



«АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТИҢ  
ТӘУЕЛСІЗ АГЕНТТІГІ» КЕМ

НУ «НЕЗАВИСИМОЕ АГЕНТСТВО  
АККРЕДИТАЦИИ И РЕЙТИНГА»

INDEPENDENT AGENCY FOR  
ACCREDITATION AND RATING

## **REPORT**

**on the results of the work of the external expert commission  
on the evaluation of the Almaty University of Power Engineering and Telecommunications  
(AUPET)  
for compliance with the criteria of institutional accreditation standards**

**March 4 to 7, 2019**

**INDEPENDENT AGENCY FOR ACCREDITATION AND RATING**

***External expert committee***

***Addressed to  
Accreditation  
council of IAAR***



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## **I LIST OF SYMBOLS AND ABBREVIATIONS**

BD - basic disciplines  
EEEEA - external evaluation of educational achievements  
DAA - Department of Academic Affairs  
DIT - Department of Information Technology  
SAC - State Attestation Commission;  
GOES - state obligatory education standard  
ICT - infocommunication technologies  
ISP - an individual study plan  
CTA - complex testing of applicants  
CTT - credit technology of training  
CED - catalog of elective disciplines  
NPJSC AUPET - Non-Profit Joint-Stock Company Almaty University of Power Engineering and Telecommunications  
R W - research work  
SRW - student research work  
RC - a required component  
DE - general education  
EP - educational programme  
MD – major disciplines  
PC - personal computer  
F - faculty  
WC - working curriculum  
IWS - independent work of students  
IWST - independent work of students under the guidance of a teacher  
ESS- educational support staff  
CMC - educational and methodical commission  
ECD - educational complex of the discipline  
ECS - educational complex of the specialty  
EMS - educational and methodical section  
EC - electronic catalog

## II INTRODUCTION

In accordance with the order No. 20-19-OD dated January 26, 2019 of the Independent Agency for Accreditation and Rating, from March 4 to March 7, 2019, an external expert committee assessed compliance of the Almaty University of Power Engineering and Telecommunications (AUPET) with the standards of institutional accreditation of the IAAR.

The report of the external expert commission (EEC) contains an assessment of the compliance of the activities of the Almaty University of Power Engineering and Telecommunications (AUPET) with the criteria of the IAAR, recommendations of the EEC for further improvement and profile parameters of the Almaty University of Energy and Communications (AUPET).

The composition of the external expert committee:

*Chairman* - Shunkeev Kuanyshbek Shunkeevich, Doctor of Physics and Mathematics, Professor, First Vice-Rector of Aktobe Regional State University named after K.Zhubanov.

*Observer* - Niyazova Guliyash Balkenovna, project manager for the institutional and specialised accreditation of universities of the IAAR.

*Foreign expert* - Zarginawa Tamar Tengizovna, Vice-Rector for International Relations of the European University (Tbilisi, Republic of Georgia).

*Foreign expert* - Tayirov Mitalip Muratovich, Doctor of Physics and Mathematics, Professor, Batken State University (Kyzyl-Kiya, Kyrgyz Republic).

*Foreign expert* - Alexander Luschik, Doctor of Physics and Mathematics, Professor, Head of the Laboratory of Ion Crystal Physics, Institute of Physics, University of Tartu (Tartu, Estonia).

*National expert* - Movkebaeva Galiya Akhmetvalievna, Professor of the Department of International Relations and World Economy of the Kazakh National University named after Al-Farabi (Almaty).

*National expert* - Kulzhumieva Aiman Amangeldinovna, Ph.D., associate professor of the Department of Mathematics, West Kazakhstan University named after M. Utemisov (Uralsk).

*National expert* - Urmashiev Baydaulet Amantayevich, Ph.D., associate professor, head of the department of informatics of the Kazakh National University named after Al-Farabi (Almaty).

*National expert* - Alexander Baklanov, Ph.D., head of the department of instrument making and process automation, East Kazakhstan State Technical University named after D. Serikbayev (Ust-Kamenogorsk).

*National expert* - Chidunchi Irina Yuryevna, PhD, senior teacher of the department of vocational training and environmental protection at Pavlodar State University named after S.Toraigyrova, Chairman of the Council of Young Scientists of Pavlodar Region (Pavlodar).

*National expert* - Alimgazin Altay Shurumbayevich, Doctor of Technical Sciences, Professor of the Department of Heat Power Engineering of the Eurasian National University named after L.N.Gumilyov (Astana).

*National expert* - Serik Karataevich Zhumazhanov, Ph.D., teacher of the electrical equipment operation department of the Kazakh Agrotechnical University named after S.Seifullin (Astana).

*National expert* - Markovsky Vadim Pavlovich, Ph.D., associate professor, head of the department of electric power industry of Pavlodar State University named after S.Toraigyrov (Pavlodar).

*Employer* - Nurushева Aliya Zinedenovna, expert of the 1st category of the human capital development department of the Chamber of Entrepreneurs of Almaty.

*Student* - Imanfazy Ermyrat Sakhatuly, who is studying 4 courses of specialty "5B075200 Engineering systems and networks" of the Kazakh Leading Academy of Architecture and Construction, a member of the Alliance of Students of Kazakhstan (Almaty).

*Student* - Kasymkhan Aizada Aydinkyzy, who is studying for 3 courses of the specialty 5B070400 Computing Equipment and Software of the Kazakh National University named after Al-Farabi (Almaty).

*Student* - Kuyshybayeva Roza Maratkizi, postgraduate of the 1st course of the specialty "5B070200 Automation and Control" of the Kazakh National Technical University. K.I. Satpayev (Almaty).



## **ENGINEERING AND TELECOMMUNICATIONS (AUPET)**

From July 1, 2010, the Almaty Institute of Power Engineering and Telecommunications received the status of a university — the Non-Profit Joint-Stock Company Almaty University of Power Engineering and Telecommunications (AUPET) —with the right to prepare masters and doctors of PhD in accordance with the new Law on Education.

Personnel training at AUPET is carried out in accordance with the unlimited State license for educational activities of AB No. 0137445 dated August 04, 2010.

in 12 bachelor specialties:

- 1) 5B070200 – Automation and control
- 2) 5B070300 – Information systems
- 3) 5B070400 – Hardware and software
- 4) 5B071800 – Electrical engineering
- 5) 5B071700 – Heat Power Engineering
- 6) 5B071900 - Radio engineering, electronics and telecommunications
- 7) 5B060200 – Computer science
- 8) 5B073100 - Health and Safety and Environmental Protection
- 9) 5B074600 - Space engineering and technology
- 10) 5B081200 - Energy supply of agriculture
- 11) 5B071600 - Instrument Engineering
- 12) 5B100200 – Systems of information security

on 8 specialties of Master's Degree Programmes:

- 1) 6M070200 – Automation and control
- 2) 6M071700 – Heat Power Engineering
- 3) 6M071800 – Electrical engineering
- 4) 6M071900 – Radio engineering, electronics and telecommunications
- 5) 6M070300 – Information systems
- 6) 6M070400 – Hardware and software
- 7) 6M073100 – Life safety and environmental protection
- 8) 6M071600 – Instrument engineering

in 3 specialties of PhD programmes:

- 1) 6D071700 – Heat Power Engineering
- 2) 6D071800 – Electrical engineering
- 3) 6D071900 – Radio engineering, electronics and telecommunications

The contingent of students on 02/01/2019:

undergraduates - 3838 (full-time education) 212 (correspondence course)

Master's Degree Programmes students– 273

PhD programmes students – 61

The staff of the faculty is 436, including 34 doctors of science, 185 candidates of science, 26 PhD.



#### IV DESCRIPTION OF PREVIOUS ACCREDITATION PROCEDURE

Institutional accreditation was carried out in 2014 by an accrediting independent agency for quality assurance in education

#### V DESCRIPTION OF THE VISIT OF THE EXTERNAL EXPERT COMMISSION

The visit of the external expert commission to the Almaty University of Power Engineering and Telecommunications (AUPET) was organized in accordance with the programme agreed in advance with the chairman of the external expert commission and approved by the university's rector.

In order to coordinate the work of the external expert commission 05.06.2019 an orientation 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.

In order to obtain objective information on the assessment of the activity of the Almaty University of Power Engineering and Telecommunications (AUPET), members of the external expert commission used such methods as visual inspection, observation, interviewing of employees of various departments, teachers, students, graduates and employers, survey of faculty members, students .

The meetings of the external expert commission with the target groups were held in accordance with the updated programme of the visit, in compliance with the established time period. The staff of the Almaty University of Power Engineering and Telecommunications (AUPET) ensured the presence of all the persons indicated in the visit programme.

##### **Information about employees and students who participated in meetings with an external expert committee of an independent accreditation and rating agency**

Categories of participants	Number
Rector	1
The president	1
Vice Rectors	3
Directors of institutions	4
Heads of Chairs	12
Heads of departments	22
Instructors	118
Students	136
Graduates	116
Employers	93
<b>Total</b>	<b>506</b>

The experts visited institutes, departments, studios, structural divisions, an information library complex, educational laboratories, multimedia audiences, etc.

The members of the external expert committee visited the student practice base of the Institute: JSC NCIT (National Center for Space Research and Technology), Astrophysical Institute named after V.G. Fesenkova.

In accordance with the accreditation procedure, a survey of teachers and students was conducted.

In order to confirm the information presented in the Self-Assessment Report by external experts, the working documentation of the university was requested and analyzed. In particular, the Strategic Plan for the Development of AUPET for 2018–2025, the Plan of Educational and Methodical Work, the Department's Work Plans, the Concept of Educational Work of AUPC, the Department Work Plans, Catalogs of Elective Disciplines, Department Regulations, Modular Educational Programmes, Job Descriptions, Academic Council Protocols, educational and



methodical complexes of disciplines, syllabus, etc.

In addition, the experts studied the university's online positioning through the official website of the university (<http://www.aues.kz/>).

As part of the planned programme, recommendations for improving the activities of the university, developed by an external expert commission on the results of the examination, were presented at a meeting with the leadership on March 7, 2019.

## VI CONFORMITY TO SPECIALISED ACCREDITATION STANDARDS

### *Standard 6.1 "Strategic development and quality assurance"*

#### *The evidence part*

Until 2017, NP JSC AUES worked on the Priority directions of activity, the AUPET development plan for 2014-2016, developed in accordance with the State Programme for the Development of Education of the Republic of Kazakhstan for 2011-2020, approved by Decree of the President of the Republic of Kazakhstan dated December 7, 2010 No. 1118, and the action plan for 2011-2015 for the implementation of this Programme, approved by the Government of the Republic of Kazakhstan of 01.04.2013, No. 313.

The new university strategy for 2018–2025 was approved at the Academic Council on 21.11.2017 (<http://www.aues.kz/>).

Mission: Formation of the best intellectual resources of the national economy of knowledge and the most advanced technologies for the industrial and innovative development of the country, adapted to the conditions of world integration and globalization.

Based on its mission, priorities, strategic goals and objectives of the university are determined, development is planned and the activities of the university departments are organized.

For the implementation of the mission, strategic goals and objectives, the institute has material and technical and library resources that fully meet the needs of faculty and students.

**In the strategic objectives of the university identified three priority areas and tasks for them.**

**№1. High quality of research and development work with their maximum commercialization**

Forced use of research resources in the educational process. Modernization of educational and laboratory equipment and computer park.

Widespread involvement of students in research projects and educational programmes.

Attracting foreign teachers and scientists from leading international universities and leading research centers for the joint development of priority research areas in the field of renewable energy, energy saving, IT-technologies and robotics.

Participation in international scientific and educational projects and development programmes.

