



«АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТІҢ
ТӘУЕЛСІЗ АГЕНТТІГІ» КЕМ

НУ «НЕЗАВИСИМОЕ АГЕНТСТВО
АККРЕДИТАЦИИ И РЕЙТИНГА»

INDEPENDENT AGENCY FOR
ACCREDITATION AND RATING

REPORT

**on the results of the work of the external expert evaluation committee
for compliance with the requirements of the standards of specialised accreditation of
educational programmes "5B073100 Life Safety and Environmental Protection",
"6M073100 Life Safety and Environmental Protection", "5B071700 Heat Power
Engineering", "6M071700 Heat Power Engineering" and "6D071700 Heat Power
Engineering"**

Non-profit JSC " Almaty University of Power Engineering and Telecommunications "

March 4 to 7, 2019

Almaty city

7 March 2019

INDEPENDENT AGENCY ACCREDITATION AND RATING

External expert committee

*Addressed
to the Accreditation Council
IAAR*



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I LIST OF SYMBOLS AND ABBREVIATIONS

RK - Republic of Kazakhstan

MES RK - Ministry of Education and Science of the Republic of Kazakhstan

AC - Accreditation Board

BA - undergraduate
MA - magistracy
PhD - doctorate
EEC - external expert commission
GOSO - state mandatory educational standards
GPRO - State Programme for the Development of Education
NAAR - Independent Accreditation and Rating Agency
NPA - normative legal acts
NQF - national qualifications framework
NSC - national qualifications system
RW - research work
NIRS - student research work
NIRM - undergraduate research work
OP - educational programme
Faculty - faculty
QMS - quality management system
OO - Educational Organisation
OOD - general education
DB - basic disciplines
PD - major disciplines
SRO - independent work of students
SRTP - independent work of students under the guidance of a teacher
CPCM - independent work of undergraduates under the guidance of a teacher
SAUD - external evaluation of educational achievements
IGA - final state control
AIC - agro-industrial complex
NRI - Research Institute
KVN - club cheerful and resourceful
KDM - Youth Committee
FOP - Faculty of Social Professions
SMI - mass media
AO - joint stock company
TUP - Model Curriculum
OHR - educational support staff
UMK - educational complex
UMKD - educational complex of the discipline
MA PK - Ministry of Agriculture of the Republic of Kazakhstan –
RUP - working curriculum
QED - catalog of elective disciplines
IEP - Individual Curriculum
UMKS - educational complex of specialty
UMC - educational and methodical council
MOS - modular educational programme
UE - curriculum
RK - boundary control
BRS - point-rating system
IR - final control
TC - current control
IT –information technologies
IS - information systems
AIS - automated information system
IT - information technology

SWOT –Strengths Weakness Opportunities Threats
ISO, ISO - The International Organization for Standardization
LLP - limited liability partnership
NK - national company
ECTS - European Credit Transfer System
QS - Quacquarelli Symonds
EEC - Eurasian Economic Community
UNT - Unified National Testing
KTA - comprehensive testing of applicants
MPD - personnel management and document management
GK RK - Civil Code of the Republic of Kazakhstan
DAV - Academic Affairs Department
DVR - Department of Educational Work
BC and AIA - life safety and environmental protection
ITETT - Institute of Heat and Power Engineering
CIB - computer and infocommunication security
NAO AUPET - Non-Profit Joint-Stock Company Almaty University of Power Engineering and Telecommunications
PTE - industrial heat power engineering
TEU - thermal power plants
TNIL - thematic research laboratories
TUPI - typical curriculum
Center for Scientific Research and Technology Development
DIT - Department of Information Technology

II INTRODUCTION

In accordance with the order No. 20-19-OD dated January 26, 2019, the Independent Agency for Accreditation and Rating from March 4 to March 7, 2019 at the University, an external expert commission assessed the compliance of the university's activities with the requirements of the specialised IAAR standards.

The report of the external expert commission (EEC) contains an assessment of the compliance of the University's activities within the framework of specialised accreditation with the criteria of the IAAR, recommendations of the EEC to further improve the parameters of educational programmes and profile parameters of educational programmes.

The composition of the EEC:

The chairman is Shunkeev Kuanyshbek Shunkeevich, doctor of physical and mathematical sciences, professor, first vice rector of Aktobe Regional State University named after K. Zhubanov (Aktobe).

The foreign expert is Alexander Luschik, Doctor of Physics and Mathematics, Professor, Head of the Laboratory of Ion Crystal Physics, Institute of Physics, University of Tartu (Tartu, Estonia).

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).

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).

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

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

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

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

Student - Imanfazy Ermyrat Sakhatuly, 4th year student of the specialty "5B075200 Engineering Systems and Networks" of the Kazakh Leading Academy of Architecture and Construction, member of the Alliance of Students of Kazakhstan (Almaty).

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

Observer - Niyazova Guliyash Balkenovna, project manager for institutional and specialised accreditation of universities (Astana).

III REPRESENTATION OF EDUCATION ORGANISATION

Educational establishment "Almaty University of Power Engineering and Telecommunications" (hereinafter - the University) was established in 1975 in Almaty.

The structure of the University includes 4 institutes, 19 departments, 4 laboratory buildings, 4 dormitories, sports facilities, as part of the existing housing stock the work of the following departments is implemented: 82 laboratories, 3 business incubators, 39 computer classes, 6 television lecture laboratories, AUPET College, office commercialization, Institute for Advanced Studies, School of Robotics DAU KEY, "Entel" Youth Center, Cisco Regional Academy, D-link Training Center, Kaspersky Lab, Oracle Academy, Microsoft Regional Academy.

The University provides training for specialists in 12 areas of Bachelor, 8 Master's specialties and 3 Doctorate areas.

The contingent of students in cluster 4 on February 1, 2019 amounted to 529 people. There are:

The number of undergraduate students is 446 (of which 162 are on the grant).
Graduate student's contingent - 50 (of which on the grant - 41).

