Sadvakasovna, economist-accountant.

The calculation of the academic load for the academic year is carried out by the department in accordance with the working curriculum of the EP and the contingent of students. The distribution of the academic load is carried out taking into account the qualifications of teachers. Lectures are conducted by professors, associate professors, PhD doctors and senior teachers. To date, the current staff of the Department of Automation and Management fully ensures the strategic development of the EP "Automation and Management". The teaching load of teachers is reflected in the "Individual work Plan of the teacher", which includes a list of activities, deadlines and a report on implementation. Individual plans are approved before the beginning of the academic year by the head of the department, the director of IAIT. The analysis of the implementation and evaluation of the activities of teachers is carried out at the end of the academic year, as evidenced by the minutes of the meetings of the departments, the conclusions of the heads of departments in individual plans.

According to academic mobility, it is practiced to attract foreign teachers from near and far abroad (Professor, Doctor of Technical Sciences Sklyarova V.A., University of Aveiro (Portugal), holds an integrated higher degree in science and education in the field of electronics in Portugal., Professor Branko V. Drljača (Prishna, Serbia), Professor at the University of Kozhali (Izmit, Turkey) Muslim Arici., Professor at the University of De Lorain Nicolae Brinzei).

The university provides opportunities for career growth and professional development of teaching staff of the EP. The formation of scientific and pedagogical personnel is carried out by training masters and PhD doctors. In general, AUPET provides career opportunities for faculty of the department: master's degree, doctoral studies and further teacher, senior lecturer, associate professor, professor, head of the department, etc.

In order to improve the professional level, motivate employees and stimulate employees, there is a system of awarding teachers and employees for personal contributions and achieved results in their work. For high performance in educational, methodological, research and social work, teachers are awarded badges, diplomas and letters of thanks from the President of the Republic of Kazakhstan, the Minister of Education and Science of the Republic of Kazakhstan, the Mayor's Office of the city, the Rector.

The analytical part

The analysis of the qualitative state of human resources over the years shows stability. The University conducts purposeful work on the training and retraining of scientific and pedagogical personnel. The peculiarity of the recruitment of teaching staff is academic continuity – it is the training of their own personnel through master's and doctoral studies and the involvement of graduates in scientific and pedagogical activities.

The University encourages the participation of teaching staff in academic mobility programs, foreign internships, joint research with foreign partners and international projects. At the same time, the EEC notes the need to strengthen the implementation of the outgoing program

- external and internal academic mobility of teaching staff, since among the teaching staff of the departments of cluster 1 there is excellent potential and professionalism for sharing their experience among universities of both the Republic of Kazakhstan and foreign educational organizations.

The university actively practices a system of control visits to classes by representatives of the department. The main assessment criterion is knowledge of the subject, proficiency in teaching methods and interactive teaching methods, the ability to structure the lesson and make rational use of study time. The assessment of internal experts is reflected in the journals of mutual visits of the department.

The University implements a policy of maintaining professional standards and ethics through regulatory documents.

The analysis of the qualitative and quantitative composition of teaching staff in training allows us to draw the following conclusions: teachers widely use various active teaching methods in the educational process. Innovative learning technologies have been introduced, covering all types of educational work (lectures, laboratory-practical, seminars), considerable attention is paid to distance learning technologies. The University has developed and is updating mechanisms and criteria for systematic assessment and stimulation of the effectiveness of teaching quality.

High activity was noted during interviews with employers and students of the Automation and Management EP.

As it was found out during an interview with the heads of departments, the university has an equipped studio for recording MOOCs, however, according to the EP – "Automation and control" there are no recorded MOOCs for use in the educational process.

Strengths/best practices for EP 6B07108 – Automation and Control, 7M07105 – Automation and control, 8D07103 – Automation and Control:

-Not identified.

EEC recommendations for EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control:

1. The management of EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control is recommended to record at least 1 MOOC in the disciplines of the educational program "Automation and control". The deadline is 2024-2025 academic year.

Conclusions of the EEC:

According to the standard "Teaching staff and teaching effectiveness", 10 criteria are disclosed, of which for EP 6B07108 – Automation and management, 7M07105 – Automation and management, 8D07103 – Automation and management: 9 criteria have a satisfactory position, 1 criterion requires improvement;

6.8. The standard "Educational Resources and student support systems"

- *The management of the EP must demonstrate the sufficiency of material and technical resources and infrastructure. The management of the EP should demonstrate the availability of support procedures for various groups of students, including information and counseling.*
- *The management of the EP must demonstrate the compliance of information resources with the specifics of the EP, including compliance:*
- *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 profile disciplines on paper and electronic media, periodicals, access to scientific databases;

- *examination of research results, graduation papers, dissertations on plagiarism;*
- *access to educational Internet resources;*
- *the operation of WI-FI in the territory of the educational organization.*
- *The university should strive to ensure that the educational equipment and software used for the development of educational programs are similar to those used in the relevant industries.*
- *The university must ensure compliance with safety requirements in 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, foreign students, as well as students with disabilities).*

The evidentiary part

The University has a material and technical base that ensures the conduct of all types of practical training and research work of students provided for by the educational programs of the university and corresponding to the current sanitary, epidemiological and fire safety standards and rules.

The management of the EP, teaching staff of the departments, and service personnel carry out systematic work to analyze the needs of educational programs in material, technical and information resources. The processes of monitoring, measuring, analyzing and improving the material and technical base and information resources are carried out on the basis of documented procedures of the certified quality management system (QMS).

The educational process for students of EP 6B08701-EX is carried out in laboratories equipped with software, textbooks, textbooks, methodological guidelines. At the EGT Institute, computer classes are used to conduct virtual laboratory classes (using MatLab, MathCad, Elektronik Workbench), technical design of term papers and theses, as well as to acquire computer skills and prepare necessary documentation during internship. According to the ESA EP, laboratories "Energy supply of agriculture" (A337), "Electric Drive" (B231), "Renewable Energy Sources" (A532) were opened at the Department of Renewable and Alternative Energy Sources, where new equipment was installed.

According to the ISS EP, laboratories (Appendix 8.1 ISS) of network security (B302), Wireless Network Security and Cryptosystem Design (B311), Dr. Web Laboratory (B407), Laboratory of Technical Means of Information Protection (B420), 2 laboratories for esports (classrooms B307 and B309) were opened at the Department of Cybersecurity (Appendix 8.1 SIB) (<https://aues.edu.kz/ru/post/one?id=1764>), which are used both in the educational process and in conducting esports tournaments, and modern servers are installed in the Info communication Security laboratory (auditorium B414).

For EP 6B07108/7M07105(113) – AC, the following laboratories are located at the AC Department: Automation Equipment (A421), Hardware and Software of Control Systems (A425), National Instruments Center for Measurements and Automation of Scientific Research (A428), Honeywell Educational and Research Center for the Design and Implementation of Control Systems (A429), SIEMENS Training and Advanced Training Center in the field of industrial automation, SCADA, MES and EPR – systems (A430), Modeling and research of control systems (A432), Information Technology in Automation Systems (A434), Automated Process Control Systems (A435), Schnelder Electric Competence Center for Industrial Automation (A437)

Financing of educational programs is carried out in a timely manner, both at the expense of budget financing and from research income. Every year, the faculty participates in research competitions organized by the Committee of JSC "Science Foundation" of the Ministry of Science and Higher Education of the Republic of Kazakhstan and other competitions. The fund of educational and methodical literature is updated in accordance with the monitoring of new educational publications in the disciplines of the department, through the publication of its own textbooks and educational and methodical literature. Educational materials, software, and educational literature are available to all students. The learning environment of students, including the necessary logistical and information resources, corresponds to the goals of educational

programs. For the effective operation of the infrastructure, the department's laboratory base and information resources are being modernized.

The total library stock is 600,778 copies, including 225631 copies in the Kazakh language and 6755 copies in foreign languages. Students and teaching staff can get access to electronic information resources from any computer at the university, in the "Media Library", as well as from home on the university's website <https://aues.edu.kz/ru/site/library>.

During the operation of the equipment, students are instructed on safety precautions when working in analytical laboratories, which is marked in a special journal. Safety requirements are regulated by the occupational health and Safety Management organization standard. When leaving for professional practice, an instruction is conducted, which is also marked in a special magazine. The management of the EP ensures equal opportunities for students.

The needs of students are identified in accordance with the Law of the Republic of Kazakhstan on Education and are met through their choice of subjects, educational and elective courses, extracurricular activities and associations in the system of additional education. The University takes into account the needs of groups of students for working students, international students, students with disabilities, and gifted students.