Conduct joint research projects with industrial and corporate sectors and create service-oriented design and production integrated with the most modern technologies.

Development of the system of commercialization of scientific research and modern ways of forming “Venture” funds to stimulate scientific, innovative projects and Start-up.

**№2. Modernization of educational activities**

To recruit the best applicants, undergraduates and doctoral students, giving them opportunities to study in the framework of academic mobility and internships at foreign universities - partners.

To form the best faculty with a high degree of international experience, active scientific work with innovative and creative thinking, who undergo periodical internships at foreign universities-partners.

Creation of effective advanced training programmes for Kazakh, Russian and English languages with the delivery of appropriate language tests with the establishment of an appropriate threshold level and the transfer of the learning process to a trilingual system.

Introduction and development of innovative teaching methods.

Update existing and create new educational programmes focused on the digital economy.

Development of double-diploma and joint educational programmes with a wide network of leading foreign universities and expansion of the range of master's and doctoral programmes.

Translation of general education disciplines, basic disciplines and introduction to EP in an electronic format of training in these disciplines and transition to a modular principle of building educational programmes.

The autonomy of the university with the right to develop its own curriculum for specialties, the right to award diplomas and academic degrees.

**№3. Effective structure and university management system with a high degree of digitalization of all management processes and activities.**

Provide the university with qualified personnel.

Selection and recruitment of new young trilingual staff, preferably with international experience. Training and development of university staff.

Creating a system for increasing the financial responsibility of institutions, motivating faculty members, and employees for performance results by implementing the Responsibility Center Management model.

Transition to electronic document flow and automation of the main processes of the University activities. Active PR-company.

Development of a design project for the development of the campus, corresponding to the modern conditions of study, research, accommodation and the creation of new types of educational and scientific spaces.

On November 19, 2018, the university developed and approved a quality policy, which is available at <http://info.aues.kz/>.

To form and maintain a Quality Policy at the University, an organizational structure has been approved. Defined the responsibilities of structural units. On February 23, 2018, order No. 37 established a coordination council for updating internal regulatory documents, and approved new regulations for all university departments.

#### **Analytical part**

It should be noted that teachers, staff and students are aware of the content of the Strategic Development Plan of the university, aware of their contribution to the implementation of the Strategy.

The results of the survey showed that the mission and strategy is reflected in the innovation programmes (very good 53.4%, good 44.9%).

#### **Strengths / Best Practices**

All activities of the university are aimed at ensuring the country's competitiveness through high-quality training for the real sector of the economy by improving the quality of education, integrating science, education, and creating favorable conditions for all participants in the educational process.

Compliance with the mission and strategy of resources aimed at the development of the university.

The work of the university reflects the sequence of its mission, in which teachers, students and the administration participate.

Conclusions WEC on the criteria: strong - 5, satisfactory - 2.

#### **Standard 6.2 "Leadership and Management"**

##### **The evidence part**

The governing bodies of the non-profit JSC "Almaty University of Power Engineering and Telecommunications" are: The supreme body is the general meeting of shareholders, the governing body is the board of directors, the executive body is the rector's office, the advisory body is the Academic Council.

The university's management structure includes: the rector, the president, three vice-rectors, departments, and institutes. The last change in the structure of AUPET was carried out on February 1, 2018.

The current structure of AUPET is focused on fulfilling the mission, achieving the goals and objectives.

The university has a quality management standard department, the main goal of which is to improve the internal university quality assurance system. Since 2006, the university has been certified under the international quality management system. Each year, along with an internal audit, an external inspection is carried out, and once every three years - a recertification audit. In January 2018, a re-certification audit was conducted at the AUPET NJSC for compliance with the requirements of MS ISO 9001: 2015 standards, which resulted in a certificate of conformity issued by the Russian Register Certification Association, a full member of the International Network of Quality Assurance Agencies in higher education (INQAAHE) and the Asia-Pacific Network for the Quality of Education (APNQE), as well as having an affiliated status with the European Association for Quality Assurance in Higher Education (EAQAHE).

There are 19 departments within the university and institutes. AUPET uses a vertical control system. There is an order on the distribution of duties, scope of authority and responsibility between the governing staff of the University No. 22 of February 01, 2018.

The university management system is transparent. Decisions are made collectively. The collegiate bodies (Council of the Institute, Scientific and Methodological Council, Academic Council) include the rector, vice-rector, directors of institutes, representatives of the teaching staff, students, employers. The minutes of the meeting of scientific and methodological seminars and the Academic Council are available on the University website and are in the public domain for all staff and students of the university.

The non-profit JSC "Almaty University of Power Engineering and Telecommunications" establishes commissions for resolving disputes and conflicts arising in the course of labor activity, which include: teachers, AUPET employees and representatives of structural divisions.

Management of the educational process at the university is provided through the management of educational programmes. Indicators of the effectiveness of the educational process are: employment, national ratings, feedback from employers. Analysis of these indicators is taken into account when planning the educational process at the university.

An effective way to determine students' satisfaction with the management system is to conduct a questionnaire, based on an analysis of the results of the questionnaire, meetings with management are organized at the university and all problems identified are solved promptly.

According to the results of the survey, 61.9% were fully satisfied with the participation in the decision-making process of faculty decisions, 31.4% were partially satisfied. 71.2% of the administration of the university faculty were completely satisfied, 23.7% were partially satisfied. 58.5% are completely satisfied with the attitude of the university management to faculty, 34.7% are partially satisfied. 69.5% were fully satisfied with the convenience of work, the services available at the university, and 29.7% were partially satisfied. 58.8% of students are fully satisfied with the accessibility of the manual, 33.8% are partially satisfied. The level of accessibility of the dean's office is 80.9% of students are fully satisfied, 16.2% are partially satisfied.

According to the results of the survey 61.9% were fully satisfied with the participation in the decision-making process of faculty resolutions, 31.4% were partially satisfied with. 71.2% were completely satisfied with the university faculty administration, 23.7% were partially satisfied with. 58.5% are completely satisfied with the attitude of the university faculty management, 34.7% are partially satisfied with. 69.5% were fully satisfied with the work

conveniences, with the university services availability, and 29.7% were partially satisfied with. 58.8% of students are fully satisfied with the accessibility of the manuals, 33.8% are partially satisfied with. 80.9% of students are fully satisfied with the level of the dean's office accessibility, 16.2% are partially satisfied with.

The progress achieved at the IQAA accreditation in 2014 was taken into account to prepare for the IAAR accreditation. The main recommendations (the introduction of electronic document management, the creation of a career center, the introduction of distance learning, the methodological support in English and description of the technology of employer participation in the development of EP, etc.) are reflected in the report and presented to the EEC.

#### **Analytical part**

The non-commercial NC JSC "Almaty University of Power Engineering and Telecommunications" approved job descriptions, defined the duties and responsibilities of the heads of departments.

The job descriptions of the marketing department director and the director of marketing and economic planning duplicate functional responsibilities. In particular:

Clause 2.1.1 Organizes and coordinates the marketing activities of the University.

Clause 2.1.7 Approves and controls Internet marketing strategy.

Clause 2.1.10. Develops the University's marketing policy based on an analysis of the consumer demands and offers from the market for services provided.

#### **Strengths / Best Practice**

- Management processes, including planning and allocation of resources, are carried out in accordance with the strategy of the university development.

- Openness and availability of the university management for all interested parties.

- The university has a successful internal quality assurance system.

#### **EEC recommendations**

1. To improve the activities of the responsible persons of the structural unit for business processes based on monitoring the effectiveness of activities.

2. On an ongoing basis to analyze and implement innovative proposals.

**Conclusions EEC on the criteria: strong - 8, satisfactory - 8.**

### **Standard 6.3 "Information Management and Reporting"**

#### **The evidence part**

The following information technologies have been introduced and used in the management activities of AUPET:

- The automated information system "Platonus" has been introduced at AUPET, a programme designed to manage educational and methodological information. in particular, managing the academic calendar, forming individual plans and academic groups, forming diploma supplements, maintaining students' knowledge assessment processes within a rating system, taking computer testing exams, filling a rating journal, monitoring students' knowledge and filling in an electronic journal of the teachers, collecting and analyzing information on the dynamics of the students contingent.

- Own automated information management system of the university educational process the "ARCHIT". The capabilities of the ARCHIT system make it possible to store and process information (students, teachers, corps, audiences, disciplines, departments, institutes); manage the schedule of the educational process; create and process curricula; form study groups and streams; create the teachers and departments working hours and make class schedules.

- Every year, the university publishes a compilation entitled "The Results of the Year", where the main indicators of the university's activities over several years are presented.

- A call center has been established.

A news channel was created in Youtube <https://www.youtube.com/channel/UCUnD...> Various AUPET videos are posted on it.



There are accounts on all major social networks: Instagram - [https://www.instagram.com/auес\\_univer...](https://www.instagram.com/auес_univer...) ,VKontakte [https://vk.com/auес\\_university](https://vk.com/auес_university) Facebook <https://www.facebook.com/auес.univers..> .

The official website includes sections "History", "Structure", "Strategies. Politics. Goals "and others.

An electronic document management system has been launched in the university, based on the system «Documentolog».

#### **Analytical part**

The system of informing and feedback to students and workers oriented includes information boards, the functioning of the university official website in three languages, but it should be noted that incomplete information is assigned in English language.

Having conducted interviews with students, graduates and employers, the following should be noted: the information on educational programmes is not often updated on the university's website; moreover, the information that is available in the English section is not translated. For example, the structure of the university in Russian in the English section ([https://auес.kz/?page\\_id=17999&lang=en](https://auес.kz/?page_id=17999&lang=en)) .

The university has a regular reporting system at all levels of the organizational structure. Reporting is considered at meetings of departments, structural divisions, on the Councils of Institutes, on the Scientific and Methodological Council (SMC), on the Academic Council, Rectorate. Meeting minutes are posted on the university website.

#### **Strengths / Best Practice**

- Functioning of a system for collecting, analyzing and managing information through the use of modern information and communication technologies and software
- Effectively determining the order and protection of information at the EP level allows you to make decisions based on facts, identify and predict risks.

#### **EEC recommendations**

1. To pay constant attention to updating information on EP on the University website and bringing it to students and all interested parties.
2. To conduct an annual survey of graduates on the problems and opportunities of employment, to constantly monitor employer feedback on university graduates.

**Conclusions EEC on the criteria: strong - 8, satisfactory - 9.**

### ***Standard 6.4 "Development and approval of educational programmes"***

#### **The evidence part**

The university implements the educational programmes of higher and postgraduate education in 12 undergraduate majors, 8 graduate majors, 3 doctoral majors. The university has a profile direction, a clearly chosen direction of the educational activity – power engineering, telecommunications and IT.

□ The University has developed two educational programmes in English: Telecommunications and Electrical Engineering. The institute has developed a manual "Design, development and monitoring of educational programmes." Also an Algorithm was developed for the development and implementation of double-diploma education programmes and joint educational programmes. A provision has been developed for credit transfer by ECTS type.

All teaching materials pass through the Antiplagiat system.

The main functions of internal quality control of educational programmes are carried out by: the QMS service; Department of Academic Affairs; Office of Doctoral and Master Programmes, Council of the University, graduating department, faculty.

For each educational programme, a graduate model has been formed at the university, as well as an Audit programme that monitors the quality of EP.

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

The university has established international joint training programmes for specialists with two diplomas:

The university has joint educational programmes:

1. With the Moscow Power Engineering Institute (MPEI).
2. With the University of the Shanghai Cooperation Organization (SCO).
3. With the National Research Nuclear University "MEPhI".
4. With Tomsk Polytechnic University.
5. With Universities of France - Lorraine University (Geoenergy Center) — the first year of study is held in the non-profit JSC “Almaty University of Power engineering and Telecommunications”, the second year at Lorraine University in Nancy.
6. With Sendai Technology College (Japan).
7. With the St. Petersburg State University of Telecommunications. Prof. MA Bonch-Bruevich.