The contingent of doctoral students - 33 people, all of them is trained in state grant.

The educational process for the cluster serves the faculty in the amount of 40 people, including 23 people with a scientific degree.

Degree on cluster 4 of the university is - 62.4%.

14 teachers of the faculty of the University have won the republican contest "The Best Teacher".

The university carries out educational activities on the basis of the State license of the Ministry of Education and Science of the Republic of Kazakhstan series AB No. 0137445 dated August 4, 2010 to engage in educational activities with unlimited validity period.

Evaluation of the University's mission is carried out by comparing the results of work with goals and is used as a feedback mechanism for making management decisions and analyzing the functioning of the quality management system (hereinafter referred to as QMS) within the received certificate for compliance with the requirements of ISO 9001-2015 international standards. The performance of the University's QMS is confirmed by the university's numerous participation in accreditation in various rating agencies and occupying fairly high positions - in 2018, 6th place out of 15 in the IAARA agency, 7th place out of 10 in the IAAR agency, 4th place out of 10 in the PPA agency.

IV DESCRIPTION OF THE PREVIOUS ACCREDITATION PROCEDURE

The previous accreditation was conducted by IQAA-IQAA from 2 to 7 March 2014 for a period of 5 years (certificate of institutional accreditation IA No. 0035 dated 04.04.2014)

The composition of the previous EEC:

1. Szegeđa Tamara Alexandrovna head of the group, Candidate of Technical Sciences, docent, head of Department of Industrial Energy named after D.Serikbayev East Kazakhstan State Technical University;

2. Dieter Doyublyayn international expert doctor-engineer, professor of the Institute of Biogas University of Applied Sciences Munich;

3. Naukenova Aigul Sagindykovna expert Ph.D., docent, head of Department of life safety and environmental protection of the SKSU named after M.O. Auezov;

4. Galiev Ramil Aytbaevich expert, representative of employers' deputy. Chief Engineer of Almaty Power Plants JSC;

5. Orkenbayev Galym Khalykuly, expert, student representative, 4th year student of the specialty "Electric Power Engineering" of the Kazakh National Agrarian University.

Recommendations for the improvement and development of the educational programme **5B071700 - Heat Power Engineering**. *According to standard 2 "Content of the educational programme": Expand the scope of cooperation with enterprises through cooperation agreements with the provision of rights for employers to participate in the formation of modular educational programmes, as well as the rights to participate in the educational process in the framework of academic disciplines;*

A cooperation agreement was concluded with AIES JSC in the field of education - Representatives of JSC AIES (JSC of Almaty Power Network) participate in the educational process, lead production practice, participate in the intermediate and final certification, coordinate educational programmes.

An agreement on practice bases was concluded with Almaty heat communal power engineering LLP - Representatives of AIES JSC participate in the educational process, manage production practice, and coordinate educational programmes.

As part of the work of the board of trustees of AUPET, a work plan has been developed for the development sector of educational programmes of the graduates' board of trustees - a work plan for the development sector of educational programmes of the graduates' board of trustees;

The developed educational programme 5B071700 - Heat Power Engineering for 2016 took into account the requirements of the new Model Curriculum (Appendix 114 to the order of the Minister of Education and Science of the Republic of Kazakhstan No. 425 of July 5, 2016) and the Model Programmes 2016 - by the Developer of the Model Curriculum and Model Programmes in the specialty 5B071700 - "Heat Power Engineering" as part of the performers are the departments of heat power plants and industrial heat power engineering of AUPET.

An agreement has been reached with JSC "AIES" to conduct industrial training at the Training Plant JSC "AIES" - A memorandum of cooperation with JSC "AIES" and a partnership agreement on the training of specialists in the dual system are being prepared. There is a development of a modular curriculum for the introduction of the dual form of education ("pilot" project).

The official site of AUPET contains complete, open and accessible information on all aspects of the educational process under the programme 5B071700 - Heat Power Engineering, relating to both students and the faculty.

According to the standard 3 "Students": To the university to improve informing students about the opportunities and programmes of academic mobility, as well as to consider the possibility of creating additional conditions for students in the direction of language training.

Students of the specialty 5B071700 - Heat Power Engineering participate in international scientific conferences, contests, and competitions. (Student Timofeev A.I.G.TES-12-2 with the work "Comparative Analysis of Heat Recirculation Schemes in the UIP and K BTs System" First place in the institute tour, and then received a 1st degree Diploma for the first place at the Republican competition NIRS 2016. Student Timofeev A.I. was awarded the AUPET money prize. In 2016, at the Republican subject Olympiad "Heat Power Engineering", the team of the Faculty of Heat Power Engineering (students Begimbetov J., Akysheva B., Kargen B.) took a first place in the team and individual competition and were awarded the AUPET cash prize.)

Recommendations for the improvement and development of the educational programme 6M071700 - Heat Power Engineering: According to standard 4 "Educational results, efficiency": The University is recommended to improve control over the process of compliance and improvement of the developed normative-methodical documentation of the educational programme.

Revision of the educational programme, curriculum of the 5B071700 specialty – Heat Power Engineering is carried out annually in accordance with the incoming changes regulating the planning of the educational process at the University of Documents of the Ministry of Education and Science of the Republic of Kazakhstan, and according to employers' recommendations. .2012 №1080 as amended by the Government of the Republic of Kazakhstan dated May 13, 2016 No. 292), the National Framework of qualifications (Approved. Protocol of 16 March 2016 the Republican tripartite commission on social partnership and regulation of social and labor relations). A modular curriculum has been developed for 2016.

Recommendations for the improvement and development of the educational programme 6D071700 - Heat Power Engineering: According to standard 1 "Objectives of the educational programme": The goal of a university should be to achieve a higher ranking among the world's best Universities.

According to standard 3 "Students": It is necessary to increase the ongoing scientific research, corresponding to world standards.