The analytical part

According to the results of meetings with the management, students, graduates and employers, the *EEC members found* that the university organized work in the field of career guidance, student support, created an educational environment for students to achieve the required professional level, provided representation of students in the collegial governing bodies of the university, developed methods of feedback and informing students, organized cultural and social life students.

The management of the EP, together with the management of the university, on a regular basis create conditions to ensure the sufficiency of material resources and infrastructure for conducting scientific research, providing bases of practices, integrating science into the educational process, publishing the results of research work of students.

At the same time, students at the meeting with the EEC expressed a desire to create opportunities for opening additional coworking centers, places for extracurricular time. Accordingly, the university management needs to analyze the available resources and consider the possibility of expanding the recreation areas for students.

For students of all EP, all types of training sessions, including practical, term papers and theses, and projects are supported by modern software packages. However, it is obvious that the university needs to expand quantitatively the park of specialized programs, including simulators, simulators, programs for modeling electrical circuits, for the implementation of EP 1 cluster, since the prospect of future specialists in the field of automation and control involves the use of a powerful computer base with professional application software packages.

At a meeting with all target groups, the problem of unstable operation of the Wi-Fi network at the university was voiced.

Strengths / best practices:

- There are new equipped laboratories (SIEMENS, Schneider Electric, Ordamed) specializing in Automation and Control EP

EEC recommendations for EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control:

1. The university management should consider allocating funding to cover the areas providing the educational process of cluster 1 with a Wi-Fi access network. *The deadline is by the beginning of the 2024-2025 academic year.*

2. The university management should analyze the available resources and organize the expansion of recreation areas for students. *The deadline is by the beginning of the 2024-2025 academic year.*

3. The university management should include the purchase of licensed programs in the procurement plan:

- Matlab;
- Autocad;
- SIEMENS STEP 7 (TIA Portal);
- SCADA TRACE MODE.

The deadline is by the beginning of 2025.

The conclusions of the EEC according to the criteria: (strong/ satisfactory/ suggest improvements/ unsatisfactory)

According to the standard "Educational resources and student support systems", 13 criteria are disclosed, of which according to EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control: 1 criterion is strong, 11 criteria have a satisfactory position, 1 position requires improvement.

6.9. The standard "Informing the public"

- *The information published by the university within the framework of the EP should be accurate, objective, relevant and should include:*
- *implemented programs, indicating the expected learning outcomes;*
- *information about the possibility of awarding qualifications at the end of the EP;*
- *Information about teaching, learning, and assessment procedures;*
- *information about passing scores and educational opportunities provided to students;*
- *Information about graduate employment opportunities.*
- *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 stakeholders.*
- *Public awareness should include support and clarification of the national development programs of the country and the system of higher and postgraduate education.*
- *The university must publish audited financial statements on its own web resource, including in the context of the OP.*
- *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 staff of the EP, in terms of personalities.*
- *An important factor is to inform the public about cooperation and interaction with partners within the framework of the EP, including scientific/consulting organizations, business partners, social partners and educational organizations.*
- *The university should 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 EP in a variety of external assessment procedures.*

The evidentiary part

The AUPET named after G.Daukeyev openly publishes complete and reliable information about the university's activities, admission rules, terms and form of study, international programs and partnerships of the university, contact and other information useful for applicants and students. Teachers of the departments participate in events aimed at informing applicants, students and all interested parties.

Teaching staff and students of the university inform the general public about the activities of the AUPET through the following forms: the official Internet resource of the University www.aues.edu.kz; an online library resource with access to an electronic library

<https://library.aues>. Facebook, Instagram, Telegram, Twitter, Youtube; public speaking in Almaty and Almaty region; publications in republican, regional and city/trade union media.

Social media pages:

- The official account of the university https://www.instagram.com/aues_university/

- The official account of the university:

https://www.tiktok.com/@aues_uni?_t=8k0GLE8Rmi&_r=1

- The official Facebook account of the university

<https://www.facebook.com/share/45Cuf2PbHkM84rYP/?mibextid=dGKdO6>

The official account of the student trade union organization

https://www.tiktok.com/@aues.life?_t=8k0GML3FhBN&_r=1

- University news <https://t.me/EnergoUniversityNews>

- International Cooperation Department (private channel, entrance by invitation link)

https://t.me/+S_wZLvmq5T03OWQy

- The official account of the student union https://www.instagram.com/aues_life/

Information on explaining the national development programs of the country and the system of higher and postgraduate education is published on the official website of the university. The information resource of the site is open and publicly available.

Audit reports are published on the university's website, in the section ABOUT AUPET, Audit reports.

Information about the results of the external assessment can be found on the website, in the section ABOUT AUPET, Accreditation and rating.

Information about cooperation and interaction with partners can be found in the INTERNATIONAL COOPERATION section. Partner programs and international projects, partner universities, academic mobility are given.

Information about student life (<https://aues.edu.kz/ru/student-life/index>), academic mobility (<https://ic.aues.kz/ru>), Career Center (<https://aues.edu.kz/ru/career/index>), the best students (<https://aues.edu.kz/ru/students/best>), information about outstanding graduates (<https://aues.edu.kz/ru/graduate-new/our-graduates>) and others are publicly available on the university's website.

One of the ways to address complaints or suggestions from interested parties is to contact the head of the university directly in his personal blog, located on the main page of the university's website. Public feedback via the rector's blog is prompt. After the next request or question is published on the blog, the answer is published during the working day.

The university holds meetings of the rector, vice-rectors, deans, heads of departments with students, employers, teachers and staff, where each participant of the meeting can ask any question of interest to any of the leaders and get reliable information.

In January 2022, the university improved its position in the international ranking of Webometrics presence in the Internet space to 26th place from 43 among 128 universities in Kazakhstan, positions were strengthened according to criteria such as "Openness" (Openness), calculated from the number of citations from the university's website by top authors of the Google Academy Bibliographic Links service (Google Scholar Citations) and "Visibility" (Visibility or Impact), calculated from the number of external sources linking to the university's website.

In 2023, AUPET took part in the UI GreenMetric world ranking, which identifies the most sustainable development-oriented universities on the planet. Moreover, according to the results of the international Rating Agency UI GreenMetric World University Rankings, our university took 468th place out of 1183 universities in the world. Among the 18 Kazakhstani higher educational institutions participating in the ranking, AUPET was awarded 4th place. The purpose of the rating is to quantify efforts to maintain the sustainability (environmental friendliness) of campuses.

The educational process is organized on the platform of AIS "Platonus". The rules for using the platform are open and available to students (<http://edu2.aues.kz/>).

External assessment of the quality of the university's activities and the satisfaction of consumers of educational services is carried out through certification, certification and

accreditation of the university and educational programs and participation in ratings. The university's participation in the ratings is a guarantee of sustainable quality.

The analytical part

The university's website contains links to significant information resources of the university, full-text electronic information systems and other resources useful for the educational and scientific process. The AUPET website contains reliable, objective, up-to-date information about the EP under consideration, which reflects the expected learning outcomes of the implemented EP; qualifications and (or) qualifications that will be assigned upon completion of the educational program; teaching approaches, training, as well as the system (procedures, methods and forms) of assessment; information about passing scores and educational opportunities provided to students; information about graduate employment opportunities.

The management of the EP provides for a variety of ways to disseminate information, including mass media, information networks to inform the general public and interested parties, however, the university management needs to take targeted actions to improve the availability of up-to-date information about departments, about the specifics of the EP, the implementation of the EP on the university's website, since there is data on the department's web page which contain outdated information.

In addition, the publication of reliable information about the TS on open resources, in terms of personalities, is not observed. Information about the TS is available in a closed intra-university portal, which does not carry any useful load on career guidance, PR and marketing policy within the framework of the university's implemented EP.

Strengths / best practices:

-Not identified.

EEC recommendations for EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control:

1. Before the beginning of the 2024-2025 academic year, the university management should determine the requirements for publishing reliable, objective, up-to-date information on the university's website within the framework of structural divisions, including departments and about teaching staff implementing EP, and begin to implement them.

Conclusions of the EEC:

According to the standard "Informing the public", 12 criteria for EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control are disclosed: 11 criteria have a satisfactory position, 1 position requires improvement.

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

6.6 The «Students» standard

Strengths / best practices:

- The management of the EP provides practice bases, facilitates the employment of graduates and maintains contacts with them.