### **Analytical part**

The university has reworked the study programme so that students acquire competencies that will bring them professional success.

Having met and interviewed with the students and faculty, it should be noted that the university has an atmosphere of trust.

It should be noted that in the university the professional certification is carried out during the implementation of the EP. The university signed an agreement with the Almaty “Electric Power Plants” Joint-Stock Company on the internship on the specialty 5B0717 “Heat Power Engineering” with elements of dual training. Training is conducted in 3 job specialties: machinist-crawler on boiler equipment of the 3<sup>rd</sup> category; machinist-crawler on turbine equipment 3<sup>rd</sup> category; Laboratory assistant of chemical analysis of the 2<sup>nd</sup> category with the subsequent assignment of working qualifications.

The university is a regional Cisco Academy of the International Cisco Systems Corporation (center - USA) for working with the network equipment, on the basis of which Cisco courses are organized with an international certificate awarding. Academic Initiative the “Oracle Academy”, Hight Tech for Human Training Center (HTH), and the software development company Greetgo!, the single Kaspersky Lab in Kazakhstan, to help students to master modern information technologies has also been created.

An interdepartmental installation and adjustment laboratory has been created at the Institute of Electric Power Engineering and Electrical Engineering at the Department of Power Supply and Renewable Energy, which serves as the basis for training and industrial practice in the specialties of the Electric Power Industry with passing an exam and assigning a working qualification (2<sup>nd</sup> category electrician). A similar, the only radio assembly laboratory, established at the Institute of Space Technology and Telecommunications.

### ***Strengths / Best Practice***

- Procedures for the development of EPs and their approval at the institutional level are defined and documented.
- Compliance of the developed EP with the objectives, including the expected results.
- Annual review of the curricula content and training programmes, taking into account changes in the labor market, the requirements of employers and the social demand of society.
- The complexity of the EP is clearly defined in Kazakhstan loans and ECTS loans.

### **Recommendations**

1. Continue the work on the external examination of the EP content.
2. Continue the work on the development and realization of joint educational programmes with foreign educational organizations.

***Conclusions EEC on the criteria: strong - 8, satisfactory - 4.***

### *Standard 6.5 "Continuous monitoring and periodic evaluation of educational programmes"*

#### **The evidence part**

Monitoring and evaluation of EP is carried out in the departments, where a report on the realization of the EP is compiled annually. Every year at the academic council of the university of the institutes directors present a report on the development of EP in the institutes.

It should be noted that the university mechanisms for collecting, storing and analyzing information about the realization of educational programmes are introduced.

The university conducts an audit of educational programmes where the achievement of the goals within the framework of educational programmes is monitored.

The university conducts a questionnaire "The teacher through the eyes of the student." The results of the questionnaire are used in determining the category of TS. According to the results of the questionnaire the rating of the teacher, which affects his salary is determined.

#### **Analytical part**

It should be noted that the leaders of the university manage by the principle of open doors for students and faculty, confirmation of this fact is the presence of the rector's blog on the university website, as well as the results of the questionnaire, where the responsiveness of the university management is fully satisfied with 58.8%, partially satisfied with 33.8%.

#### **Strengths / Best Practice**

- Openness, availability of information for monitoring at different levels of educational processes management, management of the university .
- Extensive automation by means of modern software for processing information on student learning performance.
- The content of educational programmes is reviewed in the process of changes in the labor market and the social demand of society.

#### **EEC recommendations**

1. To ensure the revision results publication of the content and structure of educational programmes in the context of market changes, employers' requirements, and social demands of society on an ongoing basis
2. To continue the work on training managers on educational management programmes.

**Conclusions EEC by the criteria: strong - 6, satisfactory - 4.**

### *Standard 6.6 "Student-centered learning, teaching and assessment of progress"*

#### **The evidence part**

AUPET has realized the possibility of forming an individual educational trajectory taking into account the individual characteristics of students. The educational trajectory is formed by using various procedures: through the implementation of elective disciplines; the formation of individual curricula as a result of the re-calculation of the disciplines completed at the previous stages of training.

The university pays great attention to meeting the needs of various groups of students. Students are trained at the 3 levels of training: Bachelor's, Master's and Doctorate. Preparation is conducted in 2 languages: Kazakh and Russian. For students who have a high level of English proficiency, groups with tri-lingual instruction are organized.

Amendments to curricula and plans have been made; the possibility of training is provided both on an individual schedule and remotely; The advisors-curators supervise the course of studies, the psychological service is given, proper assistance is provided by the student trade union committee, the department of educational work (free residence in a hostel, orders for a scholarship, coupons for free food) supervises.

The EEC Commission made sure that the realization of the EP takes into account the individual characteristics of students when choosing and applying individual methods and techniques of training, when selecting assignments for self-regulatory organizations. Indicators



of monitoring the student's independent work and evaluating its results are the results of tests, essays, reports or presentations made by students on the SSW topics that are taken into account in the current control, as well as the SSW included in the list of questions on the midterm controls.

Over the past years, students from such countries as Uzbekistan, the Russian Federation, the People's Republic of China, Mongolia, Kyrgyzstan, Norway, Montenegro and others have studied at the university.

For language adaptation of foreign students the courses "Russian language", "Kazakh language" are organized. Information days and individual consultations on visa support, registration and re-registration of foreign citizens are held on a regular basis. On the AUPET website in the section of the "International Cooperation" a page "For foreign students" has been created, where the necessary information is posted.

### ***Analytical part***

The EEC Commission was convinced that the advisers of study groups hold regular meetings of students, within which students can express suggestions for improving the learning process at the University (questionnaires, questioning, interviews, feedback and wishes of students).

The goals and objectives of educational programmes are adjusted based on questionnaire, questioning and recommendations of stakeholders. Feedback forms are held by the virtual reception, which includes a rector's blog (aues.kz website), university and institute pages in social networks (itet instagram), where students, undergraduates and doctoral students can ask any question.

During the visit, the EEC Commission made sure that the teaching staff uses interactive teaching methods: creative tasks, project method, presentation (project protection), organization of student and undergraduate conferences. An integral part of the educational process for the EP technical direction is a laboratory workshop, the task of which is to develop practical skills of students. Such forms as master classes, problem lectures, and excursions to enterprises are also used.

In addition, in 2017, the Institute organized advanced training: a seminar on the theme "Forming Information and Communication Technologies of Teacher Competence" (K.E.Turganbai), "Innovative technologies used in the educational environment to improve the quality of education" (A.S. Beisekenova). In 2018, a scientific seminar was held on the basis of the IITU "Development of educational programmes based on a competence-based and student-centered approach" (A.S. Baykenov, E.V. Polzik), which examined the role of modern innovative learning technologies in improving the quality of education of students educational programmes based on a competence-based and student-centered approach. The Department of Telecommunication Systems and Networks for undergraduates introduced the discipline "Theory and Practice of Innovation in Telecommunications", which deals with issues of innovative teaching methods.

Evaluation of the discipline development results and appeal is carried out according to the rules of the organization of the educational process on the credit technology. For the objectivity of the evaluation of learning outcomes at the university, an appeal commission and a commission to check the examination are created.

Nevertheless, the EEC Commission notes the need to develop and realize new own research in the framework of teaching methods for the development of student-centered education.

In general, both students and faculty members expressed positive opinions on the implementation of the accredited EPs. According to the results of the student questionnaire, the relations with the dean's office were: - fully satisfied with 77.2% - partially satisfied with 19.1%; timeliness of student assessment; - fully satisfied with 86.7% partially satisfied with 11.7%; academic load / student requirements; fully satisfied with 70.6%, - partially with 22.8%.

### **Strengths / Best Practice**

- Diversified organization and forms of realization of student life.
- The University realizes the principle of continuous monitoring customized and the wishes of students on the issues of quality, organization and implementation of EP.
- Support for student educational and social initiatives, support for the autonomy of students by the management of AUPET and the teaching staff.

### **EEC recommendations**

1. To increase the quantity and quality of development of own research and teaching staff in the field of teaching methods of academic disciplines of accredited EPs in the context of student-centered learning.
2. Publish criteria and methods for assessing the quality of the EP.

**Conclusions of EEC by the criteria: strong - 2, satisfactory - 8**

### **Standard 6.7 "Students"**

#### **The evidence part**

AUPET has organized systematic work in the field of vocational guidance and subsequent support for interest, students in improving and expanding their competencies. The commission made sure that all these elements of continuing education are implemented at the university.

Student contingent:

2015		2016		2017		2018		2019 (to 01.02.2019)	
Fulltime	Extramural	Fulltime	Extramural	Fulltime	Extramural	Fulltime	Extramural	Fulltime	Extramural
373	229	3328	179	3378	175	3854	188	3838	212

Контингент магистрантов:

2015		2016		2017		2018		2019 (to 01.02.2019)	
Fulltime	Extramural	Fulltime	Extramural	Fulltime	Extramural	Fulltime	Extramural	Fulltime	Extramural
174	0	130	0	162	0	273	0	273	0

2.3. Doctoral students:

2015		2016		2017		2018		2019 (to 01.02.2019)	
Fulltime	Extramural	Fulltime	Extramural	Fulltime	Extramural	Fulltime	Extramural	Fulltime	Extramural
15	0	23	0	32	0	59	0	61	0

Contingent (Baccalaureate, Master's programme, Doctorate) on the source of financing

2015		2016		2017		2018		2019 (на 01.02.2019)	
Grant	Contract	Grant	Contract	Grant	Contract	Grant	Contract	Grant	Contract

Bachelor's students									
2439	1522	2226	1281	2323	1230	2971	1071	2960	1090
Master programme students									
41	133	26	104	61	101	163	110	172	101
Doctoral students									
15	0	19	4	29	3	56	3	58	3
2495	1655	2271	1389	2413	1334	3190	1184	3190	1194

The Commission notes the growth in the number of students in all levels of education, despite the decline in the demographic situation in the country and the increase in tuition fees.

AUPET has developed and operates a programme for the adaptation of foreign students to the conditions and requirements of the educational process in AUPET. It includes various directions: social, psychological, intercultural, educational, research forms of adaptation.

During the last three academic years, citizens of foreign countries studied at AUPET. In the current 2018-2019 school year, the number of foreign students enrolled in AUPET is 55 people from 8 countries. The EEC Commission made sure that DICAM regularly holds meetings, information days, consultations, oral questionnaires and questioning of foreign students, together with the leadership of departments and institutes. DICAM also deals with migration issues for foreign students, as well as prepares primary registration and re-registration of foreign citizens.

The mechanism of recognition of previous learning outcomes and qualifications in other universities, as a result of academic mobility, is based on the normative documents "Regulations on credit transfer by type of the European Credit Transfer System (European Credit Transfer System, hereinafter –ECTS)", which is posted on the university website (<http://info.aues.kz/info/documents/docs/ppkte.PDF>). Also, the university has developed Rules for the recognition of learning outcomes obtained through non-formal education.

Academic mobility is carried out within the framework of the agreements of the SCO universities, the European funded project Erasmus +, the British Council KA 1, International Credit Mobility, as well as various scholarship programmes offered by governments and organizations of foreign countries. In total, AUPET has concluded 115 cooperation agreements with foreign universities and 25 cooperation agreements with Kazakhstan universities.

At the university, job fairs are held twice a year, in which about 40 companies and more than 400 students participate. This event is aimed at increasing the degree of employment among graduates, as well as to ensure that junior students have an understanding of the labor market and the requirements of employers for the competencies and skills of graduates.