Students' research and professional skills are developed through joint research activities with faculty members. In 2016, 10 scientific articles were published with students of the specialty 5B071700 - Heat Power Engineering.

According to standard 6 "Material-technical base and information resources": Upgrade educational equipment to modern in all classrooms, preferably automated, based on electronics. It is necessary to update visual diagrams on laboratory stands.

- AUPET has an impressive number of educational laboratories for the practical development of basic knowledge of the future profession of power engineering, the potential for the development of scientific competencies of power engineering specialists in unique laboratories created by the University.

- AUPET has a sufficient library fund of educational, methodical and scientific literature in Russian and state languages.

- The library has the opportunity to use the resources of information scientific foreign funds.

Recommendations for the improvement and development of the educational programme "5B073100 - Life Safety and Environmental Protection". According to standard 1 "Objectives of the educational programme" to ensure the quality of the implementation of the educational programme, systematize the external academic mobility of teachers.

Teachers regularly work to improve their skills, including with the departure from Almaty: Environmental problems of thermal power plant (Abikenova A.A.); Introduction of the University course "Climate Change and the Green Economy" (A. Abikenova); The introduction of the University course "Climate change and the" green "economy" (A. Abisheva); Environmental problems of thermal power plant (Demeuova AA, Zhandauletova F. R., Sanatova TS) and others.

According to standard 2 "Content of the educational programme" Involve employers in the preparation of QED.

The educational programmes were amended in accordance with the requirements of the new Model Curriculum (Appendix 114 to the order of the Minister of Education and Science of the Republic of Kazakhstan No. 425 of July 5, 2016) and Model Programmes 2016. - New modular curricula for the specialty 5B073100 - "Life Safety and environmental protection "for the 2016-2017 school years.

According to standard 3 "Students" open a special group for teaching bachelors in a foreign language, which will advance the process of academic mobility abroad and will allow you to work in joint ventures in the future.

Work is underway on career guidance to increase the number of students in groups. With a sufficient recruitment of students, special groups for teaching bachelors in foreign languages will be created.

According to standard 4 "Educational results, efficiency" To monitor the quality of educational services, systematize work with employers in obtaining feedback on graduates of this specialty.

Negotiations were held with graduates and employers in order to systematize work on obtaining feedback on graduates.

According to standard 5 "Teaching staff" increase the number of applications for target doctoral studies in order to lower the average age of graduated teaching staff.

In order to lower the average age of graduated faculty members, the number of applications for targeted doctoral studies has been increased. Extra places are allocated.

According to standard 6 "Material-technical base and information resources" increase the level of technical equipment of research and educational laboratories.

According to the annual modernization plan, the material and technical base of the department is being strengthened and a new generation of instruments is being acquired.

Recommendations for the improvement and development of the educational programme "6M073100 - Life Safety and Environmental Protection". According to standard 1 "Objectives of the educational programme" to increase the external academic mobility of teachers. Raise the level of knowledge of a foreign language among the faculty of the department.

Teachers regularly work to improve their skills, including with the departure from Almaty: Environmental problems of thermal power plant (Abikenova A.A.); Introduction of the university course "Climate Change and the Green Economy" (A. Abikenova); The introduction of the University course "Climate change and the" green "economy" (A. Abisheva); Environmental problems of thermal power plant (Demeuova AA, Zhandauletova F. R., Sanatova TS) and others.

According to the standard 3 "Undergraduates".

1. More extensively involve undergraduates in career guidance among graduates of the specialty.

Work is underway with the involvement of undergraduates in career guidance among graduates.

2. To consider the issue of opening a special group for training undergraduates in a foreign language, which will advance the process of academic mobility abroad and will allow you to work in joint ventures in the future.

With a sufficient recruitment of students of the special group for the training of masters in a foreign language will be created.

According to standard 6 "Material and technical base and information resources"

1. To increase the level of technical equipment of the laboratory base.

According to the annual modernization plan, the material and technical base of the department is being strengthened and a new generation of instruments is being acquired.

2. To increase the volume of funds for the material and technical support of the programme and to increase the number and area of production facilities for laboratory and research work.

According to the plan of modernization of 2018 it is planned to purchase the ERA software package for training in environmental design and regulation.

It is important to note that most of the positions are fully implemented by the university, some recommendations are at the implementation stage, some are reflected in the external expert committee that worked from March 4 to March 7, 2019, and that is, they are similar to what was announced in 2014, therefore, they are partially implemented.

V DESCRIPTION OF THE EEC VISIT

The visit of the external expert commission to the University was organized in accordance with the programme agreed in advance with the Chairman of the EEC from 4.03.2019 to 7.03.2019.

In order to coordinate the work of the EEC on 03/04/2019, 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 evaluation of university activities, members of the EEC used such methods as visual inspection, observation, interviewing employees of various departments, teachers, students, graduates and employers, survey of faculty members, students.

The meetings of the EEC with the target groups were held in accordance with the updated programme of the visit, in compliance with the established time period. On the part of the University team, the presence of all persons indicated in the visit programme was ensured.

Information about employees and students participated in meetings with the EEC NAAR

Category of participants	Quantity
Rector	1
University president	1
Vice Rectors	3
Heads of structural units	22
Directors of institutions	4
Heads of Departments	12
Teachers	25
Undergraduates	31
Graduates	116
Employers	93
Total	308

The experts visited the laboratories of the accredited EPs, research laboratories, a library, an assembly hall, sports and exercise halls, student canteen and a cafeteria. During the visit, members of the EEC on March 5 attended training sessions on accredited educational programmes.

Visit of studies

- within the framework of the study programme "Life Safety and Environmental Protection - a lecture lesson on the subject" Fundamentals of Radiation Safety "for first year students of the BC-16-1 group, (room A-117). Present 10 people. Lecturer, Doctor of Technical Sciences, Professor Kayym Talgat Totysuli. The topic of the lesson is "Methods and devices of radiation control". There is a work programme of discipline and syllabus. The lecture material in terms of volume and content complies with the requirements of the State Educational Standard of Higher Professional Education in the specialty "Life Safety and Environmental Protection" and the work programme of the discipline. In accordance with the work programme, the purpose of the lecture is clearly marked. The lesson was held with the demonstration of the relevant equipment, has a practical orientation, there was a feedback.