6.8. The standard "Educational resources and student support systems"

Strengths / best practices:

- There are new equipped laboratories (SIEMENS, Schneider Electric, Ordamed) specializing in Automation and Control EP

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

6.1. The standard "Educational Program Management"

EEC recommendations for EP 6B07108,7M07105, 8D07103 – Automation and control

- To develop and approve an updated strategic plan for the development of the university. Due date: 06/01/2024
- To undergo advanced training in the field of management in education for heads of departments, heads of EP. Due date: 30.08.2024
- Update the risk management plan for EP 6B07108,7M07105, 8D07103 – Automation and control. Due date: 30.08.2024

6.2. The Information Management and Reporting Standard

EEC recommendations for EP 6B07108,7M07105, 8D07103 – Automation and control

- The results of the questionnaire on the satisfaction of the needs of teaching staff and students should be discussed with interested parties. Due date: until 30.06.2024.

6.3. The standard "Development and approval of an educational program

EEC recommendations for EP 6B07108,7M07105, 8D07103 – Automation and control

- The management should step up measures to position the EP in the educational market, expand the representation of the university brand in social networks, in the media at the regional and national levels before the start of the admission committee in 2024.

- To work out the issue of joint development of a two-degree educational program. Establish partnerships with leading foreign universities to create joint educational programs (two-degree education). The deadline is 2028-2029 academic year.

6.4. The standard "Continuous monitoring and periodic evaluation of educational programs"

EEC recommendations for EP 6B07108,7M07105, 8D07103 – Automation and control:

1. The management of EP 6B07108,7M07105, 8D07103 – Automation and control on the university's website must annually post detailed information related to changes in the structure

and/or content of the EP, graduate model, etc., to inform stakeholders about the decisions taken regarding the consideration of their proposals. *The deadline is within 10 days after the relevant changes are made.*

6.5. The standard "Student-centered learning, teaching and assessment of academic performance"

EEC recommendations for EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control:

1. The management of EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control needs to monitor the applied teaching methods of specialized disciplines in order to improve the quality of teaching. *The deadline is annually.*

2. The EP management is recommended to increase the number of practical and laboratory hours instead of lecture hours when planning the academic load. *The deadline is by the beginning of the 2024-2025 academic year*

6.6. The "Students" standard

EEC recommendations for EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control:

-There are no recommendations.

6.7. The standard "Teaching staff"

EEC recommendations for EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control:

1. The management of EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control is recommended to record at least 1 MOOC in the disciplines of the educational program "Automation and control". The deadline is 2024-2025 academic year.

6.8. The standard "Educational resources and student support systems"

EEC recommendations for EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control:

1. The university management should consider allocating funding to cover the areas providing the educational process of cluster 1 with a Wi-Fi access network. *The deadline is by the beginning of the 2024-2025 academic year.*

2. The university management should analyze the available resources and organize the expansion of recreation areas for students. *The deadline is by the beginning of the 2024-2025 academic year.*

3. The university management should include the purchase of licensed programs in the procurement plan:

- Matlab;
- Autocad;
- SIEMENS STEP 7 (TIA Portal);
- SCADA TRACE MODE.

The deadline is by the beginning of 2025.

6.9. The standard "Informing the public"

EEC recommendations for EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control:

1. Before the beginning of the 2024-2025 academic year, the university management should determine the requirements for publishing reliable, objective, up-to-date information on the university's website within the framework of structural divisions, including departments and about teaching staff implementing EP, and begin to implement them.

(IX) REVIEW OF RECOMMENDATIONS FOR THE DEVELOPMENT OF THE ORGANIZATION OF EDUCATION (1 page)

- Expanding the geography of universities for the development of international relations with foreign educational organizations with the involvement of all interested parties, including employers, in the process.
- Expanding the geography of partner enterprises to develop relationships for the organization of professional practices, internships, and places of employment.
- Development of a PR management strategy and/or a marketing strategy of the university in order to strengthen competitiveness in the educational services market.
- In order to ensure the attractiveness of students' participation in mobility programs, international programs, etc., the responsible structural unit should include in the activity plan: regular (at least 1 time per quarter) holding of international fairs, exhibitions, round tables and other international events, on an ongoing basis to provide language courses (including with native speakers) for students of AUPET, with coverage of all events in the media.
- The management of the EP should take into account the results of the PPP survey in order to make appropriate decisions (Appendix 3 of this report).

(X) RECOMMENDATION TO THE ACCREDITATION COUNCIL

Appendix 1. Evaluation table "PARAMETERS OF A SPECIALIZED PROFILE"

For EP 6B07108 – Automation and control, 7M07105 – Automation and control, 8D07103 – Automation and control.

p\p	\p	Evaluation criteria	The position of the educational organization			
			Strong	Satisfactory	Suggests improvement	Unsatisfactory
The standard "Educational Program Management"						
1	1.	The university should demonstrate the development of a goal and strategy for the development of the EP based on an analysis of external and internal factors with the broad involvement of a variety of stakeholders			+	
2	2.	The quality assurance policy should reflect the relationship between scientific research, teaching and learning			+	
3	3.	The university demonstrates the development of a culture of quality assurance		+		
4	4.	Commitment to quality assurance should apply to any activity performed by contractors and partners (outsourcing), including in the implementation of joint/double-degree education and academic mobility		+		
5	5.	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 orientation of its activities to meet the needs of the state, employers, stakeholders and students		+		
6	6.	The management of the EP demonstrates the functioning of mechanisms for the formation and regular revision of the educational development plan of the EP and monitoring its implementation, evaluating the achievement of learning goals, meeting the needs of students, employers and society, and making decisions aimed at continuous improvement of the EP		+		
7	7.	The management of the EP should involve representatives of groups of interested persons, including employers, students and teaching staff in the formation of a development plan for the EP		+		
8	8.	The management of the EP should demonstrate the individuality and uniqueness of the EP development plan, its consistency with national development priorities and the development strategy of the educational organization		+		
9	9.	The university must demonstrate a clear definition of those responsible for business processes within the framework of the EP, the distribution of staff responsibilities, and the		+		

		differentiation of functions of collegial bodies				
10	10.	The management of the EP ensures coordination of the activities of all persons involved in the development and management of the EP, and its continuous implementation, as well as involves all stakeholders in this process		+		
11	11.	The management of the EP should ensure the transparency of the management system, the functioning of the internal quality assurance system, including its design, management and monitoring, and appropriate decision-making		+		
12	12.	The management of the EP should carry out risk management			+	
13	13.	The management of the EP should ensure the participation of representatives of interested persons (employers, teaching staff, students) in the collegial management bodies of the educational program, as well as their representativeness in making decisions on the management of the educational program		+		
14	14.	The university must demonstrate innovation management within the framework of the EP, including the analysis and implementation of innovative proposals		+		
15	15.	The management of the EP should demonstrate its openness and accessibility to students of teaching staff, employers and other interested persons		+		
16	16.	The management of the EP confirms the completion of training in educational management programs		+		
17	17.	The management of the EP should strive to ensure that the progress made since the last external quality assurance procedure is taken into account when preparing for the next procedure		+		
Total according to the standard			0	14	3	
The Information Management and Reporting Standard						
18	1.	The university must ensure the functioning of the information collection, analysis and management system based on modern information and communication technologies and software		+		
19	2.	The management of the EP demonstrates the systematic use of processed, adequate information to improve the internal quality assurance system		+		
20	3.	The management of the EP demonstrates the existence of a reporting system reflecting the activities of all structural divisions and departments within the framework of the EP, including an assessment of their effectiveness		+		
21	4.	The university should determine the frequency, forms and methods of evaluating the management of the EP, the activities of collegial bodies and structural units, and senior management		+		
22	5.	The university must demonstrate a mechanism to ensure the protection of information, including the identification of responsible persons for the reliability and timeliness of information analysis and data provision		+		