Table Employment of graduates of AUPET

Graduating year	Number of graduates	Employed	%
2015	1384	1129	81,5
2016	1292	1081	83,0
2017	918	783	85,0
2018	996	789	86,0

Among the best graduates of AUPET are Zhumagaliev Askar Kuanyshevich - Minister of Digital Development, Defence and Aerospace Industry of the Republic of Kazakhstan, Takenov Zhakyp Batyrkhanovich - Deputy Chairman of the Board of Alatau Zharyk JSC, Khairushev Askar Evgenievich - Chairman of the Board of Kaztelradio, Razdykova Sherkhan Pertayevich - Director of Almatytelecom, Wolter Alexander, KHD Humboldt Wedag, Wolf Rudolf - Chief Project Manager, Energy Sector, SIEMENS AG, Muelheim on der Ruh.

During their studies at the university, students may receive additional certificates for course programmes.

Educational work in AUPET is based on the Address of the President N. Nazarbayev, the people of Kazakhstan, with the Strategy "Kazakhstan - 2050", are fundamental documents in the work of the university. From September 2016, the AUPET psychological service started to work.

The center for organizing and conducting work with young people is the trade union of students. Under the auspices of the trade union there are a number of student clubs: "Children Charity Club", "Gibrat", "Ulagat", two debate leagues, film club "StudiA315", in total about 20 clubs. The university has a Youth Center "Entel". The university has 19 sections in various sports (football, mini-football, volleyball, basketball, boxing, kickboxing, weightlifting, fitness for men, women, strength training, etc.). The number of students in the sections today is 2478 people. In order to encourage and attract students to a healthy lifestyle, a special Regulation has been developed and approved by the order, according to which the winners and prize-winners of sports competitions are awarded with substantial cash prizes. Participants in creative contests, debate leagues, etc. are also stimulated.

Within two months of the current academic year, AUPET held a competition of business ideas and projects among students, undergraduates and doctoral students, which ended on October 31. The main sponsor of the competition was the National Innovation Center LLP, which established a prize fund of one million tenge. Of the 16 projects submitted, 7 were selected, which, from the point of view of the jury, had the greatest potential for commercialization in the priority areas of the development of science. Master student Alina Fazylova became the winner of the competition with the project "New highly efficient system of a multi-blade wind generator" (scientific advisor A. Lupanov), which received an award of 500,000 tenge.

The EEC made sure that students at all levels and educational programmes are represented in the collegial management bodies of the institutes and the university.

The Commission of the EEC made sure that students at all levels of the University EP participate in the implementation of research projects: in the obligatory R & D in the departments, in the funded households. contractual projects jointly with faculty members, in scientific student projects of various levels, including international ones.

The following possibilities are available to support gifted students at AUPET: AUPET Alumni Association Foundation ([https://aues.kz/polozh\\_stopendiya\\_av.pdf](https://aues.kz/polozh_stopendiya_av.pdf)), tuition discounts (for full-time students [https://aues.kz/?page\\_id=6685](https://aues.kz/?page_id=6685)), nominal scholarships (grant of G.Zh. Daukeev for students of 2-3 courses [https://aues.kz/polozh\\_stopendiya\\_Daukeev.pdf](https://aues.kz/polozh_stopendiya_Daukeev.pdf), Presidential state scholarship, increased state scholarship, scholarship from the organization - grant of Samruk-Energo JSC [https://aues.kz/wp-content/uploads/Provision--Republican Olympiad1-5.pdf](https://aues.kz/wp-content/uploads/Provision--Republican_Olympiad1-5.pdf), transfer from a paid form to grant funding priority opportunity of academic mobility Information on planned scholarship programmes is presented on the website, on the boards of the department and the institute, communicated to students through advisors and teaching staff ([https://aues.kz/?page\\_id=5166](https://aues.kz/?page_id=5166)).

The University has established the Alumni Association of the Almaty University of Power Engineering and Telecommunications (AUPET), which is designed to maintain and develop the university traditions and goals, preserve its spirit and priorities, provide financial support to the university to develop and improve the material basis, improve the quality of education and solve social problems.

### ***Analytic***

EEC made sure that the University provides support to orphans, they are provided with free accommodation in the University dormitories, and are provided with free 3 meals a day in the University's canteen.

In order to provide social support and prevent students from deduction for non-payment of tuition at the University, discounts are provided in accordance with the Discount Provision, <http://info.aues.kz/>.



The EEC confirms that the long-term partners of AUPET can provide students with practical training, consultants for the preparation of practice-oriented R & D, and expertise in preparing Master's theses.

According to the results of the questionnaire - the usefulness of the website of educational organizations in general and faculties in particular; - fully satisfied with 69.1% - partially satisfied with 24.3%; fairness of exams and certification; fully satisfied with 75.7% - partially satisfied with 22.1%; overall quality of curriculum; - fully satisfied with 72.1% - partially satisfied with 19.1%; the relationship between student and teacher; - fully satisfied with 95% - partially satisfied with 3.3%.

#### ***Strengths / Best Practice***

- Strong recruitment policy
- Active work to provide internships for students, to assist in graduates' employment.
- Stimulating learners to self-education and development outside the main programme.
- The presence in AUPET of a support mechanism for gifted students.
- The presence of the Alumni Association of Trustees.

#### ***EEC recommendations***

1. Expand the range of programmes of internal and external academic mobility of students of EP, to assist in obtaining external grants for training.
2. Continue work on expanding the spectrum of multilingual EP.
3. The career center and graduating departments continue to work on the employment and career growth of graduates, provide feedback to graduates and inform about the realization of youth practice through the employment center.
4. To work with the graduating course on their active participation in the activities of the University Alumni Association.

***Conclusions EEC on the criteria: strong - 5, satisfactory - 7.***

#### ***Standard 6.8 "Teaching staff"***

##### ***Evidence based***

The university management demonstrates the use of university personnel policy for faculty involved in the implementation of the EP. The staff of the faculty of the educational programme is staffed in accordance with the legislation of the Republic of Kazakhstan and the Rules of competitive replacement of positions of scientific and pedagogical staff of higher educational institutions. The EEC Commission confirms that the priorities of the transformation of the faculty at AUPET include the formation of a staff with high degree of international experience, active scientific work, with innovative and creative thinking.

The degree of faculty in the period 2013-2018 exceeded 50%. Starting from 2017, the average age of faculty with academic degrees and titles is reduced (from 60.8 years in the 2016-17 academic year to 57.7 years in 2018-19), which is associated with the course of university management on the rejuvenation of teaching staff. 17 teachers of AUPET are academicians or corresponding members of NAS of RK, NEA of RK, AI of RK and a number of other professional academies

As of October 31, 2018 133 teachers (27.1% of the number of full-time teachers) have practical experience in the field of production and in scientific organizations, including: A. Merkulov. - Head of the Siemens Communications Department; Pokusov V.V. - Chairman of the ALE "Kazakhstan Information Security Association"; Bakenov K.A. - head. department of Su Alemi LLP; Utegulov N.I. - deputy Development Director of Kerneu LLP, Professor, Ph.D. Karamanov G.S. –The chief specialist of the personnel training department of Almaty Power Plants JSC, etc.

In order to improve the quality of the educational process and increase of the research potential and development personnel, it was practiced to attract teachers from leading universities in the near and far abroad. During the period from 2015 to January 2019, 5-9 foreign

professors and assistant professors worked at AUPET annually, who conducted lectures and training seminars. As part of the development of educational programmes in English in 2017, thirty specialists from various countries of the near and far abroad were involved, who also conducted classes. For example, since 2012, invited doctor PhD from Latvia Chaiko E.V. has been working full time at AUPET. In 2018, four foreign teachers from Latvia and Armenia were invited. In addition, within the framework of double-diploma education, leading teachers of the Moscow Power Engineering Institute (FSFEI HPE "NRU MPEI") have been involved in teaching AUPET students in the specialty "Economics" since 2008. Since October 2017, in AUPET as a foreign specialist in top management, Professor Gita Revalde from Latvia has been working. In December 2017, she was elected to the position of President of NC JSC AUPET.

The rights and obligations of all the university staff are reflected in employment contracts and job descriptions.

During the reporting period, 65 teachers and employees were awarded the Honorary Titles “Honored Power Engineer of the CIS”, “Honored Power Engineer of the Republic of Kazakhstan”, “Honored Power Engineer”, “Honored Worker of Science and Education”, medals and certificates of merit.

Grant "The best teacher of the university" received: in 2016 - Doctor of Technical Sciences, Professor K.S. Ivanov, in 2018 - Doctor of PhD, Associate Professor G.K. Balbayev, Doctor of PhD, Associate Professor T.S. Kartbayev, Doctor PhD, associate professor A.A. Doszhanova, doctor PhD, associate professor F.U. Malikova.

Kartbayev T. S., doctor PhD, associate professor Doszhanova A. A., doctor PhD, associate professor Malikova F.U.

Teaching staff systematically undergo advanced training. During the reporting period, teachers underwent advanced training in universities of the Kazakhstan Republic (722 people), in foreign universities (260 people), in research centers (130 people), in enterprises (38 people), in industry centers (266 people). Some part of the teachers underwent advanced training at the inter-university courses: (Moodle, Platonus courses etc.); study of information and communication technologies in the educational process (on-line learning, e-portfolio, MEP, etc.)

During the reporting period, 294 teachers took training courses in the master's and PhD degree programmes of AUPET and other universities, including postgraduate and doctorate studies abroad.

Table Information on advanced training of teaching staff and employees of AUPET through Master's and PhD studies

Indicators	AUPET and Kazakhstan universities		Foreign universities		
	MA	PhD	MA	Postgraduate	PhD
Have trained	141	37	18	12	4
Have been training in 2018 - 2019	24	50	0	7	1

Scientific and Methodological Council (SMC) puts general management of the teaching and methodical work of the teaching staff into effect. AUPET SMC creates scientific and methodological commissions in groups of specialties (institutes) and specific areas of work (university-wide).

The Commission notes that the University leadership provides monitoring of the teaching staff activity, a systematic competence assessment of teachers, a comprehensive assessment of teaching quality, including the satisfaction assessment of teachers and students. Students are involved in the quality assessment of the teaching staff work. Twice a year, an anonymous questioning of students “A teacher by student's impression” is conducted.

*Аналитическая*

Одной из наиболее серьезных проблем кадровой политики университета является большой средний возраст профессорско-преподавательского состава и его старение. Анализ статистических данных свидетельствует о большой доле ППС пенсионного возраста и малом количестве преподавателей до 30 лет.

#### *Analytical*

One of the most serious problems of the University personnel policy is the high average age rate of the teaching staff and its aging. The analysis of statistical data indicates a large proportion of the retirement age of teaching staff and a small number of teachers under 30 years of age

Table Teaching staff age composition as of 11/01/17

TS	Up to 30 years old		31-55 years old		Preretirement age		Retirement		Over 70 years old	
	Total	Having a degree	Total	Hav. a degree	Total	Hav. a degree	Total	Hav. a degree	Total	Hav. a degree
1	2	3	4	5	6	7	8	9	10	11
Men	20	0	44	24	32	23	51	41	39	37
Women	16	0	157	70	29	15	28	17	16	12
Total	36	0	201	94	61	38	79	58	55	49

Upon a balance since 2017 administrative control measures were taken in this matter. When they reach retirement age, all teachers work no more than one paid position, and starting from the age of 70-75, teachers are transferred to an incomplete (0.25-0.5) rate. Young teachers (PhD and Masters) are accepted for the vacant positions. During the reporting period, 28 AUPET graduates studied in English under the BOLASHAK programme in the Graduate school of leading European universities and returned to work at AUPET.