- in the framework of EP "Heat Power Engineering" a lecture lesson on the subject "Heat Power Engineering Processes and Installations" was attended for the 1st year students of the PTE-16-4 group, (aud. A-117). 12 people attended. Lecturer, Senior Lecturer is

Rasmukhametova Ainur Serikovna. Theme of the lesson: “Study of the processes of distillation”. In accordance with the work programme, the purpose of the lecture is clearly marked. The lesson was held with the demonstration of the relevant equipment, has a practical orientation, there was a feedback.

As part of the planned programme, recommendations for improving the university’s activities, developed by the EEC on the basis of the examination, were presented at a meeting with the management on March 7, 2019.

EEC members on March 6, 2019 visited the base of practice on the accredited EP:

Students of EP "5B071700 Heat Power Engineering", "6M071700 Heat Power Engineering" and "6D071700 Heat Power Engineering" have professional practice in a number of enterprises, including JSC AIES (CHP-1, CHP-2, CHP-3); Almatyteplokommunenergo LLP, Almaty Heating Networks LLP, KazNIPIenergoprom LLP, Kazenergonaladka LLP, Buran-Boiler LLP, Ecoras Oil Refinery JSC, Kazkotloservis LLP, Kazakh Sanitary Engineering Project LLP, etc.

For students of EP "5B073100 Life Safety and Environmental Protection", "6M073100 Life Safety and Environmental Protection" the main large organizations in which the production and pre-diploma practices are held are: Republican State Institution "Department of Ecology of the Almaty City Committee of Environmental Regulation and Control of the Ministry of Energy Of the Republic of Kazakhstan ", Almaty Department of Emergency Situations, Almaty Power Plants JSC, Tartyp JSC, A About Intergas Central Asia, Smart Engineering LLP, etc.

One common base of practices of CHPP-2 of AIES JSC was presented to the members of the EEC. The leaders are experienced staff and specialists in the field of heat and power, labor protection, OSH and the environment.

In the office of this organization, in addition to industrial premises and workshops, there are offices for conducting training sessions, passing professional practice, to protect reports on practice, workstations are equipped with PCs and laptops.

For students assigned 2 specialists who are leaders from the company.

Thus, students confirm their theoretical knowledge, and master practical skills and professional specificities in the field of heat and power engineering, labor protection, OSH and ecology.

VI CONFORMITY TO SPECIALISED ACCREDITATION STANDARDS

6.1. Standard "Management of the educational programme"

The evidence part

The analysis of the presented information and analytical material, the real positioning of the university, as well as the results of the meetings with stakeholders, allow us to draw the following conclusions.

The Institute of Power Engineering and Heat Power Engineering (hereinafter - ITETT) implements educational programmes in the state, Russian and English languages, which are a system of documents developed and approved by the higher education institution with regard to the requirements of the labor market, in accordance with the SES of Higher Education, approved by the Government of the Republic of Kazakhstan 50 August 23, 2012 №1080, by the Policy and Quality Objectives, the mission of the university (Quality Policy of NJSC AUPET) with the use of innovative educational technologies according to The following areas: Undergraduate: “5B071700 - Heat Power Engineering”, “5B073101 - Engineering Ecology and Energy Safety” (“5B073100 - Life Safety and Environmental Protection”), Master: “6M071700 –Heat Power Engineering”, “6M073100 - Life safety and environmental protection "; Doctoral: "6D071700 - Heat Power Engineering."

The mission, main goals, strategic directions of development and tasks of OP ITEiTT are defined on the basis of the following documents: “Transformation Strategy of NJSC AUPET”

(reviewed and approved by the Board of Directors of AUPET, Minutes No. 5-24 dated 12.29.2017) ", " Policy and objectives in the field of quality assurance ", the listed documents are published in the public domain on the AUPET website <https://aues.kz.>)

In the "Strategy for the Transformation of AUPET" (reviewed and approved by the Board of Directors of AUPET, Minutes No. 5-24 dated December 29, 2017). The University's transformation mission "Formation of the best intellectual resources of the national knowledge economy and the most advanced technologies for the industrial-innovative development of the country, adapted to the conditions of world integration and globalization" is presented.

The goals and objectives of educational programmes implemented in ITETT fully comply with the AUPET mission: - Training highly qualified personnel in the field of energy and telecommunications that meet the needs of the domestic and global markets for intellectual labor.

Educational programmes "5B071700 - Heat Power Engineering", "5B073100 Life Safety and Environmental Protection", "6M071700 Heat Power Engineering", "6M073100 Life Safety and Environmental Protection", "6D071700 Heat Power Engineering" are implemented in accordance with the accepted policy in the field of quality assurance, the mission of the university, a university transformation strategy focused on the consumer of educational services.

Bachelors, masters and doctoral students are trained on the basis of the State license to engage in educational activities of AB No. 0137445 of August 4, 2010, in accordance with standard curricula and standard curricula. The developer of model curricula and model programmes on EP "5M071700 - Heat Power Engineering", "6M071700 Heat Power Engineering" as part of the performers are the departments of TEU and PTE AUPET; on EP "5B073100 Life Safety and Environmental Protection", "6M073100 Life Safety and Environmental Protection" - Department of " Life Safety and Engineering Ecology."

As part of the quality assurance policy at the EP, there is a relationship between research, teaching and training of all presented programmes of the Institute of Heat and Power Engineering (ITETT).

The development of a quality assurance culture in the context of the EP is confirmed by the Development Plans of the EP of all submitted ITETT programmes, which are annually formed and signed.