23	6.	The university demonstrates the involvement of students, employees and teaching staff in the processes of collecting and analyzing information, as well as making decisions based on them		+		
24	7.	The management of the EP should demonstrate the availability of communication mechanisms with students, employees and other stakeholders, including conflict resolution		+		
25	8.	The university must ensure that the degree of satisfaction with the needs of teaching staff, staff and students within the framework of the EP is measured and demonstrate evidence of the elimination of the detected shortcomings			+	
26	9.	The university should evaluate the effectiveness and efficiency of its activities, including in the context of the EP		+		
		The information collected and analyzed by the university within the framework of the EP should take into account:		+		
27	10.	key performance indicators		+		
28	11.	dynamics of the contingent of students in the context of forms and types		+		
29	12.	academic performance, student achievements and expulsion		+		
30	13.	satisfaction of students with the implementation of the EP and the quality of education at the university		+		
31	14.	accessibility of educational resources and support systems for students		+		
32	15.	employment and career development of graduates		+		
33	16.	Students, staff and teaching staff must document their consent to the processing of personal data		+		
34	17.	The management of the EP should help to provide all necessary information in the relevant fields of science		+		
Total according to the standard			0	16	1	
The standard "Development and approval of an educational program"						
35	1.	The university must demonstrate the existence of a documented procedure for the development of an EP and its approval at the institutional level		+		
36	2.	The university must demonstrate the compliance of the developed EP with the established goals and planned learning outcomes		+		
37	3.	The management of the EP should determine the impact of disciplines and professional practices on the formation of learning outcomes		+		
38	4.	The university can demonstrate the existence of a graduate model of an EP describing learning outcomes and personal qualities		+		
39	5.	The qualification awarded upon completion of the EP must be clearly defined, explained and correspond to a certain level of the NQS, QF-EHEA		+		
40	6.	The management of the EP should demonstrate the modular structure of the program based on the European Credit		+		

		Transfer and Accumulation System (ECTS), ensure that the EP and its modules (in terms of content and structure) meet the set goals with a focus on achieving the planned learning outcomes				
41	7.	The management of the EP should ensure that the content of academic disciplines and learning outcomes correspond to each other and the level of study (bachelor's, master's, doctoral studies)		+		
42	8.	The management of the EP must demonstrate the conduct of external expertise of the EP		+		
43	9.	The management of the EP must provide evidence of the participation of students, teaching staff and other stakeholders in the development of the EP, ensuring their quality		+		
44	10.	The management of the EP should demonstrate the positioning of the EP in the educational market (regional/national / international), its uniqueness			+	
45	11.	An important factor is the possibility of preparing students for professional certification		+		
46	12.	An important factor is the availability of a double-degree EP and/or joint EP with foreign universities			+	
Total according to the standard			0	10	2	
The standard "Continuous monitoring and periodic evaluation of educational programs"						
47	1.	The university should ensure the 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		+		
48	2.	The university must demonstrate the existence of a documented procedure for monitoring and periodic evaluation of the EP in order to achieve the goal of the EP. The results of these procedures are aimed at continuous improvement of the EP		+		
		Monitoring and periodic evaluation of the EP should consider:		+		
49	3.	the content of the programs in the context of the latest achievements of science and technology in a particular discipline		+		
50	4.	changes in the needs of society and the professional environment		+		
51	5.	workload, academic performance and graduation of students		+		
52	6.	effectiveness of student assessment procedures				
53	7.	the needs and satisfaction of students		+		
54	8.	compliance of the educational environment and the activities of support services with the goals of the EP		+		
55	9.	All interested parties should be informed of any planned or undertaken actions regarding the EP. All changes made to the EP must be published		+		

56	10.	Support services should identify the needs of different groups of students and their degree of satisfaction with the organization of training, teaching, assessment, and mastering of the EP in general		+		
Total according to the standard			0	10	0	
The standard "Student-centered learning, teaching and assessment of academic performance"						
57	1.	The management of the EP should ensure respect and attention to different groups of students and their needs, providing them with flexible learning paths		+		
58	2.	The management of the EP should ensure teaching based on modern achievements of world science and practice in the field of training, the use of various modern teaching methods and evaluation of learning outcomes that ensure the achievement of the goals of the EP, including competencies, skills to perform scientific work at the required level		+		
59	3.	The management of the EP should determine the mechanisms for distributing the educational load of students between theory and practice within the framework of the EP, ensuring the development of the content and achievement of the goals of the EP by each graduate			+	
60	4.	An important factor is the availability of own research in the field of teaching methods of the disciplines of the EP		+		
61	5.	The university must ensure that the procedures for evaluating learning outcomes are consistent with the planned results and goals of the EP		+		
62	6.	The university must ensure the consistency, transparency and objectivity of the mechanism for evaluating the results of EP training. Criteria and methods for evaluating learning outcomes should be published in advance		+		
63	7.	Evaluators should be familiar with modern methods of evaluating learning outcomes and regularly improve their skills in this area		+		
64	8.	The management of the EP should demonstrate the existence of a feedback system for the use of various teaching methods and evaluation of learning outcomes		+		
65	9.	The management of the EP should demonstrate support for the autonomy of students with simultaneous guidance and assistance from the teacher		+		
66	10.	The management of the EP must demonstrate the existence of a procedure for responding to student complaints		+		
Total according to the standard			0	9	1	
The "Students" standard						
67	1.	The university must demonstrate the policy of forming a contingent of students and ensure transparency of its procedures. The procedures governing the life cycle of students (from admission to completion) must be defined, approved, and published		+		
68	2.	The management of the EP should provide for special adaptation and support programs for newly enrolled and foreign students		+		

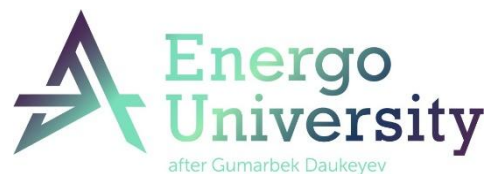
69	3.	The university must demonstrate compliance of its actions with the Lisbon Recognition Convention, including the availability and application of a mechanism for recognizing the results of academic mobility of students, as well as the results of additional, formal and non-formal education		+		
70	4.	The university should provide an opportunity for external and internal academic mobility of students, as well as assist them in obtaining external grants for training		+		
71	5.	The university should actively encourage students to self-education and development outside the main program (extracurricular activities)		+		
72	6.	An important factor is the availability of a support mechanism for gifted students		+		
73	7.	The university should demonstrate cooperation 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		+		
74	8.	The university must provide students with internship places, demonstrate the procedure for facilitating the employment of graduates, and maintain contact with them	+			
75	9.	The university must demonstrate the procedure for issuing graduates with documents confirming their qualifications, including the achieved learning outcomes		+		
76	10.	The management of the EP must demonstrate that graduates of the program have skills that are in demand in the labor market and that these skills are really in demand in the labor market		+		
77	11.	The management of the EP should demonstrate the existence of a mechanism for monitoring the employment and professional activities of graduates		+		
78	12.	An important factor is the presence of an active alumni association/association		+		
Total according to the standard			1	11	0	
The standard «Teaching staff»						
79	1.	The university should have an objective and transparent HR policy in the context of the EP, including hiring (including invited teaching staff), professional growth and staff development, ensuring the professional competence of the entire staff		+		
80	2.	The university must demonstrate the compliance of the qualitative composition of teaching staff with the established qualification requirements, the university's strategy, and the goals of the EP		+		
81	3.	The management of the EP should demonstrate the change in the role of the teacher in connection with the transition to student-centered learning and teaching		+		
82	4.	The university should provide opportunities for career growth and professional development of teaching staff, including young teachers		+		

83	5.	The university should involve in teaching specialists from relevant industries with professional competencies that meet the requirements of the EP		+		
84	6.	The university must demonstrate the existence of a mechanism for motivating the professional and personal development of teaching staff		+		
85	7.	The university should demonstrate the widespread use of teaching staff of information and communication technologies and software in the educational process (for example, on-line training, e-portfolio, MOOCs, etc.)			+	
86	8.	The university should demonstrate the focus of its activities on the development of academic mobility, attracting the best foreign and domestic teachers		+		
87	9.	The university must demonstrate the involvement of each teacher in promoting a culture of quality and academic integrity at the university, determine the contribution of teaching staff, including invited ones, to achieving the goals of the EP		+		
88	10.	An important factor is the involvement of teaching staff in the development of the economy, education, science and culture of the region and the country		+		
Total according to the standard			0	9	1	
The standard "Educational resources and student support systems"						
89	1.	The university must ensure that educational resources, including logistical and infrastructure, meet the objectives of the educational program		+		
90	2.	The management of the educational institution must demonstrate the presence of classrooms, laboratories and other facilities equipped with modern equipment and ensuring the achievement of the goals of EP	+			
		The university must demonstrate the compliance of information resources with the needs of the university and the implemented EP, including in the following areas:		+		
91	3.	technological support for students and teaching staff in accordance with educational programs (for example, online training, modeling, databases, data analysis programs)		+		
92	4.	library resources, including a fund of educational, methodological and scientific literature on general education, basic and profile disciplines on paper and electronic media, periodicals, access to scientific databases		+		
93	5.	examination of research results, graduation papers, dissertations on plagiarism		+		
94	6.	access to educational Internet resources		+		
95	7.	the operation of WI-FI in its territory			+	
96	8.	The university must demonstrate that it creates conditions for conducting scientific research, integrating science and education, publishing the results of research work of teaching		+		