AUPET has had a rating system for Teaching Staff activity for many years. Twice a year the complex coefficient R (rating) in accordance with the “Methodology for perks determining (taking into account the rating - KPI) for official salaries of workers of non-commercial JSC AUPET” is determined as the sum of coefficients, that takes into account academic, methodical, scientific, educational work of teaching staff, and teacher's work assessment by students as well.

The EEC Commission confirms that the University carried out the following work in terms of transforming the learning process during the reporting period: teaching staff advanced training in leading universities of the near and far abroad countries; conducting in-university seminars and refresher courses on various issues of organizing the educational process, improving teaching methods, using distance learning methods; the introduction of modern interactive teaching methods (creating computer classes, equipping classrooms, interactive boards); specialties curriculum and educational programmes development based on the credit-modular system; implementation of the teaching staff research results in the educational process.

In the course of interviewing, teaching staff expressed satisfaction with the current personnel policy in AUPET, demonstrated awareness in the procedure of the current personnel management system, confirmed the fact of holding a contest for vacant positions. Young teachers are also satisfied with the working conditions. According to teaching staff survey results, 50% are fully satisfied, 49.2% are partially satisfied with the content of the educational programme reflecting the needs; as for the use of their own strategies - 40.7% are fully satisfied; 55.9% - are partially satisfied; with the management availability 71.2% are fully satisfied; 27.1% - are partially satisfied. Administration success and achievements recognition – 72% are fully satisfied; 23.7% - are partially satisfied. However, the survey results of students in terms of teacher’s teaching of the material taught are the following - fully satisfied - 63.2% - partially satisfied - 25.7%.

#### *Strengths / Best Practices*

- The University has an objective and transparent personnel policy, including recruitment, professional growth and staff development, ensuring the professional competence



of the entire teaching staff.

- The University demonstrated the compliance of the teaching staff potential with the development strategy and the specifics of the EP.
- Effective rating system for evaluating all aspects of Teaching staff activities
- The university attracts practitioners from relevant fields to teach.

### ***EEC recommendations***

1. To focus attention on increasing the number of methodological publications on the subjects taught, to intensify work on the publication of specialty textbooks recommended by the EMD REMC.

2. Expand the use of information and communication technologies in the educational process by teaching staff (on-line learning, e-portfolio, MOOC, etc.)

3. To continue the work and stimulate teachers' participation in the academic mobility programmes, joint research with foreign partners and international projects.

Conclusions EEC on the criteria: strong - 8, satisfactory - 4.

### ***Standard 6.9 "Scientific research work"***

#### ***The evidence part***

In non-commercial JSC "AUPET" the following research directions are implemented under the state financing programmes: "Rational use of natural resources, processing of raw materials and products"; "Science development"; "Heat power Engineering"; "Electric power Engineering"; "Telecommunications"; "Infocommunication technologies"; "Energy and Mechanical Engineering"; "Information security systems" within the National Security programme directions, as well as research and development project work with business entities in two main directions funding: energy (energy inspection, energy audits, R & D services), and telecommunications.

The university is included in 3 consortiums with universities in Europe (Sweden, Spain, Finland, Germany, Italy, Belgium, etc.), Kazakhstan (L.N. Gumilyov Eurasian National University, K. Satbayev KazNRTU, M. H. Dulati TarSU) and the CIS countries (Armenia, Georgia, Belarus) on the Erasmus + programme projects in Kazakhstan InnoCENS (2016-2019), APPLE, (2016-2019) KUTEL (2018-2021); The Consortium of Production Sector (CPS-1) of the Science Committee of the MES RK - Technological modernization and innovative development of the energy sector of Kazakhstan.

Projects funded by the Science Committee of the Ministry of Education and Science of the Republic of Kazakhstan in some areas: - "Development and implementation of the foresight-oriented teaching methods for PhD students and undergraduates in the educational process" – Science development; "Innovative technology development of the hydrogenic uranium deposits operation for the industrial and energy development of the country" - Rational use of natural resources, processing of raw materials and products.

"Technological Modernization and Innovative Development of the Energy Sector of Kazakhstan" project (CPS-1 Consortium of the Production Sector) is carried out with the participation of production companies and the university, complies with the performance indicators defined in the AUPET Strategy "Conducting of joint research projects with the industrial and corporate sectors".

The teaching staff expands participation in the preparation of tender applications for various forms of financing (Ministry of Agriculture of the Kazakhstan Republic, MDAD of the Republic of Kazakhstan, MES RK). In 2018 alone, more than 20 applications in IT areas were submitted in accordance with the tender documentation to the Ministry of Defense and Aerospace Industry (MDAD RK).

Cooperation with business structures is expanding, along with the existing partners over the past period, Memorandums of cooperation and joint activities were signed between Scientific and Production Enterprise ASKB Alatau, a tri-partite memorandum of cooperation and joint

activity between Private Enterprise Astana International Science Complex, RSE on REU “Institute of Information and Computational Technologies” KN MES RK, NJSC “AUPET”, is working together with LLP “Infosert”, LLP “Life2Win”, LLP “Communication Corporation”, LLP “PC4U”, LLP “PACIFICA”, JSC “Astel”, “ICT service” LLP, “Tartyp” JSC, “Pay Point” LLP, “Saiman Corporation”, “National Innovation Center” LLP.

The EEC was convinced that research is carried out by leading teaching staff members research teams include groups of students (students, undergraduates, PhD students) who have the opportunity to gain practical experience of research or design work. More than 175 people are involved in the implementation of projects on state grant financing, contractual works and international projects: In grant projects there are up to 90 people, in contractual projects there are up to 60 people, in international projects there are up to 25 people. For “Erasmus +” and USAID international projects - equipment purchase in the amount of more than 30 million tenge is funded. The international project of the university is aimed at developing the potential of InnoCENS students (Erasmus +) - increasing innovative competences and entrepreneurial skills in engineering education, within which a center is opened, where students can receive informational support for further development of their innovative ideas.

Contests for students, hackathons, students’ research works conferences (university and republican level) are held annually. With “ZherSU” corporation support a competition of innovative business ideas was held with a prize fund of 3,000,000 tenge. With LLP “National Innovation Center” sponsorship - a competition for young scientists in the framework of the conference “Innovation and Science” - with a prize fund of 1,000,000 tenge was held; with the organizational support of the United Nations Development Programme and the Ministry of Foreign Affairs of the Republic of Kazakhstan Hakaton on the Bastau information platform Management of organizations was held. The Samruk - Energo JSC republican annual Olympiad with participation of students and schoolchildren, future power engineers with a prize fund for winners from the amount of the annual grant, for schoolchildren and students, to special scholarships for winners of students studying for a grant was held.

To finance research work, there are several approaches - grant financing (RK and foreign) and commercial contracts with business entities for rendering of services.

In 2017, the amount of R & D funding amounted to more than 360 million tenge, more than 80% were applied works. The volume of contractual works in 2018 amounted to 263120155 tenge. The total amount of funding the state order projects in 2018-2020 is 464637799.00 tenge.

Monitoring of the teaching staff members participation in research and development is carried out twice a year (in May and December) by scoring for research work, separately for each type of work performed according to the Methodology of determining perks (taking into account the KPI rating) to employees of NJSC “AUPET” salaries that includes collecting information on scientific activities (coefficient K3), where types of research are indicated: publication in Kazakhstani journals, abroad, and in journals included in the Scopus database, Web of Science, Elsevier, etc., conducting funded and non-funded research projects, obtaining security documents for intellectual property, etc.

AUPET publishes the journal “AUPET Bulletin” that is included in the list of journals recommended by KKSON RK for publications, has an impact factor.

Foreign scientists are widely involved in the preparation of scientific research for PhD students in the areas of Heat Power Engineering, Electric Power Engineering, Infocommunication Technologies and Systems (Angel Kynchev University of Ruse, Bulgaria, Prof. Mikhailov Nikola; Innsbruck University, Austria, Prof. Wolfgang Streiche).

In the educational process, when conducting laboratory classes, KomRad, Scanner BC, App Checker software systems (inventions of the Echelon Scientific and Production Association, Moscow) and acquired under the PAK MAAKS agreement (SPIIRAN Invention) are being used.

EEC made sure that AUPET provides financial, organizational and informational support - informing about events, organizing participation and paying expenses for participation, including an organizing fee. To create conditions for the scientific potential of young scientists

and students development, the Council of Young Scientists has been established at the Department of Science to stimulate the participation of young scientists and students in scientific research - Regulation on the Council of Young Scientists of August 17, 2018.

#### ***Analytical part***

EEC made certain that international scientific consortia work of AUPET provides an opportunity to strengthen interaction with the community of manufacturing companies, to work together, to obtain technical information and expert assessment; improve teaching staff qualifications by participating in seminars, trainings, conferences of employers, manufacturing companies, associations; get from foreign partner universities and organizations advanced experience in introducing new educational technologies and teaching methods, transfer of new educational technologies and industrial designs to ensure the learning process at the university. According to the Erasmus + projects, the University teaching staff takes part in events - trainings, conferences, seminars, exhibitions and competitions. The work of the KPS-1 production sector consortium includes research and development, establishment of digital servers for conducting electricity market operations.

State grants and foreign organizations projects are implemented under the control and mandatory monitoring by the funding organization on the ongoing basis. The ratio of grant financing and economic agreements is approximately 50/50. At present, the funding sources of research and development are identified - the state order (Ministry of Agriculture of the Republic of Kazakhstan, KN MES RK. MOAP RK, Ministry of Defense of the Republic of Kazakhstan, etc.); contracts with business entities; international grants (US Agency for international development, "Erasmus +").

#### ***Strengths / Best Practices***

- Engaging foreign teachers and scientists from leading universities and leading research centers for the joint development of priority research areas in the field of renewable energy, energy saving, IT-technologies and robotics.
- A detailed method for determining perks (taking into account the KPI rating) for the AUPET JSC employees' salaries.

#### ***EEC recommendations***

To continue work on engaging students to research activities within the framework of grants of the Ministry of Education and Science of the Republic of Kazakhstan, contractual topics.

EEC conclusions on the criteria: strong -6, satisfactory - 2.

#### ***Standard 6.10 "Finance"***

##### ***The evidence part***

According to the Development Strategy of the NJSC "Almaty University of Power Engineering and Communications", new principles of planning and budgeting, accounting and analysis were introduced until 2025.

Significant improvement in the material and technical base of the University and creation of favorable work conditions of employees, training and life of students was an important indicator as well. Rating system of teaching staff (KPI) additional payments has become an integral part of the educational system of the University. The teaching staff salary was increased in the 2017-2018 academic year - by 11%; the administrative staff salary was increased in 2017-2018 on average - by 7%. University employees social support policy is constantly improving. Further implementation and development of a differentiated wage system by introducing KPI for other employees, according to the Strategy is being planned.

The EEC Commission made sure that the expenditure planning is carried out on the basis of the students enrolled in the context of training areas, forms of education, natural norms and standards that determine the cost of education. Consolidated budget, finance plans, programmes

and subprogrammes, as well as departments' budget are compiled. Short-term, medium-term, and long-term budget planning is carried out.

University budget administration in 2016 was increased by 8% compared to 2015, in 2017 - by 5% compared to 2016, in 2018 by 10% compared to 2017.

The main University funding resources are funds received: under the state educational order programmes; from paid tuition; from research activities; from other services.