AUPET is working to ensure the quality of education with the planned implementation of joint / double-diploma education and academic mobility. Starting from September 2019, a programme of academic mobility and double-diploma education will start to operate at the University of Electrical Engineering and Moscow Engineering Physics Institute (Moscow), Russia.

The uniqueness of accredited EPs and EP development plans lies in their orientation to the labor market and focus on ensuring the graduates' early adaptation in production, due to the clear organization of the educational process, practice-oriented mapping modules, well-organized practice, the ability to choose the trajectory of training, taking into account the personal and professional abilities of students.

The individuality of the EP Cluster 4 lies in the clear structure of the developed modular curricula. The methodological basis of modular education is the principles, methods and order of development of modular educational programmes.

The effectiveness of learning outcomes is achieved through adherence to an integrated approach, whereby the educational programmes themselves, curricula, and academic disciplines will be formed on a modular basis.

According to the evidence base, all EP development plans are regularly reviewed at "round tables" with employers, seminars and webinars, visiting sessions of departments based on enterprises, meetings of NIS departments together with employers. The result of the meetings is letters from the heads of enterprises, aimed at modernizing the modular curriculum, improving the educational process, engaging new technologies in the educational process, analyzing the proposals of the teaching staff of the department, analyzing student satisfaction through questioning. Monitoring the implementation of EP and evaluation of the achievement of learning

objectives is carried out through the final testing of graduates, feedback on the internship, the results of the VOUD & GAK, internal and external audit of the EP.

Students are involved in the formation and revision of EP development plans through participation in the survey, which reflects satisfaction with the learning process, EP disciplines and modules, teaching quality, etc. Based on this information, adjustments are made annually to the catalog of elective disciplines, modular curricula, analysis at the department meetings, the results are reported in the reports on the implementation of the development plan of the OP.

EP development plans take into account the national development priorities of Kazakhstan and the AUPET development and transformation strategy, as well as develop the individual characteristics of EP through the improvement of the UMCD, the introduction of new unique disciplines in QED, the development of practice bases, the improvement of the educational process, the advanced training of teaching staff, and the involvement of EP specialists in the implementation of EP practitioners.

The development of science and education is an important priority of socio-economic modernization, the achievement of competitiveness of the economy and the entry of Kazakhstan among the 50 developed countries of the world.

Evaluation of the quality of the implementation of educational programmes is carried out within the framework of the general system of monitoring the quality of education.

Assessment mechanisms are supervised attendance of classes, sociological surveys of participants in the educational process, feedback from external heads of practices, opinions of chairmen of state attestation commissions, reviewers of dissertations, and analysis of performance indicators, residual knowledge, final state attestation, PGK and VOUD.

Supervisory attendance of classes is regularly carried out by the head of the department, members of the methodological commission of the institute, representatives of the Educational and Methodological Council of the University. The form and criteria for the assessment of classes are proposed in the framework of the QMS AUPET documents.

The monitoring of educational results is carried out in the form of the current progress of students and implies an assessment of the progress of students in the framework of seminars, self-study and control activities.

Analysis of the current academic performance of students is carried out through a rating system, the advantage of which is the transparency of its mechanisms.

To identify changes, measures are taken to reduce the impact of risks for EP, which are reflected in the development plan of educational programmes.

The main risks in the implementation of EP "5B071700 Heat Power Engineering" and "5B073100 - Life Safety and Environmental Protection" for the 2018-2019 year are: a high degree of competition in the market of educational services, changes in the classifier areas of training with higher and postgraduate education. The departments "Heat Power Plants" and "Labor Safety and Engineering Ecology" take certain measures to reduce potential risks.

The objectives of educational programmes are determined by the changing requirements of the external environment, which are associated with professional competition and the demand for specialists. Therefore, the learning process takes into account the innovative development of industry, including energy.

The technology of employers' participation in the development of educational programmes is constantly being improved. Passports of educational programmes, modular curricula and practice programmes are coordinated with employers.

Approval of practice programmes and modular curricula in 2018-2019 on EP "Heat Power Engineering" was carried out with the agreement of JSC "AIES" and "Almaty teplokommunenergo" LLP. Contracts on cooperation in the field of personnel training were concluded with AIES JSC and Almaty Teplokommunenergo LLP.

During the development the elective component of educational programmes, suggestions and recommendations of employers are taken into account.

For example, for the “Heat Power Engineering” JSC “AIES” JSC it was proposed to use real schemes, modes and test methods in the disciplines “Operation of the main equipment of the TPP”, “Implementation of technological processes at the TPP”, “Water treatment plants.

The EP management system is transparent and open, the guidelines and regulatory documents on EP management are freely available on the AUPET website, the analysis of the EP management system is reviewed at the meetings of departments and other collegiate bodies of the university.

Submitted documents, a meeting with employers and graduates convincingly indicate that the EP leadership organizes the participation of employers, teaching staff and students in the collegiate management bodies of the EP.

During the development of EP and in the analysis of its functioning, analysis and introduction of innovative proposals to improve the quality of EP take place. unique EP and its coherence with the national priorities of the country's development and the AUPET development strategy.

Analytical part

Mission, main goals, strategic directions of development, quality assurance policy of AUPET and tasks of EP “5B073100 Life Safety and Environmental Protection”, “6M073100 Life Safety and Environmental Protection”, “5B071700 Heat Power Engineering”, “6M071700 Heat Power Engineering” and “6D071700 Heat Power Engineering” fully developed, documented and implemented in all areas of activity.

The documents submitted as evidence base meet the standards of the IAAR.

Documents are submitted that the EP management organizes the participation of employers, teaching staff and students in the collegiate bodies of the EP.

There are no documents on the specific distribution of job responsibilities for business processes within the framework of the EP, allowing understanding the business processes within the framework of the EP.

During the development of EP and in the analysis of its functioning, analysis and introduction of innovative proposals to improve the quality of EP take place unique EP and its coherence with the national priorities of the country's development and the AUPET development strategy.