		staff, staff and students				
97	9.	The university should strive to ensure that the educational equipment and software used for the development of educational programs are similar to those used in the relevant sectors of the economy		+		
98	10.	The management of the EP should demonstrate the availability of support procedures for various groups of students, including information and counseling		+		
99	11.	The management of the EP should show the availability of conditions for the advancement of the student along an individual educational trajectory		+		
100	12.	The university should take into account the needs of different groups of students (adults, working, foreign students, as well as students with special educational needs)		+		
101	13	The university must ensure that the infrastructure meets the security requirements		+		
Total according to the standard			1	11	1	
The standard "Informing the public"						
102	1.	The information published by the university must be accurate, objective, relevant and reflect all areas of the university's activities within the framework of the educational program		+		
103	2.	Public awareness should include support and clarification of the national development programs of the country and the system of higher and postgraduate education		+		
104	3.	The university management should use a variety of ways to disseminate information (including mass media, web resources, information networks, etc.) to inform the general public and interested persons		+		
		The information published by the university about the educational program should be objective and relevant and include:		+		
105	4.	the purpose and planned results of the EP, the assigned qualification		+		
106	5.	information about the assessment system of students' academic achievements		+		
107	6.	information about academic mobility programs and other forms of cooperation with partner universities and employers		+		
108	7.	information about the opportunities for the development of personal and professional competencies of students and employment		+		
109	8.	data reflecting the positioning of the EP in the educational services market (at the regional, national, and international levels)		+		
110	9.	An important factor is the publication of reliable information on TS on open resources, in terms of personalities			+	
111	10.	The university must publish audited financial statements on the EP on its own web resource		+		
112	11.	The university should post information and links to external		+		

		resources based on the results of external assessment procedures				
113	12.	An important factor is the placement of information about cooperation and interaction with partners, including scientific/consulting organizations, business partners, social partners and educational organizations		+		
Total according to the standard			0	11	1	
IN TOTAL			2	101	10	



Appendix 2. THE PROGRAM OF THE VISIT TO THE EDUCATIONAL ORGANIZATION**AGREED BY**

Rector of NPJSC "Almaty University of
Power Engineering and
Telecommunications named after
Gumarbek Daukeyev"

_____ Syzdykov M.K.
«__» _____ 2024 y.

APPROVED BY

General Director of "Independent Agency for
Accreditation and Rating"

_____ Zhumagulova A.B.
«__» _____ 2024 y.

THE PROGRAM OF THE VISIT OF THE EXTERNAL EXPERT COMMISSION OF THE INDEPENDENT AGENCY FOR ACCREDITATION AND RATING (IAAR)

TO THE NPJSC "ALMATY UNIVERSITY OF POWER ENGINEERING AND TELECOMMUNICATIONS"

STAGE 2 SPECIALIZED ACCREDITATION

Date of the visit: March 14-16, 2024

Date and time	EEC's work with target groups	Position and Surname, First name, Patronymic of the target group participants	The form of communication
March 11, 2024			
15.00-16.00 <i>According to the time of Astana</i>	Preliminary meeting of the EEC	<i>External IAAR experts</i>	Connect to the Zoom Conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
March 13, 2024			
<i>According to the schedule during the day</i>	Arrival of the members of the External Expert Commission		

20.00	Dinner	<i>External IAAR experts</i>	
Day 1: March 14, 2024			
08.10-09.00	Transfer from the hotel to the University	<i>Coordinator of the University – Mankhanova Azhar Yerlanovna (Director of the Department of Academic Affairs) 87772983128</i>	
09.00-09.15	Allocation of responsibility of experts, solution of organizational issues	<i>External IAAR experts</i>	Connect to the Zoom Conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
09.15-09.45	Interview with the Rector	Rector- Syzdykov Murat Kanatovich	Auditorium No. 213 of the building A Connect to the Zoom Conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
09.45-10.00	Technical break		
10.00-10.40	Interviews with Vice-rectors	Vice-Rector for Academic Affairs - Sarenova Aigul Saparbekovna, Vice-Rector for Social and Educational Work - Kadylbekov Ermek Kamalbekuly, The head of the Rector's office is Yessimzhanov Zhanat Kuanyshevich	Auditorium No. 213 of the building A Connect to the Zoom Conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
10.40-10.50	Technical break		
10.50-11.30	Interviews with heads of structural divisions of the EO	Digital officer – Urazakov Margulan Maksutovich, The head of the registrar's office is Neledva Vera Vasilyevna, Financial Director - Gulzia Salatov Rakhmetova, Director of the Department of Academic Affairs - Azhar Erlanovna Mankhanova, Head of the Center for Academic Counseling – Kudaiberger Zhuldyz Malikkyzy, Director of the Department of Youth Policy – Kabi Elikbai Kasenkhanyly,	Auditorium No. 213 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588

		The chief librarian is Natalya Stepanovna Netesova, The executive secretary of the admissions committee is Almuratova Kamshat Bimuratovna.	
11.30-11.45	Exchange of views of the members of the external expert commission		Auditorium No. 210 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
11.45-12.30	Interviews with heads of departments and heads of the MEP	<p>Director of the Institute of Automation and Information Technologies - Fedorenko Igor Anatolyevich, Director of the Institute of Energy and Green Technologies - Begimbetova Ainur Serikovna, Department of Automation and Control - Abzhanova Laulasyn Kosylganovna, Department of IT Engineering - Tukenova Leila Muratbekovna, Department of Cybersecurity - Enlik Begimbayeva, Department of Electric Power Engineering - Amitov Ernar Tanibergenovich, Department of Thermal Power Engineering - Korobkov Maxim Sergeevich, Department of Renewable and Alternative Energy Sources - Shynybai Zhandos Sapargalievich,</p> <p>Responsible developers of the EP: Thermal power engineering – Energy supply of agriculture – Sagyndikova Aigul Zhursinovna, Software engineering - Utegenova Anara Urantaevna Energy audit and energy management - Nuclear power plants and installations - Energy supply of oil and gas pumping complexes -, Automation and control - Syabina N.V., Khan S.G., Toybaeva Sh.D., Zhusupbekov S.S., Sagindikova A.Zh., Information security systems - Satimova Elena Grigoryevna</p>	Auditorium No. 213 of the building A
12.30-13.00	The work of the EEC	<i>External IAAR experts</i>	Auditorium No. 213 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588

13.00-14.00	Lunch		
14.00-14.15	Exchange of views of the members of the external expert commission		Auditorium No. 213 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
14.15-15.00	Interview with the teaching staff of the MEP	<i>Appendix 1</i>	Auditorium No. 213 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
15.00-15.15	Technical break		
15.00-16.00	Survey of teaching staff (in parallel)	<i>Appendix 1</i>	The link is sent to the e-mail of the teacher personally
15.15-16.50	Scheduled class attendance (Appendix: links to classes)	<i>External IAAR experts Appendix 4</i>	
16.00-17.00	Student survey (in parallel)	<i>Appendix 2</i>	The link is sent to the student's e-mail personally
16.50-17.30	Visual inspection of the EO and the material, technical, educational and laboratory base	<i>Itinerary Appendix 3</i>	
17.30-19.00	The work of the EEC discussion of the results of the first day	<i>External IAAR experts</i>	Auditorium No. 210 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
19.00-20.00	Dinner		
Day 2: March 15, 2024			
08.10-09.00	Transfer from the hotel to the University		

Unofficial Translation

09.00-09.15	The work of the EEC		Auditorium No. 210 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
09.15-10.50	Interviews with MEP students	<i>Appendix 2</i>	Auditorium No. 213 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
10.50-11.30	Meeting with stakeholders (representatives of practice bases and employers)	<i>Appendix 5</i>	Auditorium No. 213 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
11.30-11.40	Technical break		
11.40-13.00	Working with documents (<i>documents must be uploaded to the cloud in advance</i>)		Auditorium No. 210 of the building A
13.00-14.00	Lunch		
14.00-14.15	Technical break		
14.15-15.00	Interviews with graduates of the MEP	<i>Appendix 6</i>	Auditorium No. 213 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
15.00-17.00	Selective visits to EP practice bases	<i>Appendix 7</i>	
17.00-17.15	Technical break		
17.00-18.00	The work of the EEC, discussion of the results of the second day and		Auditorium No. 210 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588

	profile parameters (<i>recording is being conducted</i>)		Conference ID: 681 303 2588
18.30-19.30	Dinner		
Day 3: March 16, 2024			
08.10-09.00	Transfer from the hotel to the University		
09.00-10.00	The work of the EEC is the development and discussion of recommendations (<i>recording is being conducted</i>)	<i>External IAAR experts</i>	Auditorium No. 210 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
10.00-10.20	Technical break		
10.20-12.30	The work of the EEC is discussed, decisions are made by voting (<i>recording is being conducted</i>)	<i>External IAAR experts</i>	Auditorium No. 210 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588 ID conference: 681 303 2588
12.30-13.00	The final meeting of the EEC with the university administration		Auditorium No. 213 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
13.00-14.00	Lunch		
14.00-15.00	The work of the EEC, Discussion of the results of the quality assessment	<i>External IAAR experts</i>	Auditorium No. 210 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
15.00-15.15	Technical break		
15.15-18.00	The work of the EEC, Discussion of the results of the quality assessment	<i>External IAAR experts</i>	Auditorium No. 213 of the building A Connect to the Zoom conference https://us02web.zoom.us/j/6813032588