Table Funding amount by year

№	Name	2015	2016	2017	2018
1	Training of personnel with higher and postgraduate education	882 125	853 683	833 870	1 108 845
2	Foreign specialists engaging to the universities of Kazakhstan			6 553	16 881
3	Travel compensation for high school students	34 764	35 455	35 324	39 846
4	Provided scholarship of the university students (by grants)	334 114	422 206	457 320	568 336
5	Research work	141 331	103 724	67 056	92 217
6	Provision of services (academic mobility)		15 510	5 261	3 536
7	Educational programmes development in English.			61 702	7 557
	<b>TOTAL</b>	<b>1 392 334</b>	<b>1 430 579</b>	<b>1 467 087</b>	<b>1 837 220</b>
	Weight, %	<b>53,8</b>	<b>54,3</b>	<b>54,6</b>	<b>57,5</b>
<b>Extrabudgetary resources, including:</b>					
1	Training of personnel with higher and postgraduate education on a fee basis	942 575	888 108	956 664	861 403
2	Research work on the commercial basis	57 056	88 318	86 162	236 164
3	Refresher courses	22 168	33 521	35 475	42 576
4	Provided scholarship of the university students.			56	443
5	Internship			4 735	5 180
6	Hostel accommodation income	56 931	72 284	50 612	87 415
7	Summer term and prerequisites	42 573	44 617	33 186	44 794
8	Provision of services (academic mobility)		173	1 446	173
9	Provision of services MEI	22 132	21 406	18 332	15 637
10	Other income	51 097	53 528	32 255	65 135
	total	<b>1 194 534</b>	<b>1 201 957</b>	<b>1 218 926</b>	<b>1 358 922</b>
	Weight, %	<b>46,2</b>	<b>45,7</b>	<b>45,4</b>	<b>42,5</b>
	<b>TOTAL</b>	<b>2 586 868</b>	<b>2 632 536</b>	<b>2 686 013</b>	<b>3 196 142</b>



Table Material and technical equipment

Name	2015	2016	2017	2018
Fixed assets, total	1 158 891	1 200 783	1 206 873	865 796
including:				
Computer equipment	133 109	133 034	141 503	66 740
Laboratory equipment	713 248	765 419	758 944	485 005
Library fund	186 880	176 520	181 204	178 791
Furniture	121 570	121 726	121 769	69 126
Other OS	4 084	4 084	3 454	96 133

Annually funds are allocated to replenish the library fund. Funds allocated to purchase textbooks in 2017 amounted to 4,684 thousand tenge. Since the 2018-2019 academic year it has been planned to replenish and expand educational, scientific and other library resources with a major focus on replenishment in electronic form.

Acquisition of permanent assets and equipment of educational and scientific laboratories in 2018 has been increased by 52,327 thousand tenge.

The volume of budgetary and extrabudgetary funding depends on the enrollment of students in the context of the state educational grant and on a fee basis and the cost of student training.

Table Key Performance Indicators (KPIs)

№	Name of the indicator	2015	2016	2017	2018	2019-2020
1	Total profit (loss), thousand tenge	40 101	2 827	9 174	74 394	158 000
	<i>Exception</i>					
2	Profitability of activity (total profit / expenses),%	1,57	0,11	0,34	3,10	4,8
	<i>Exception</i>					
3	EBITDA Margin 2015-2020	2,54	0,94	1,22	1,54	3,08
	<i>Exception</i>					

Evaluating the profitability of economic activity, the EEC Commission concludes that the University is at the level of self-sufficiency.

External audit of AUPET is carried out by independent audit companies licensed for this type of activity once a year. An inventory of fixed assets, inventories, intangible assets and settlements is made annually.

In 10 months of 2018, the University income in financial and economic activities amounted to 3052120 thousand tenge, an increase amounted to 17% compared to 2017.

The results of the external audit are posted on the website of the university and in the media.

<https://aues.kz/wp-content/uploads/2018/12/%D0%BE%D1%82%D1%87%D0%B5%D1%82-%D0%90%D0%A3%D0%AD%D0%A1.jpg>

#### **Analytical part**

The EEC Commission made sure that the planning of financial activities of the University is carried out taking into account the balance of income and expenses.

The university effectively uses its financial resources and has great potential for further improvement and their use.

Analyzing the structure of budget expenditures, it is obvious that the greatest part of the costs of total amount is payroll, as the University has a highly qualified teaching staff, including experts from both Kazakhstan and invited experts from near and far abroad. The cost of a high-quality renovation, expansion of the material, scientific, educational and laboratory base increases every year, averaging 10% for the past years.

The EEC Commission confirms that the allocation of financial resources is carried out in accordance with the approved budget, plans developed on the basis of a thorough analysis of areas of activity and structural units, as well as on the basis of limits, norms and standards based on the need and availability of material resources in these areas.

However, it should be noted that the funds allocated for the training of teachers are still insufficient.

### ***Strengths / Best Practices***

Availability of operational and strategic budget planning mechanisms

***EEC conclusions on the criteria: strong 3, satisfactory 3.***

### ***Standard 6.11 “Educational resources and student support systems”***

#### ***The evidence part***

Infrastructure of the departments, educational laboratories and auditoriums of the university complies with the requirements for the educational programmes implementation conditions according to the SES.

A number of computer classes, multimedia classrooms, language laboratories, television audiences, interactive classrooms meet the modern needs of the educational process and research activities of the teaching staff and students.

Technical support for software products is updated annually: Kaspersky Anti-Virus, Eset, Matlab, Antiplagiat, Mathcad Education - University Edition, Lav View and many other educational and scientific programmes.

The Moodle distance learning system (DLS) has been implemented and is currently being upgraded to the latest version. An important direction of the DLS development is creation of virtual laboratories.

AIS “PLATONUS” has a centralized database, which reflects all the real events and processes of the university. For each student and employee, a so-called personal account (web - page) is provided, which allows the university staff to automate its main tasks, for students to see all necessary information. Each student has the opportunity to use his personal virtual office: to register for elective disciplines and to form his individual curriculum. The use of the automated information system AIS “PLATONUS” contributes to the optimal organization of the educational process at the university.

In 2018, the “Documentoolog” electronic document management system was introduced in AUPET. The system is implemented as a cloud version and is designed for 100 users. Introduction of electronic document management has significantly improved the work with documents, with full transition to the electronic format of interaction.

A unified postal and communication environment for university staff interaction based on the AUES.KZ domain has been introduced. It is implemented on the basis of Google cloud services, in support of universities. Corporate mail covers all key employees of AUPET, more than 500 people.

AUPET uses the Antiplagiat package designed to assess the autonomy degree of students’ written work. Together with the student’s work, a teacher receives a detailed report highlighting all the copied parts, indicating the sources of citation and the percentage of the borrowed text. Written work of students are tested through the system

Almaty University of Power Engineering and Telecommunications has an official website located on the web server at <http://www.aues.kz>, freely accessible from both the university's unified information network and the Internet. On this site and on the satellite site <http://info.aues.kz>, all types of information are kept up to date by constantly updating the content in three languages (Russian / Kazakh / English).

The university executive board pays great attention to the observance of occupational safety and health regulations, sanitary and technical measures to improve working conditions and safety in order to bring workplaces in compliance with the requirements of current regulations on labor protection and safety.

All laboratories of the university are certified, provided with fire extinguishing equipment, first-aid kits, personal protective equipment. All teaching staff undergo primary or repeated instructing on safety and verification of knowledge of SR, engineering instructions of electrical installations of consumers and RTS while operating with electrical installations of consumers. Newly hired employees are given primary instruction. There are journals of primary and planned instruction. Students to work in the laboratory are given safety instructions at the beginning of the semester, and the instruction is recorded in a special journal.

To ensure an adequate level of safety and security of the university's tangible assets, computer classes are equipped with a video surveillance system and the existing video monitoring system has been upgraded. A video monitoring system has been implemented in buildings A, B, D, as well as in all the dormitories.

The total area of the Library is 1117 m<sup>2</sup> and there are 275 seats. There are 6 library and information service points for students in the library — a subscription, three specialised reading rooms, the Media Library electronic resources hall and a reading room for extracurricular activities in the hostel No. 1.

The general library fund (LF) is 598531 copies, including 217303 copies in Kazakh, 6147 copies in foreign languages.

“AUPET Bulletin” enjoys special attention and demand, which is published four times a year and is available in all reading rooms.

A significant share of the library fund replenishment is made up of Teaching staff own editions, which are presented both in traditional (paper) and electronic form.

According to Contract No. 13 dated January 5, 2016 on services with the Russian Eurasian National Bank of Belarus (Republican Interuniversity Electronic Library) <http://rmebrk.kz/> library provides access to the use of the integrated information resources of university libraries of the Republic of Kazakhstan.

Thanks to the national subscription, the library provides access to Scopus and Science Direct, Clarivate Analytics.

The library has bilateral agreements on information exchange and cooperation with 4 university libraries.

The University has a well-organized student nutrition system.

Medical examination of employees and TS members is carried out once an academic year, according to the contract dated August 23, 2011, concluded with LLP “Mega Towers Klinikasy”. Medical care for AUPET students is provided by the Central Clinical Hospital. In AUPET, there is a medical center in which 2 health workers work - general practitioner (GP) and a nurse. The medical center is equipped with the necessary equipment and medicines.

### ***Analytical part***

When visually inspecting facilities of the material base, the Commission noted that the university has all the necessary teaching and tangible assets to support the educational process of the educational programmes being accredited.

According to the results of the survey, students are satisfied “completely” with: the existing educational resources of the university - 73.5%; classrooms, auditoriums for large groups - 73.5%, proportionality of classrooms for small groups - 79.4%; available computer classes and scientific laboratories - 64%, availability of computer classes and Internet resources -



75.7%; support of educational materials in the learning process - 72.8%; the level of availability of library resources - 84.6%, the quality of services provided in libraries and reading rooms - 82.4%; the usefulness of the web site of educational institutions in general and faculties in particular - 69.1%; the availability of health services for students - 67.6%, the quality of student health services - 84.6%; rest rooms for students (if any) - 41.9%.

#### ***Strengths / Best Practices***

- Technological support for students and teaching staff complies with educational programmes (for example, online training, modeling, databases, data analysis programmes).
- Educational equipment and software used for the development of EP are similar to those used in the respective industries.

#### ***EEC recommendations***

1. To continue work on the library fund system replenishment with professional literature in the context of educational programmes to be accredited, including in the Kazakh and English languages.
2. To continue work on providing “barrier-free” physical access and psychological and pedagogical support of students with disabilities and persons with disabilities, marking the stairs, arranging ramps, and providing a version for the visually weak sighted on the site.
3. To ensure the smooth operation of WI-FI in campus and hostels.
4. To ensure the operation of the ventilation system in the laboratory “Chemistry”.
5. To continue equipping the classroom and laboratory with educational stands and posters.
6. To improve leisure organization of students, in particular, rest rooms.

***EEC conclusions on the criteria: strong - 3, satisfactory - 4, needs improvement - 2.***

#### ***Standard 6.12 “Public Information”***

##### ***The evidence part***

To inform the public, interested persons, the university provides information through the official website <http://www.aues.kz>, university newspaper publication “AUPET Bulletin”, social media pages and other methods.

Sources of information about the university activities and implementation of educational programmes for interested parties are the headings to “Learners”, “Enrollees”, “Graduates”, on the website of the University.

Doors Open Day is held annually, when the applicants have the opportunity to get detailed information about specialties and programmes offered by the university.

Twice a year the AUPET hosts a job fair. More than 50 enterprises of various forms of ownership take part in the job fair. AUPET students can directly be interviewed by the specialists present at the fair, as well as look through the vacancies that are available at partner companies of the university.

The AUPET printing house operates with a production site on which printing equipment is installed, equipped for publishing teaching materials, books, visual aids and promotional material.

Information on the content of educational programmes is regularly discussed at meetings with employers.