The results of the external and internal audit of the EP are taken into account when operating the EP by making changes in the educational process: MUP, RUP, passport EP and QED, as well as in the development of future EP.

Strengths / Best Practices

1. The University has a published quality policy.
2. The quality assurance policy reflects the link between research, teaching and learning.
3. The EP's management ensures the transparency of the development plan of the EP based on an analysis of its functioning, the real positioning of the university and the focus of its activities on meeting the needs of the state, employers, stakeholders and students.
4. The EP management demonstrates the functioning of the mechanisms for the formation and regular review of the EP development plan and monitoring its implementation, assessing the achievement of learning objectives, meeting the needs of students, employers and society, making decisions aimed at continuous improvement of EP.
5. The administration of the EP attracts representatives of groups of stakeholders, including employers, students and teaching staff to formulate a development plan for the EP.
6. The individuality and uniqueness of the EP development plan, its consistency with the national development priorities and the development strategy of the educational organization are demonstrated.
7. The EP's management ensures the participation of representatives of interested parties (employers, teaching staff and students) in the collegial bodies of the educational programme

management, as well as their representativeness in making decisions on the management of the educational programme.

8. Demonstrated innovation management in the framework of the EP, including the analysis and implementation of innovative proposals.

EEC recommendations

1. Take comprehensive measures on the planned transition of AUPET to tri-lingual education and create a mechanism for organizing groups of graduate and doctoral studies in the Kazakh language.

2 Practice the training of managers AUPET and accredited EP on educational management programmes.

Conclusions of the EEC on the criteria: 17 criteria are disclosed, of which 8 have a strong position, 8 are satisfactory and 1 criterion suggests improvements.

6.2. Standard "Information Management and Reporting"

The evidence part

In AUPET, classical processes of management and information transfer, including the collection and analysis of basic information sources, used to improve the quality of the services provided, as well as the management of the training, teaching, methodical, staff, and ours, have been put into operation and have been worked out by the staff, as well as by the staff, and by the staff, our own processors, educational, methodical, research, training, and our team have been established.

Office of the "5B071700 Heat Power Engineering", "5B073100 Life Safety and Environmental Protection", "6M071700 Heat Power Engineering", "6M073100 Life Safety and Environmental Protection"; "6D071700 Heat Power Engineering" and other activities of the departments "Heat Power Plants", "Industrial Heat Power Engineering" and "Labor Safety and Engineering Ecology" are based on the collection, analysis and use of relevant information. Information gathering, dissemination and use are conducted through Documentolog, Platonus, Architect, document systems implemented in AUPET, Moodle, Corporate e-mail, Rabis Electronic Library, etc. distance learning system. Instagram, Vkontakte and the others.

The university uses a systematic use of information, it is divided into groups: general information about the university, the content of EP, information about students, information about employees, which allows improving the internal quality assurance system.

General information about the university and educational programmes is available on the University's Internet resources, these include the official website of the university <https://www.aues.kz> and the internal website <https://info.aues.kz>. On the official website, students, staff and interested persons can find information about the structure, mission, strategy, events in the scientific, educational, public life of the university, the schedule of classes, as well as information on educational programmes, in particular, information about the department, studied mandatory and elective disciplines received by the graduate competence, teaching methods, teaching staff, etc.

Within the framework of EP "Heat Power Engineering" and "Life Safety and Environmental Protection" there is a system of regular reporting, reflecting all levels of structure, including an assessment of the performance and effectiveness of departments and departments, scientific research of teaching staff and students.

The dynamics of the number of students at the departments is determined by a number of conditions: the development of the range of educational services provided their demand among consumers, the demographic indicators of the modern period, and the quality indicators of the education received. Over the past three years, there have been a stable number of people entering the EP despite the demographic decline (table 1).

The total number of enrolled applicants for full-time education in 2018 was 144 people at the EP "Heat Power Engineering» and 18 people at the EP "Life Safety and Environmental Protection." In terms of the number of grant recipients of the Republic of Kazakhstan in 2017, the EP "Heat Power Engineering" AUPET ranked second (64 grants), and EP "Life Safety and Environmental Protection" ranked third (13 grants).

Analysis of employment showed that the majority of graduates are arranged on the profile of the EP. Graduates of the department "Thermal Power Plants" and "Industrial Heat Power Engineering" work in all major industries of the Republic of Kazakhstan

The systematic discussion and analysis of the results of success, the experiences of all types of professional practitioners, the level of state of the art knowledge, the quality of graduate works and state exams, in the same way as the master of the arts, and in the same way as the master.

Table 1 - Dynamics of the number of students in the departments "Thermal Power Plants" (TEU), "Industrial Heat Power Engineering" (PTE) and "Labor Safety and Environmental Engineering" (LSEE)

Academic year	Specialty, the number of students, full-time / correspondence courses, including distance learning technology	
	5B071700 Heat Power Engineering	5B073100 Life Safety and Environmental Protection
	TEU and PTE and departments	LSEE department
2015-2016	66	12
2016-2017	68	18
2017-2018	77	21
2018-2019	164	20

The planning system gradually realizes the strategic goals of the issuing departments on the basis of annual work plans, in which all of the work directions are reflected.

Information about contingent and core characteristics of contingent is stored for three years. The same information is kept in the special database of the admission committee of the university. Students and faculty members of the department, workers are involved in the collection processes and analysis of the information by questioning, interviewing, and making decisions on their basis during the course of the department.

In general, the university uses modern information systems, information and communication technologies and software for the purpose of information management. For effective management of training programmes in the university, work is carried out to ensure the collection, analysis and development of important information.

The collection, analysis and dissemination of information necessary for the effective management of the EP takes place through the university's document management system.

The website of the university <https://aues.kz/> provides information on the content of the EP in the specialties "5B0710700 Heat Power Engineering" and "5B073100 Life Safety and Environmental Protection" - a description of the EP levels, the objectives of the EP, the base of practices, qualifications, competences, personnel composition (personnel directory), QMS procedures, students' achievements, research activities of teaching staff of the department, data on international cooperation, contacts.