Appendix 3. RESULTS OF THE TEACHER SURVEY**The TS questionnaire**

The results of an anonymous survey of the faculty of the Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev

1. Total number of questionnaires: 31**2. Which EP do you serve:**

6B07103 Thermal power engineering	10 people	32,3%
7M07102 Thermal power engineering	3 people	9,7%
8D07102 Thermal power engineering	1 people	3,2%
6B06105 Software Engineering	2 people	6,5%
6B07106 Nuclear power plants and installations	1 people	3,2%
6B07113 Energy audit and energy management	3 people	9,7%
6B07126 Energy supply of oil and gas pumping complexes	1 people	3,2%
6B07108 Automation and control	9 people	29%
7M07105 Automation and control	1 people	3,2%

3. Post

Professor	4 people	12,9%
Docent	13 people	41,9%
Senior Lecturer	9 people	29%
Teacher	4 people	12,9%
Head of the Department	1 people	3,2
Acting professor		
Acting docent		

4. Academic degree, academic title

Honored Worker of the Republic of Kazakhstan	0 people	0%
Doctor of Science	1 people	3,2%
Candidate of Sciences	7 people	22,6%
Master	11 people	35,5%
PhD	8 people	25,8%
Professor	0 people	0%
Docent	3 people	9,7%
No	4 people	12,9%

5. Work experience

Less than 1 year		
1 year – 5 years	8	25,8%
Over 5 years	23 people	74,2%

№	Questions	Very well	Good	Relatively bad	Badly	Very bad	didn't answer
6	To what extent does the content of the educational program meet your scientific and professional interests and needs?	20 people (64,5%)	11 people (35,5%)	0 people (0%)	0 people (0%)	0 people (0%)	-
7	How do you assess the opportunities provided by the University for the professional development of teaching staff	13 people (41,9%)	16 people (51,6%)	2 people (6,5%)	0 people (0%)	0 people (0%)	-
8	How do you assess the opportunities provided by the University for the career growth of teaching staff	12 people (38,7%)	18 people (58,1%)	1 people (3,2%)	0 people (0%)	0 people (0%)	-

9	How do you assess the degree of academic freedom of the faculty	12 people (38,7%)	17 people (54,8%)	2 people (6,5%)	0 people (0%)	0 people (0%)	-
	To what extent can teachers use their own						
10	• Strategies	16 people (51,6%)	14 people (45,2%)	1 person (3,2%)	0 people (0%)	0 people (0%)	-
11	• Methods	20 people (64,5%)	10 people (32,3%)	1 person (3,2%)	0 people (0%)	0 people (0%)	-
12	• Innovations in the learning process	13 people (41,9%)	15 people (48,4%)	3 people (9,7%)	0 people (0%)	0 people (0%)	-
13	How do you assess the work on the organization of medical care and disease prevention at the university?	10 people (32,3%)	19 people (61,3%)	2 people (6,5%)	0 people (0%)	0 people (0%)	-
14	How is the management of the educational institution paying attention to the content of the educational program?	11 people (35,5%)	20 people (64,5%)	0 people (0%)	0 people (0%)	0 people (0%)	-
15	How do you assess the sufficiency and accessibility of the necessary scientific and educational literature in the library?	15 people (48,4%)	14 people (45,2%)	2 people (6,5%)	0 people (0%)	0 people (0%)	-
16	Do you assess the level of conditions created that take into account the needs of different groups of students?	9 people (29%)	20 people (64,5%)	1 person (3,2%)	1 person (3,2%)	0 people (0%)	-
	Evaluate the accessibility of the manual						
17	• To students	13 people (41,9 %)	16 people (51,6%)	2 people (6,5%)	0 people (0%)	0 people (0%)	-
18	• To teachers	10 people (32,3%)	17 people (54,8%)	4 people (12,9%)	0 people (0%)	0 people (0%)	-
19	Evaluate the involvement of the TS in the process of making managerial and strategic decisions	6 people (19,4%)	17 people (54,8%)	8 people (25,8%)	0 people (0%)	0 people (0%)	-
20	How is the innovation activity of teaching staff encouraged?	8 people (25,8%)	18 people (58,1%)	5 people (16,1%)	0 people (0%)	0 people (0%)	-
21	Evaluate the level of feedback between the teaching staff and the management	9 people (29%)	18 people (58,1%)	4 people (12,9%)	0 people (0%)	0 people (0%)	-
22	What is the level of stimulation and involvement of young professionals in the educational process?	11 people (35,5%)	17 people (54,8%)	3 people (9,7%)	0 people (0%)	0 people (0%)	-
23	Evaluate the created opportunities for professional and personal growth for each teacher and employee	11 people (35,5%)	18 people (58,1%)	2 people (6,5%)	0 people (0%)	0 people (0%)	-
24	Assess the adequacy of recognition of the potential and abilities of teachers	11 people (35,5%)	15 people (48,4%)	5 people (16,1%)	0 people (0%)	0 people (0%)	-
	How is the work done						
25	• Academic mobility	9 people (29%)	20 people (64,5%)	2 people (6,5%)	0 people (0%)	0 people (0%)	-
26	• Professional development of teaching staff	11 people (35,5%)	17 people (54,8%)	3 people (9,7%)	0 people (0%)	0 people (0%)	-
	Appreciate the support of the university and its management						
27	• Scientific research initiatives of the Faculty	9 people (29%)	18 people (58,1%)	4 people (12,9%)	0 people (0%)	0 people (0%)	-
28	• Development of new educational programs/academic disciplines/methods	15 people (48,4%)	16 people (51,6%)	0 people (0%)	0 people (0%)	0 people (0%)	-
	Assess the level of faculty's ability to combine teaching						
29	• With scientific research	10 people (32,3%)	15 people (48,4%)	5 people (16,1%)	1 person (3,5%)	0 people (0%)	-
30	• With practical activities	10 people (32,3%)	16 people (51,6%)	4 people (12,9%)	1 person (3,2%)	0 people (0%)	-

31	Assess how well the students' knowledge obtained at this university corresponds to the realities of the requirements of the modern labor market	13 people (41,9%)	18 people (58,1%)	0 people (0%)	0 people (0%)	0 people (0%)	-
32	How does the management and administration of the university perceive criticism in their address?	4 people (12,9%)	1 people (61,3%)	8 people (25,8%)	0 people (0%)	0 people (0%)	-
33	Evaluate how well your academic workload meets your expectations and capabilities	9 people (29%)	18 people (58,1%)	3 people (9,7%)	1 people (3,2%)	0 people (0%)	-
34	Evaluate the focus of educational programs/training programs on the formation of students' skills and abilities to analyze the situation and make forecasts	13 people (41,9%)	18 people (58,1%)	0 people (0%)	0 people (0%)	0 people (0%)	-
35	Evaluate how the educational program meets the expectations of the labor market and employers in terms of content and quality of implementation	14 people (45,2%)	16 people (51,6%)	1 people (32%)	0 people (0%)	people (0%)	-