The results of the external financial audit are posted on the website of the university and in the media. <https://aues.kz/br.jpg>.

##### ***Analytical part***

The Commission confirms that AUPET places sufficient information about its activities in a variety of information sources.

Feedback on the site is implemented in the form of the blog of the rector functioning.

Under the heading “Rating of AUPET and educational programmes” incomplete information on the results of external evaluation is presented, in particular, there is no rating of educational programmes of universities of the “Atameken” National Chamber of Entrepreneurs of the Republic of Kazakhstan.

### ***Strengths / Best Practices***

University executive board uses a variety of ways to disseminate information (including the media, web resources, information networks, etc.) to inform the public in general and interested parties.

### ***EEC recommendations***

1. To carry out work on information updating and organizing a regular refreshment of the university website, in terms of EPs, with the indication of extended personalized information about teaching staff, as well as in English.
2. To place complete information and links to external resources on the evaluation procedures results.

***EEC conclusions on the criteria: strong - 3, satisfactory - 9.***

### **Conclusions of External Expert Committee on the criteria: strong - 3, satisfactory - 9.**

#### **(VII) REVIEW OF STRONG POINTS/BEST PRACTICE ON EACH STANDARD**

##### **“Strategic Development and Quality Assurance” Standard**

- The whole activity of the university is aimed at ensuring the country's competitiveness through high-quality training of personnel for the real sector of the economy by improving the quality of education, integration of science, education, and creating favorable conditions for all participants in the educational process.

- Compliance with the mission and strategy of resources aimed at the development of the university.

- The work of the university reflects the sequence of its mission with participation of teachers, students and the administration.

##### **“Leadership and Management” Standard**

- Management processes, including planning and allocation of resources, are carried out in accordance with the strategy of the university development.

- Openness and availability of the university management for all interested parties

##### **“Information Management and Reporting” Standard**

- Functioning of system of collecting, analyzing and managing information through the use of modern information and communication technologies and software

- Effective determining the order and protection of information at the level of educational programme (EP) allows to make decisions based on facts, identify and predict risks.

##### **“Development and Approval of Educational Programmes” Standard 6.4**

- Procedures of the development of EP (educational programme) and their approval at the institutional level are determined and documented.

- Compliance of the developed EP with specified objectives, including the expected results.

- Annual review of the content of curricula and educational programmes with taking into account changes at the job market, the requirements of employers and the social demand of society.

##### **“Continuous Monitoring and Repeating Assessment of Educational Programmes”**

##### **Standard**

- Openness, information availability for monitoring at different levels of management of educational processes and university management.

- Extensive automation by means of modern software for processing information about students' learning performance.

##### **“Student-Centered Training, Teaching and Assessment of Academic Progress” Standard**

- Diversified organization and forms of realization of student life.

- The University implements the principle of continuous monitoring of mood and wishes of students on the issues of quality, organization and implementation of EP.
- Support of students' educational and social initiatives, support of the autonomy of students by the AUPET management and the teaching staff.

“Students” Standard

- Strong recruitment policy
- Active work to provide students with practice, assistance in graduates' employment.
- Stimulating students to self-education and development outside the main programme.
- AUPET's support mechanism of gifted students.

“Teaching Staff” Standard

- The University has an objective and transparent personnel policy, including recruitment, professional growth and staff development, ensuring the professional competence of the entire teaching staff.
- The University demonstrated the compliance of the staff potential of the teaching personnel with the development strategy and the specifics of the EP.
- Effective rating system for evaluating all aspects of personnel activities
- The university invites to teach practical workers from relevant fields

“Scientific Research Work” Standard

- Attracting foreign teachers and scientists from leading universities and leading research centers for joint development of priority research areas in the field of renewable energy, energy saving, IT-technologies and robotics.
- Thoroughly elaborated method of determining allowances (taking into account the KPI rating) for salaries of employees of the AUPET JSC.

“Finance” Standard

- Availability of operational and strategic budget planning mechanisms.

“Educational resources and student support systems” Standard

- Technological support of students and teaching staff complies with educational programmes (for example, online training, modeling, databases, data analysis programmes).
- Educational equipment and software used for the mastering of EP are similar to those used in the respective industries.

“Public Information” Standard

- University management uses various ways to distribute information (including mass media, web resources, other information networks) to inform the general public and interested parties.

## **VIII REVIEW OF RECOMMENDATIONS TO IMPROVE QUALITY OF EACH STANDARD**

“Leadership and Management” Standard

1. To improve the activity of the responsible persons of the structural departments for business processes based on monitoring of the effectiveness of activities.

1. Constantly analyze and introduce innovative proposals.

“Information Management and Reporting” Standard

1. To pay constant attention to updating information on EP on the University website and bringing it to students and all interested parties.
2. To conduct an annual questioning of graduates on the problems and opportunities of employment, to constantly monitor employers' feedback on university graduates.

“Development and Approval of Educational Programmes” Standard

1. To continue the work on the external examination of the EP content.
2. To continue work on the development and implementation of joint educational programmes with foreign educational organizations.

#### “Continuous Monitoring and Repeated Assessment of Educational Programmes” Standard

1. To ensure the publication of results of the revision of the content and structure of educational programmes within the market changes, employers’ requirements, and social demands of society on a permanent basis.
2. To continue the work on training managers on educational management programmes.

#### “Student-Centered Training, Teaching and Educational Assessment” Standard

1. To increase the quantity and quality of developed researched by teaching staff in the field of teaching methods of academic disciplines of EP accredited within student-centered training.
2. Publish criteria and methods of assessing the EP quality.

#### “Students” Standards

1. To expand the range of programmes of internal and external academic mobility of students, to assist in obtaining external grants for training.
2. To continue work on expanding the spectrum of multilingual EPs.
3. The career center and graduating departments should continue to work on the employment and career growth of graduates, provide feedback to graduates and inform about the implementation of youth practice through the employment center.
4. To work with the graduating course about their active participation in the activity of the University Alumni Association.

#### “Teaching Staff” Standard

1. To focus on increasing the number of methodical publications on the subjects taught, to intensify work on publication of textbooks recommended by the educational-methodical association of the Republican educational-methodical council on the specialty
2. To expand the use of information and communication technologies in the educational process (on-line training, e-portfolio, large-scale open online courses etc.) by teaching staff
3. To continue the work and stimulate the participation of teachers in academic mobility programmes, joint scientific researches with foreign partners and in international projects.

#### “Scientific Research Work” Standard

To continue work on attracting students to scientific research activity within the framework of grants of the Ministry of Education and Science of the Republic of Kazakhstan, contractual topics.

#### “Educational Resources and Student Support Systems” Standard

1. To continue work on the system replenishment of the library fund with professional literature in the context of educational accredited programmes including in the Kazakh and English languages.
2. To continue work on providing “barrier-free” physical access and psychological and pedagogical support of students with disabilities and incapacitated people, to mark the stairs, to arranging ramps, and provide a version for the visually impaired on the website.
3. To ensure the continuous operation of WI-FI on the territory of the university and the hostel.
4. To ensure the functioning of ventilation system in “Chemistry” laboratory.
5. To continue equipping the classrooms and the laboratories with educational displays and posters.
6. To improve the leisure of students, in particular, rest rooms.

#### “Public Information” Standard

1. To carry out work on a regular updating of information on the university website, in terms of realized EPs, with extended personalized information about teaching staff, including in English.
2. To publish complete information and links to external resources on the results of external evaluation procedures.



**Conclusion of the assessment committee**  
**Non-commercial JSC “Almaty University of Power Engineering and Telecommunications”**

№ p\p	№ p\p	Assessment criteria	Position of the organization of education			
			Strong	Satisfactory	Suggests improvement	Unsatisfactory
<b>“Strategic Development and Quality Assurance” Standard</b>						
1	1.	The university should develop a unique strategy based on the analysis of external and internal factors with the wide involvement of various stakeholders.	+			
2	2.	The university should demonstrate the orientation of the mission, vision and strategy to meet the needs of the state, society, real economy sectors, potential employers, students and other stakeholders.	+			
3	3.	The university should demonstrate transparency of the processes of formation, monitoring and regular review of the mission, vision, strategy and quality assurance policy.		+		
4	4.	The university must have a published quality assurance policy, mission and strategy.	+			
5	5.	The university works out documents for specific areas of activity and processes (plans, programmes, regulations, etc.) that specify the quality assurance policy.	+			
6	6.	Quality assurance policy should reflect the link between research, teaching and training.	+			
7	7.	The university should demonstrate the development of a quality assurance culture.		+		
<b>Total according to standard</b>			<b>5</b>	<b>2</b>	<b>0</b>	<b>0</b>
<b>“Leadership and Management” Standard</b>						
8	1.	The university carries out management processes, including planning and allocation of resources in accordance with the strategy.		+		
9	2.	The university should demonstrate the successful functioning and improvement of the internal quality assurance system.	+			
10	3.	The university should demonstrate risk management analysis.		+		
11	4.	The university should demonstrate analysis of effectiveness of changes		+		
12	5.	The university should demonstrate an analysis of revealed inconsistencies, the implementation of developed corrective and preventive actions.		+		
13	6.	The university should demonstrate a precise definition of those responsible for business processes, an unambiguous		+		

		distribution of job responsibilities of staff, distinction of functions of unifies bodies.				
14	7.	An important factor is to ensure the management of the educational process through the management of educational programmes, including an assessment of their effectiveness	+			
15	8.	The university demonstrates the development of annual activity plans, including teaching staff, based on the development strategy.	+			
16	9.	Commitment to quality assurance should relate to any activity performed by contractors and partners (outsourcing), including the implementation of joint / two-diploma education and academic mobility.		+		
17	10.	The university must provide evidence of the transparency of the university management system.	+			
18	11.	The university should ensure the participation of students and teaching staff in the work of collegial management bodies.	+			
19	12.	The university should demonstrate evidence of openness and accessibility of managers and administration for students, teaching staff, parents and other stakeholders.	+			
20	13.	The university should demonstrate the management of innovations, including the analysis and provision of innovative proposals.		+		
21	14.	The university should aspire after to participation in international, national and regional professional alliances, associations, etc.	+			
22	15.	The university should provide leadership training (rector, advisors, vice-rectors, deans, heads of departments, heads of chairs) according educational management programmes.		+		
23	16.	The university should strive to ensure that the progress made since the last external quality assurance procedure was taken into account in preparing for the next procedure.	+			
<b>Total according to standard</b>			<b>8</b>	<b>8</b>	<b>0</b>	<b>0</b>
<b>“Information Management and Reporting” Standard</b>						
24	1.	The university should ensure the functioning of the system of collecting, analyzing and managing information through the use of modern information and communication technologies and software.	+			
25	2.	The university should demonstrate the systematic use of processed, adequate information to improve the internal quality assurance system.		+		
26	3.	The university should have a system of regular reporting at all levels of the organizational structure, including the assessment of the effectiveness and efficiency of the departments, EPs, scientific researches and their interaction.	+			
27	4.	The university should establish the frequency, forms and methods of assessment of EP, the activities of collegial bodies and structural divisions, senior management, the implementation of research projects.		+		
28	5.	The university must demonstrate determining the order and ensure the protection of information, including responsible people for the accuracy and timeliness of information analysis and data provision.		+		
29	6.	An important factor is the involvement of students, employees and teaching staff into the process of collecting and analyzing		+		

		information, as well as making decisions based on them.				
30	7.	The university should demonstrate the communication mechanism with students, employees and other stakeholders, including conflict resolution mechanisms.		+		
31	8.	The university should provide a measure of the degree of satisfaction of the needs of teachers, staff and students, and demonstrate evidence to eliminate the detected deficiencies.		+		
32	9.	The university should evaluate the effectiveness and efficiency of its activity, including the realization of EP.	+			
		Information collected and analyzed by the university should take into account:				
33	10.	key performance indicators;	+			
34	11.	the dynamics of the enrolled students in the context of forms and types;	+			
35	12.	Performance level, students' achievement and expulsion;	+			
36	13.	students' satisfaction with the implementation of the EP and the quality of education at the university;		+		
37	14.	availability of educational resources and support systems for students;		+		
38	15.	Employment and career growth of the graduates		+		
39	16.	Students, employees and teaching staff must give documentary evidence on their consent to the processing of personal data.	+			
40	17.	The university should contribute to the provision of all necessary information in relevant fields of science.	+			
<b>Total according to standard</b>			<b>8</b>	<b>9</b>	<b>0</b>	<b>0</b>
<b>“Development and Approval of Educational Programmes” Standard</b>						
41	1.	The university should define and record the procedures of development of EP and their approval at the institutional level	+			
42	2.	The university should demonstrate the compliance of the developed EPs with the established goals, including the expected training results.	+			
43	3.	The university should demonstrate the presence of developed models of EP graduate, describing training results and personal qualities.	+			
44	4.	The university should demonstrate an external examination of the EP.	+			
45	5.	Qualifications obtained at the end of the EP should be clearly defined, explained and correspond to a certain level of the national qualifications system.	+			
46	6.	The university should determine the influence of disciplines and professional practices on the formation of training results.	+			
47	7.	Preparing students for the professional certification is an important factor.	+			
48	8.	The university must provide evidence of the participation of students, teaching staff and other stakeholders in the development of EP and ensuring their quality.		+		
49	9.	Labour content of EP should be clearly defined in Kazakhstani academic credits and ECTS	+			