In the university, the information management system of the main processes (educational, methodical and scientific) is based on the active use of a set of information and communication systems.

Information portal www.aues.kz consists of external and internal web portal. For effective management, systematic collection and analysis of statistical data is carried out: in order to

comply with the norms on the contingent of students and graduates (movement of the contingent), as a result of the sessions, on the personnel structure, resources, scientific activities and international cooperation, which is reflected in the minutes of the Academic Council, the administration, production meetings.

The university has a single information network, including all computers, information resources (web portals, file servers), a telephone network, warning systems and video surveillance, which allow you to effectively manage the learning process and all information resources, including the access of personal laptops of students and teachers to University's Wi-Fi wireless network with Internet access.

In all divisions of the university, records management is carried out in accordance with the approved nomenclature of affairs, the safety and archiving of documents is ensured, work is underway to switch to electronic document circulation. Operators are promptly informed of the information in electronic form via address distribution in the electronic document management system. From the 1st of June, 2018, all structural subdivisions of the university completely switched to electronic document circulation based on Documentolog (order No. 80 dated 05.25.2018).

The primary informational flows that are used to improve the quality of the programme are the services offered by the service, as well as the management of the educational, educational, research, educational, financial and other programmes of the Russian Academy of Sciences. Employees; general information about the university.

In the process of EP management, the system of collecting and analyzing statistics on a contingent of students and graduates, available resources, personnel, consulting, research and international activities and other areas of the university uses AIS "Platonus". The EP management uses processed, adequate information to improve the internal quality assurance system through the implementation of the strategic development plan of the university. In order to make a real assessment and prediction of the possible development of a competitive environment, the university systematically collects and analyzes media information and Internet resources.

The dynamics of the number of students at the departments is determined by a number of conditions: the development of the range of educational services provided their demand among consumers, the demographic indicators of the modern period, and the quality indicators of the education received. Over the past three years, there have been a stable number of people entering the EP despite the demographic decline (table 1).

At the university to ensure the protection of information, to access Documentolog, Platonus, Archit, the Moodle distance learning system, each employee and students receive a login and password individually depending on the level of access to the databases. The accuracy of the information provided is confirmed by the developer, the head of the department, and depending on the level of information provided, the director of the institutes, the vice-rector, the rector.

Educational and methodological materials (lecture notes, presentations, methodical instructions) are included in the teaching materials of the disciplines, and are also contributed by the teachers themselves through the private offices in the Platonus and Moodle systems. Employees of the library and the department of information technology ensure the availability of educational literature in the library and on the internal website of the university.

Information about students on educational programmes is available in documents of the Institute of Thermal Power Engineering and Heat Engineering, office-registrar. It includes statistical data on groups and courses, individual programmes of students, as well as information on students' educational achievements, their participation in NIRS, and in public events. Information on educational achievements is available in the Platonus system, which is accessible to employees of the Office of the Registrar and teachers. In the personal office of the teacher there is the possibility of grading, informing students about the timing of delivery of assignments, placement of training cases, certificates and other materials.

Inside the university, annually at the end of each academic semester among the student a survey is conducted, it reflects questions about the satisfaction with the implementation of EP and the quality of education.

Statistics on the contingent of students and graduates, information on available resources, staffing, research and international activities, employment of graduates and other areas are used in EP management processes when planning the teaching load of teaching staff, preparing the classroom fund for the new academic year, taking into account the student population and planning internal and external academic mobility. At the beginning of the school year, the teaching load of faculty members is adjusted to the number of students, which is fixed in the minutes of the department meeting, instructions.

When applying for a job, the staff (employees, teaching staff) signs a two-party employment contract with the university acting on the basis of the Charter. In paragraph 12 of this contract, the staff gives their consent to the processing of their personal data.

The university management provides all the necessary information in various fields of science of staff, faculty and students through the constantly growing library fund, access to Internet resources, ongoing Olympiads and scientific conferences, seminars, etc.

Analytical part

The university has a well-developed information management policy and structure for collecting information and reporting.

The use of information databases is carried out in all areas of the university; I would also like to note the availability of information on the university website.

Strengths / Best Practices

1. The university ensures the functioning of a system for collecting, analyzing and managing information through the use of modern information and communication technologies and software.

2. Demonstrated the determination of the order and ensuring the protection of information, including the identification of responsible persons for the accuracy and timeliness of information analysis and provision of data.

3. Information collected and analyzed by the university in full takes into account: key performance indicators, the dynamics of the contingent of students in the context of forms and types, etc.

4. EP management contributes to providing all relevant information in relevant fields of science.

EEC recommendations

1. The planned activities and expected results in the EP Development Plans for the long-term and short-term periods of time should be reviewed from the point of view of measurability, evaluation of effectiveness and efficiency.

2. Intensify work on the involvement of all categories of stock holders: students, employees, teaching staff and personnel in the process of collecting and analyzing information, as well as making decisions based on them.

Conclusions EEC on the criteria: disclosed 17 criteria, of which 7 have a strong position, 10 - satisfactory.

6.3 Standard "Development and approval of the educational programme"

The evidence part

In AUPET, the procedure of developing, evaluating and approving the development programmes, as well as forming and successfully applying and successfully applying the system for estimating the bachelor's degree, master's and doctoral PhD programmes, functions.

The development of EP is carried out at the departments taking into account the requirements of SES, the labor market. Designed EPs are in the process leading enterprises in the city in the field of engineering.

Considered at the meetings of the department, the forms of the modules of the EP are developed and approved by the departments for which the disciplines of the modules are fixed, a collection of forms of the modules is approved by the director of the institute. The study programmes are reviewed at the Institute's UMS, and the MUP is signed by the heads of departments implementing the study programme and the director of the institute. EPs undergo an evaluation procedure for DAA and are signed by the DAA Director and the projector for blood pressure and are presented for familiarization and approval to representatives of the business community, including employers. Developed by the EP approved at a meeting of the Academic Council of the University and approved by the Rector of the University.