36. Why do you work at this university?

- ✓ *After graduation, I had the choice to work in production or at the university. I decided to work for a year and then decide. I enjoyed teaching and therefore decided to continue. And why this particular university, because firstly, I like that there are opportunities to work in a scientific direction, i.e. combine them. Also, the atmosphere in the team plays an important role in choosing a place of work. I believe that our university has opportunities for career growth. And an important factor is employee bonuses.*
- ✓ *development, prospects*
- ✓ *AUPET is one of the leading universities in the field of technology in Central Asia,*
- ✓ *I chose to work at this university because I believe in its mission and the values of education. This university is known for its high-quality educational process and attractive learning environment, which promotes the development of students and helps them achieve success.*
- ✓ *The only specialized university in the energy sector*
- ✓ *The opportunity to realize the professional qualities of a teacher and scientist in one of the best technical universities of the Republic of Kazakhstan for 29 years*
- ✓ *High professionalism of the department. Management support*
- ✓ *I have been working at this university for almost 40 years. I have been teaching since the opening of the Department of Engineering Thermophysics, now the Department of Thermal Power Engineering. For many years we have been training industrial thermal power engineers for the country's economy. I like the organization of the student's learning process from the first year to the last year, where I take a direct part in various stages of training (reading special courses, applying for industrial and postgraduate practice, thanks to many years of communication with industrial enterprises and even assistance in hiring graduates of the department). To be honest, I am very happy when my graduate student or just a graduate of our department got a job in his specialty and years later this graduate achieved career growth and asks us to send our students to his company for employment. This is the main point of your work at the university, that you see the result of your work!*
- ✓ *I graduated from this university.*
- ✓ *I don't like to change places*
- ✓ *Enrolled in doctoral studies*
- ✓ *Because this is my second homeland!*
- ✓ *There are opportunities to combine teaching with scientific research. Good bachelor's degree level. The university has a good reputation. Conformity to values and culture.*
- ✓ *I love AUPET*
- ✓ *Here, students really study on their own, they get grades for their knowledge. There is a very high level of teaching staff at the department, there is a lot to learn from them, the material is very complex, but interesting.*
- ✓ *Where is it? The highest level of qualification of the teaching staff is here, this is the first! And the second one! I grew up here!*
- ✓ *I have been working at this university for 20 years. Attitude to teaching staff and students, discipline, demanding.*
- ✓ *The best of the available options.*
- ✓ *I like to study and teach students.*
- ✓ *It just so happened.*
- ✓ *1. The opportunity to combine teaching and doctoral studies, as well as research activities. 2. The qualification level of the teaching staff, I believe that I can learn a lot from my colleagues. 3. The atmosphere at the department and the support of colleagues.*
- ✓ *I consider AUPET to be one of the best universities in the Republic of Kazakhstan*

37. How often are master classes and reading of topics with the participation of practitioners conducted as part of your course?

Very often	2 people	6,5%
Often	15 people	48,4%
Sometimes	12 people	38,7%
Very rarely	2 people	6,5%
never	2 people	6,5%

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

Very often	3 people	9,7%
Often	12 people	38,7%
Sometimes	12 people	41,9%
Very rarely	3 people	9,7%
Never	3 people	9,7%

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

	Often	Sometimes	Never	There is no answer
Lack of classrooms	2 people (6,5%)	13 people (41,9%)	16 people (51,6%)	-
Unbalanced academic load by semester	2 people (6,5%)	15 people (48,4%)	14 people (45,2%)	-
Unavailability of necessary literature in the library	0 people (0%)	11 people (35,5%)	20 people (64,5%)	-
Overcrowding of study groups (too many students in a group)	2 people (6,5%)	11 people (35,5%)	18 people (58,1%)	-
Inconvenient schedule	2 people (6,5%)	12 people (38,7%)	17 people (54,8%)	-
Inappropriate classroom conditions	2 people (6,5%)	14 people (45,2%)	15 people (48,4%)	-
Lack of Internet access/weak Internet	5 people (16,1%)	14 people (45,2%)	12 people (38,7%)	-
Students' lack of interest in learning	2 people (6,5%)	17 people (54,8%)	12 people (38,7%)	-
Late receipt of information about events	1 people (3,2%)	11 people (35,5%)	19 people (61,3%)	-
Lack of technical facilities in classrooms	4 people (12,9%)	16 people (51,6%)	11 people (35,5%)	-
Other problems	<ul style="list-style-type: none"> ✓ No ✓ No, there are no problems ✓ Lack of modern professional software products for thermal power engineering ✓ I ask the Ministry of Higher Education and Science to revise the classifier and withdraw EP Thermal Power engineering from the group of EP Electrical Engineering and Energy. ✓ So that more hours are allocated for laboratory work. ✓ No ✓ Added to the rank ✓ There are no significant problems at the university, as all the necessary conditions for effective work have been created. ✓ I would like a uniform load. In our specialty, we constantly have to study a lot. I would like to do more science, but there is very little time ✓ Equipping lecture halls with computer equipment and screens. ✓ Low teacher salary ✓ It is inconvenient that the teaching room is located in Building D, and all the cathedral laboratories are in Building A ✓ No 			

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

Question	Completely satisfied	Partially satisfied	Not satisfied	I find it difficult to answer
The attitude of the university management towards you	16 people (51,6%)	15 people (48,4%)	0 people (0%)	0 people (0%)
Relations with direct management	23 people (74,2%)	8 people (25,8%)	0 people (0%)	0 people (0%)
Relations with colleagues at the department	28 people (90,3%)	3 people (9,7%)	0 people (0%)	0 people (0%)
Participation in management decision-making	16 people (51,6%)	14 people (45,2%)	1 people (3,2%)	0 people (0%)
Relations with students	27 people (87,1%)	4 people (12,9%)	0 people (0%)	0 people (0%)
Recognition of your successes and achievements by the administration	19 people (61,3%)	9 people (29%)	1 people (3,2%)	2 people (6,5%)
Support for your suggestions and comments	18 people (58,1%)	10 people (32,3%)	3 people (9,7%)	0 people (0%)
The activities of the university administration	16 people (51,6%)	12 people (38,7%)	1 people (3,2%)	2 people (6,5%)
Terms of payment	11 people (35,5%)	15 people (48,5%)	5 people (16,1%)	0 people (0%)
Working conditions, list and quality of services provided at the university	22 people (71%)	8 people (25,8%)	1 people (3,2%)	0 people (0%)
Occupational safety and health	22 people (71%)	8 people (25,8%)	1 people (3,2%)	0 people (0%)
Managing changes in the university's activities	14 people (45,2%)	15 people (48,4%)	1 people (3,2%)	1 people (3,2%)
By providing a social package: rest, sanatorium treatment, etc.	10 people (32,3%)	16 people (51,6%)	2 people (6,5%)	3 people (9,7%)
Organization and quality of nutrition at the university	18 people (58,1%)	10 people (32,3%)	1 people (3,2%)	2 people (6,5%)
Organization and quality of medical care	17 people (54,8%)	11 people (35,5%)	1 people (3,2%)	2 people (6,5%)

Appendix 4. RESULTS OF THE STUDENT SURVEY*Application form for students*

The results of an anonymous student survey

NPJSC "Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev"

Total number of questionnaires: 16

Male	12 people	75 %
Female	4 people	25%

1. Rate how satisfied you are:

Questions	Completely satisfied	Partially satisfied	Partially dissatisfied	Partially dissatisfied	I find it difficult to answer
1. Relations with the Dean's office	10 people (62,5 %)	5 people (31,3 %)	0 people (0 %)	1 people (6,3 %)	0 people (0 %)
2. The level of accessibility of the dean's office	12 people (75 %)	3 people (18,8 %)	0 people (0 %)	1 people (6,3 %)	0 people (0 %)
3. The level of accessibility and responsiveness of the university management	10 people (62,5 %)	5 people (31,3 %)	0 people (0 %)	1 people (6,2 %)	0 people (0 %)
4. The availability of academic counseling to you	12 people (75 %)	1 people (6,3 %)	1 people (6,3 %)	1 people (6,3 %)	0 people (6,3 %)
5. Support of educational materials in the learning process	13 people (81,3 %)	2 people (12,5%)	1 people (6,3 %)	0 people (0 %)	0 people (0 %)
6. Availability of personal counseling	12 people (75 %)	2 people (12,5 %)	0 people (0 %)	0 people (0 %)	2 people (12,5 %)
7. Student-teacher relationship	8 people (50 %)	5 people (31,3 %)	2 people (12,5 %)	0 people (0 %)	1 people (6,3 %)
8. Financial and administrative services of the educational institution	9 people (56,3 %)	5 people (31,3%)	0 people (0%)	1 people (6,3 %)	1 people (6,3 %)
9. Accessibility of health services	12 people (75 %)	3 people (18,8 %)	0 people (0 %)	0 people (0 %)	1 people (6,3 %)
10. The quality of medical care at the university	11 people (68,8 %)	4 people (25 %)	0 people (%)	0 people (%)	1 people (6,3%)
11. The level of accessibility of library resources	13 people (81,3 %)	1 people (6,3 %)	1 people (6,3 %)	0 people (0 %)	1 people (6,3 %)
12. The quality of services provided in libraries and reading rooms	14 people (87,5 %)	1 people (6,3 %)	0 people (0 %)	0 people (0 %)	1 people (6,3 %)
13. Satisfaction with the existing educational resources of the university	13 people (81,3 %)	2 people (12,5%)	0 people (0 %)	0 people (0 %)	1 people (6,3 %)
14. Availability of computer classes	13 people (81,3 %)	2 people (12,5%)	0 people (0 %)	0 people (0 %)	1 people (6,3 %)
15. The availability and quality of Internet resources	10 people (62,5 %)	4 people (25 %)	1 people (6,3%)	1 people (6,3 %)	0 people (%)
16. The content and information content of the website of educational organizations in general and faculties (schools) in particular	11 people (68,8 %)	4 people (25 %)	0 people (0 %)	0 people (0 %)	1 people (6,3 %)
17. Classrooms, classrooms for large groups	9 people (56,3%)	4 people (25 %)	2 people (12,5 %)	1 people (6,3 %)	0 people (0 %)
18. Rest rooms for students (if available)	9 people (56,3 %)	1 people (6,3 %)	1 people (6,3 %)	3 people (18,3 %)	2 people (12,5 %)
19. Clarity of the procedure for taking disciplinary action	12 people (75 %)	3 people (18,8 %)	0 people (0 %)	0 people (0 %)	1 people (6,3 %)
20. The quality of the educational program as a whole	9 people (56,3 %)	5 people (31,3 %)	1 people (6,3 %)	1 people (6,3 %)	0 people (0 %)