50	10.	The university should provide academic disciplines and training results according to the level of education (bachelor's programme, master's degree programme, PhD programme).		+		
51	11.	The EP should provide various activities that correspond to the training results.		+		
52	12.	The presence of joint EPs with foreign educational organizations is an important factor		+		
<b>Total according to standard</b>			<b>8</b>	<b>4</b>	<b>0</b>	<b>0</b>
<b>“Continuous Monitoring and Repeating Assessment of Educational Programmes” Standard</b>						
53	1.	The university should monitor and repeatedly evaluate the EP to achieve the goal and meet the needs of students and society. The results of these processes are aimed at continuous improvement of the EP.	+			
		<i>Monitoring and repeated assessment of EP should consider:</i>				
54	2.	the programme content in the light of the latest achievements of science in a particular discipline to ensure the relevance of the taught discipline;	+			
55	3.	changes in the needs of society and the professional environment;	+			
56	4.	workload, performance and graduation of students;	+			
57	5.	the effectiveness of assessment procedures of students;		+		
58	6.	expectations, needs and satisfaction of students with training according to EP;		+		
59	7.	educational environment and support services and their compliance with the objectives of the EP.	+			
60	8.	The university must provide evidence of the participation of students, employers and other stakeholders in reconsideration of EP.		+		
61	9.	All interested parties should be informed of any planned or taken actions concerning the EP. All changes of EP should be published.		+		
62	10.	The university should review the content and structure of the EP, taking into account changes in the labor market, the requirements of employers and the social needs of society.	+			
<b>Total according to standard</b>			<b>6</b>	<b>4</b>	<b>0</b>	<b>0</b>
<b>“Student-centered Training, Teaching and Assessment of Academic Progress” Standard</b>						
63	1.	The university should ensure respect and attention to various groups of students and their needs and provide them with flexible learning paths.	+			
64	2.	The university should ensure the use of various forms and methods of teaching and training		+		
65	3.	The presence of its own research in the field of teaching disciplines is an important factor.		+		
66	4.	The university should demonstrate the feedback system on the use of various teaching methods and the evaluation of learning outcomes.		+		
67	5.	The university must demonstrate support for the autonomy of students, with simultaneous guidance and assistance got from		+		

		the teacher.				
68	6.	The University should react on the complaints of the students		+		
69	7.	The university should ensure consistency, transparency and objectivity of the assessing learning outcomes, including the appeal.	+			
70	8.	The university must ensure that the procedures for the assessment of students' learning results correspond to the planned learning outcomes and the objectives of the programme. Assessment criteria and methods should be published in advance.		+		
71	9.	The university should define the mechanisms of mastering by each graduate the training results and completeness of their formation is to be endured.		+		
72	10.	The teaching staff should have modern assessment methods of learning results and regularly improve their skills in this area.		+		
<b>Total according to standard</b>			<b>2</b>	<b>8</b>	<b>0</b>	<b>0</b>
<b>“Students” Standard</b>						
73	1.	The university should demonstrate the policy of forming a contingent of students from admission to graduation and ensure the transparency of its procedures. The procedures governing the life cycle of students (from admission to graduation) must be defined, approved, published.		+		
74	2.	The university should have special adaptation and support programmes for new and foreign students.		+		
75	3.	The university should function according to the Lisbon Recognition Convention.		+		
76	4.	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 Information Recognition Centers ENIC / NARIC in order to ensure comparable recognition of qualifications.		+		
77	5.	The university should demonstrate the presence 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.	+			
78	6.	The university should provide an opportunity for external and internal mobility of students and assist them in obtaining external educational grants.		+		
79	7.	The university should make the maximum amount of efforts to provide students with places of practice, assist with the employment of graduates, and keep in touch with them.	+			
80	8.	The university must provide graduates with documents confirming their qualifications, including the achieved learning outcomes, as well as the context, content and status of the received education and evidence of their graduation.		+		
81	9.	Monitoring of the employment and professional activity of the graduates is an important factor.		+		
82	10.	The university should actively encourage students to self-education and development outside the main programme (extracurricular activities).	+			
83	11.	Functioning alumni association is an important factor.	+			

84	12.	An important factor is support mechanism of gifted students.	+			
<b>Total according to standard</b>			<b>5</b>	<b>7</b>	<b>0</b>	<b>0</b>
<b>“Teaching Staff” Standard</b>						
85	1.	The university should have an objective and transparent personnel policy, including recruitment, professional growth and staff development, ensuring the professional competence of the entire personnel	+			
86	2.	The university should demonstrate the compliance of the staff potential of teachers with the development strategy of the university and the specifics of the EP.	+			
87	3.	The university must demonstrate an awareness of responsibility for its employees and ensuring favorable working conditions for them.	+			
88	4.	The university should demonstrate a change of teacher’s role because of transition to student-centered education.		+		
89	5.	The university should determine the contribution of faculty to the implementation of the development strategy of the university and other strategic documents.	+			
90	6.	The university should provide opportunities for career growth and professional development of teaching staff.	+			
91	7.	The university should involve practical workers from relevant fields into the teaching.	+			
92	8.	The university should provide targeted actions for the development of young teachers.	+			
93	9.	The university should demonstrate the motivation of professional and personal development of teachers, including the stimulation of both contributions to the integration of research and education, and the use of innovative teaching methods.	+			
94	10.	An important factor is the active use by the instructors the information and communication technologies in the educational process (for example, on-line training, e-portfolio, large-scale open online courses etc).		+		
95	11.	Development of academic mobility, inviting the best foreign and national lecturers is an important factor.		+		
96	12.	An important factor is the involvement of teaching staff in society (the role of teaching staff in the education system, in the development of science and the region, creating a cultural environment, participation in exhibitions, creative competitions, charity programmes, etc.)		+		
<b>Total according to standard</b>			<b>8</b>	<b>4</b>	<b>0</b>	<b>0</b>
<b>“Scientific Research Work” Standard</b>						
97	1.	The university should demonstrate the compliance of priorities of the research work with the national policy in education, science and innovation development.	+			
98	2.	Scientific research activity of the university should correspond to the mission and strategy of the higher educational establishment.	+			
99	3.	The university should plan and monitor the effectiveness of scientific research work.		+		
100	4.	The university should attract the students to the scientific research work.		+		

101	5.	The university must assist in presenting the scientific positions of researchers, teaching staff and students at various research sites, including the publication of scientific results.	+			
102	6.	The university should promote the implementation of research results, including consulting and commercialization.	+			
103	7.	The university should promote the recognition of the results of research work, including the registration of research projects at authorized bodies, registration of patents and copyright certificates.		+		
104	8.	The university should strive to conduct joint researches with foreign universities.		+		
105	9.	The university should strive to diversify the forms of financing scientific research activity.	+			
106	10.	The university should stimulate research activities, using various forms of motivation.	+			
<b>Total according to standard</b>			<b>6</b>	<b>4</b>	<b>0</b>	<b>0</b>
<b>“Finance” Standard</b>						
107	1.	The university should form development scenarios agreed with the development strategy, taking into account the risk assessment.	+			
108	2.	The university must demonstrate the operational and strategic planning of its budget.	+			
109	3.	The university should have a formalized financial management policy, including financial statements.		+		
110	4.	The university should have an internal audit system.		+		
111	5.	The university must demonstrate an external independent audit.	+			
112	6.	The university should have a mechanism of assessing the adequacy of financial support of various types of university activities, including development strategy of the university, the development of EP, research projects.		+		
<b>Total according to standard</b>			<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>
<b>“Educational Resources and Student Support Systems” Standard</b>						
113	1.	The university must demonstrate the sufficiency of material and technical resources and infrastructure.		+		
114	2.	The university should support various groups of students including the informing and counseling.		+		
		The university must demonstrate the compliance of information resources with the specifics of EP, including compliance in the following areas:				
115	3.	technological support of students and teaching staff in accordance with educational programmes (for example, online training, modeling, databases, data analysis programmes);	+			
116	4.	library resources, including the fund of educational, methodical and scientific literature on general educational, basic and major disciplines on paper and electronic media, periodicals, access to scientific databases;		+		
117	5.	examination of the results of scientific research work, final projects, dissertations on plagiarism;	+			
118	6.	WI-FI functioning on the territory of the university			+	
119	7.	The university’s training equipment and software used for the development of EP should be similar to those used in their related industries.	+			



120	8.	The university should correspond to the safety requirements during the educational process.		+		
121	9.	The university should take into account the needs of various groups of students (adults, employees, foreign students, and disabled students).			+	
<b>Total according to standard</b>			<b>3</b>	<b>4</b>	<b>2</b>	<b>0</b>
<b>“Public Information” Standard</b>						
		The information published by the university should be accurate, objective, up-to-date and should include:				
122	1.	implemented programmes with expected training results;	+			
123	2.	information about the possibility of awarding qualifications at the end of the EP;		+		
124	3.	Information about teaching, training and assessment procedures;		+		
125	4.	information about the admission scores and training opportunities provided to students;		+		
126	5.	information about employment opportunity of graduates.		+		
127	6.	University management should use various ways to disseminate information (including the media, web resources, other information networks) to inform the general public and stakeholders.	+			
128	7.	Public awareness should include support and clarification of national development programmes of the country and the system of higher and postgraduate education.		+		
129	8.	The university must publish audited financial statements on its own web resource.	+			
130	9.	The university should provide information on the web resource describing the university as a whole and in the context of the EP.		+		
131	10.	Availability of adequate and objective information about the faculty, in the context of personalities is an important factor.		+		
132	11.	An important factor is presenting information about cooperation and collaboration with partners, including scientific/consulting organizations, business partners, social partners and educational organizations.		+		
133	12.	The university should post information and links to external resources on the results of external assessment procedures.		+		
<b>Total according to standard</b>			<b>3</b>	<b>9</b>	<b>0</b>	<b>0</b>
<b>Overall</b>			<b>65</b>	<b>66</b>	<b>2</b>	<b>0</b>