Questions	Completely satisfied	Partially satisfied	Partially dissatisfied	Partially dissatisfied	I find it difficult to answer
21. The quality of educational programs in the EP	9 people (56,3 %)	4 people (25 %)	2 people (6,3 %)	1 people (6,3 %)	0 people (0 %)
22. Teaching methods in general	10 people (62,5 %)	4 people (25 %)	1 people (6,3 %)	0 people (0 %)	1 people (6,3 %)
23. The speed of response to feedback from teachers regarding the educational process	11 people (68,8 %)	5 people (31,3 %)	0 people (0 %)	0 people (0 %)	0 people (0 %)
24. The quality of teaching in general	9 people (56,3 %)	6 people (37,5 %)	1 people (6,3 %)	0 people (0 %)	0 people (0 %)
25. Academic workload/student requirements	11 people (68,8 %)	2 people (12,5 %)	1 people (1 %)	1 people (1 %)	1 people (1 %)
26. The requirements of the teaching staff for the student	14 people (87,5 %)	1 people (6,3 %)	0 people (0 %)	0 people (0 %)	1 people (6,3 %)
27. Information support and explanation of the admission rules and the strategy of the educational program (specialty) before admission to the university	10 people (62,5 %)	4 people (25 %)	1 people (6,3 %)	0 people (0 %)	1 people (6,3 %)
28. Informing the requirements in order to successfully complete this educational program (specialty)	13 people (81,3 %)	1 people (6,3 %)	1 people (6,3 %)	0 people (0 %)	1 people (6,3 %)
29. The quality of examination materials (tests and examination questions, etc.)	11 people (68,8 %)	4 people (25 %)	0 people (0 %)	0 people (0 %)	1 people (6,3 %)
30. The objectivity of the assessment of knowledge, skills and other educational achievements	13 people (81,3 %)	2 people (12,5 %)	0 people (0 %)	0 people (0 %)	1 people (6,3 %)
31. Available computer classes	13 people (81,3 %)	1 people (6,3 %)	1 people (6,3 %)	0 people (0 %)	0 people (6,3 %)
32. Available scientific laboratories	12 people (75 %)	3 people (18,8 %)	0 people (0 %)	0 people (0 %)	1 people (6,3 %)
33. Objectivity and fairness of teachers	10 people (62,5 %)	5 people (31,3 %)	0 people (0 %)	0 people (0 %)	1 people (6,3 %)
34. Informing students about courses, educational programs and academic degrees	12 people (75 %)	3 people (18,8 %)	1 people (6,3 %)	0 people (0 %)	0 people (0 %)
35. Providing students with a dormitory	13 people (81,3 %)	1 people (6,3 %)	0 people (0 %)	0 people (0 %)	2 people (12,5 %)

4. Rate how much you agree:

Statement	Full consent	I agree	I partially agree	I disagree	Complete disagreement	They didn't answer
1. The course program was clearly presented	9 people (56,3 %)	5 people (31,3 %)	2 people (12,5 %)	0 people (0 %)	0 people (0 %)	-
2. The course content is well structured	10 people (62,5 %)	3 people (18,8 %)	2 people (12,5 %)	1 people (6,3 %)	0 people (0 %)	-
3. The key terms are sufficiently explained	9 people (56,3 %)	6 people (37,5 %)	1 people (6,3 %)	0 people (0 %)	0 people (0 %)	-
4. The material proposed by the teacher is relevant and reflects the latest achievements of science and practice	9 people (56,3 %)	4 people (25 %)	3 people (18,8 %)	0 people (0 %)	0 people (0 %)	-
5. The teacher uses effective teaching methods	8 people (50 %)	6 people (37,5 %)	2 people (12,5 %)	0 people (0 %)	0 people (0 %)	-
6. The teacher owns the taught material	12 people (75 %)	3 people (18,8 %)	1 people (6,3 %)	0 people (0 %)	0 people (0 %)	-
7. The teacher's presentation is clear	10 people (62,5 %)	4 people (25 %)	2 people (12,5 %)	0 people (0 %)	0 people (0 %)	-
8. The teacher presents the material in an interesting way	9 people (56,3 %)	4 people (25 %)	3 people (18,8 %)	0 people (0 %)	0 people (0 %)	-
9. The objectivity of the assessment of knowledge, skills and other educational achievements	8 people (50 %)	6 people (37,5 %)	2 people (12,5 %)	0 people (0 %)	0 people (0 %)	-
10. The timeliness of the assessment of students'	8 people	5 people	2 people	1 people	0 people	-

academic achievements	(50 %)	(31,3 %)	(12,5 %)	(6,3 %)	(0 %)	
11. The teacher satisfies my requirements for personal development and professional formation	10 people (62,5 %)	4 people (25 %)	2 people (12,5 %)	0 people (0 %)	0 people (0 %)	-
12. The teacher stimulates the activity of students	12 people (75 %)	1 people (6,3 %)	3 people (18,8 %)	0 people (0 %)	0 people (0 %)	-
13. The teacher stimulates the creative thinking of students	9 people (56,3 %)	3 people (18,8 %)	4 people (25 %)	0 people (0 %)	0 people (0 %)	-
14. The appearance and manners of the teacher are adequate	12 people (75 %)	2 people (12,5 %)	2 people (12,5 %)	0 people (0 %)	0 people (0 %)	-
15. The teacher shows a positive attitude towards students	9 people (56,3 %)	5 people (31,3 %)	2 people (12,5 %)	0 people (0 %)	0 people (0 %)	-
16. The assessment system of academic achievements (seminars, tests, questionnaires, etc.) reflects the content of the course	11 people (68,8 %)	4 people (25 %)	1 people (6,3 %)	0 people (0 %)	0 people (0 %)	-
17. The evaluation criteria used by the teacher are clear	11 people (68,8 %)	4 people (25 %)	1 people (6,3 %)	0 people (0 %)	0 people (0 %)	-
18. The teacher objectively evaluates the achievements of students	9 people (56,3 %)	5 people (31,3 %)	2 people (12,5 %)	0 people (0 %)	0 people (0 %)	-
19. The teacher speaks a professional language	12 people (75 %)	3 people (18,8 %)	1 people (6,3 %)	0 people (0 %)	0 people (0 %)	-
20. The organization of education provides sufficient opportunity for sports and other leisure activities	10 people (62,5 %)	2 people (25 %)	21 people (6,3 %)	1 people (6,3 %)	0 people (0 %)	-
21. The facilities and equipment for students are safe, comfortable and modern	10 people (62,5 %)	5 people (31,3 %)	1 people (6,3 %)	0 people (0 %)	0 people (0 %)	-
22. The library is well equipped and has a fairly good collection of books	12 people (75 %)	2 people (12,5 %)	2 people (12,5 %)	0 people (0 %)	0 people (0 %)	-
23. Equal opportunities are provided to all student	11 people (68,8 %)	4 people (25 %)	1 people (6,3 %)	0 people (0 %)	0 people (0 %)	-

5. Other problems regarding the quality of teaching: 4 responses

- No
- Insufficient attention to the individual needs of students
- Not autumn
- No