General competencies of higher education are formed on the basis of the requirements for general education, socio-ethical competencies, economic, organizational and managerial competencies, and special competencies.

Special competences of the educational programme are developed taking into account the requirements of employers and the social needs of society.

Development of educational programmes is carried out taking into account the proposals of employers of JSC AIES, LLP Teplokommunenergo, LLP AITS, JSC Samruk-Energo, etc. The opinion of employers was reflected in the development of the catalog of elective disciplines, which serves as the basis for the formation of individual educational trainee plan.

The learning outcomes of educational programmes "5B071700 Heat Power Engineering", "5B073100 Life safety and environmental protection", "6M071700 Heat Power Engineering," "6M073100 Life Safety and Environmental Protection», «6D071700 Heat Power Engineering "expressed in terms of competence in accordance with the National Qualifications Framework and agreed with the Dublin descriptors and the European Qualifications Framework

Developed models of graduates of accredited EP, which are formed on the basis of the competence-based approach, taking into account the personal qualities of students and describing the results of training.

The external examination of the EP is also carried out taking into account the involvement of the chairpersons of the State Attestation Committee, graduate review reviewers, practice leaders, and interested employers in the quality assessment of educational programmes.

The compulsory stage of the development of the educational programme is the passage of professional practice, which allows students to form the necessary professional competencies, as well as consolidate the results of theoretical training. There are valid agreements on practice with the basic energy enterprises of Kazakhstan and Almaty, where the material and technical base fully complies with the requirements for conducting practical work and production (professional) practices. For all types of practices there are guidelines for their passage.

Students of the EP undergo practical training at the base enterprises of the heat and power profile of Almaty and the Republic of Kazakhstan.

The structure, content and implementation of the educational programme are determined by the regulatory requirements of the MES RK and the internal regulations of the university governing the requirements for graduates with an academic bachelor's degree in the specialties 5B071700 Thermal Engineering and 5B073100 Life Safety and Environmental Protection defining professional competencies and qualifications of graduates. The state compulsory standard of higher education (Resolution of the Government of the Republic of Kazakhstan dated August 23, 2012 No. 1080) contains the structure of the educational programme of higher education, with a list of required disciplines indicating the number of credits, regulates the ratio of basic, profiling and general education cycles, determines the scope of the component of courses.

The structure of modular curricula, developed on the basis of a modular educational programme, includes three cycles of disciplines, distributed between compulsory and variable components, the ratio of which is respectively 45% and 55%.

The distribution of loans fully complies with the requirements of the standard education. The State Compulsory Standard of Postgraduate Education (Government Decree dated August 23, 2012 No. 1080) proposed the structure of the postgraduate education programme (magistracy), the postgraduate education programme (doctorate) with a list of mandatory disciplines indicating the number of credits, regulates the ratio of basic and profiling cycles.

The principle of determining the laboriousness of academic disciplines of the EP is reflected in accordance with the established standards in the Kazakhstan and European systems of higher education, which are indicated in the modular curriculum in the credits of the Republic of Kazakhstan, in the ECTS and hours, in the Passport of the EP, syllabuses and work programmes of the disciplines.

In the EP cluster, the content of academic disciplines and learning outcomes correspond to the level of training (bachelor, master, doctoral studies), which is reflected in the modular curricula, passports, QED, RUE, work programmes and syllabuses, UMCD.

Analytical part

The development plans of the EP are fully developed, the procedure for developing and auditing the EP being developed and the audit of the current EP are fully spelled out. Internal and external examination of the EP are shown.

Qualifications received upon completion of the development of EP, is determined based on the requirements of professional standards, it corresponds to the State compulsory standard of higher education and postgraduate, the National Qualifications Framework, the Industry Qualifications Framework.

Models of graduates of EP are developed and laboriousness of EP in Kazakhstan loans and ECTS is clearly defined.

The passports of the EP, MUP and QED undergraduate, graduate and doctoral levels clearly reflect the competencies of graduates.

Strengths / Best Practices

1. The university determines and documents the procedures for the development of EPs and their approval at the institutional level.
2. The EP management ensures that the developed EPs comply with the established goals, including the expected learning outcomes.
3. The EP management ensures the availability of developed graduate models describing learning outcomes and personal qualities.
4. Determination of the influence of disciplines and professional practices on the formation of learning outcomes.

EEC recommendations

1. Consider the possibility of developing joint educational programmes with leading foreign educational organizations;
2. Strengthen the practice-oriented EP.

Conclusions of the EEC on the criteria: 12 criteria are disclosed, of which 6 have a strong position, 6 - satisfactory.

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

The evidence part

Monitoring and evaluation of EP "5B071700 - Heat Power Engineering", "5B073100 Life Safety and Environmental Protection"; "6M071700 – Heat Power Engineering", "6M073100 Life Safety and Environmental Protection"; "6D071700 Heat Power Engineering" is carried out by issuing departments, an institute where an EP implementation report is compiled annually,

where self-assessment and analysis of the success of the implementation of an EP development strategy are carried out on quantitative and qualitative indicators, the report is based on an analysis of the main problems identified as a result of monitoring the scientific and educational process and evaluation of external and internal factors. The main criterion of success in the implementation of EP is the percentage of employment of graduates in this EP and the feedback from employers about university graduates, admission of graduates to the magistracy and their academic performance.

Monitoring and evaluation of educational programmes is a leading element in the system of internal assessment of the quality of educational programmes and identifying the real contribution of each element (module) in achieving the planned learning outcomes of educational programmes.

Taking into account the opinion of employers, modern requirements of science and practice and taking into account the 8th level of the National Qualifications Framework were updated in 2017: competence model of the graduate of the EP "5B071700 Heat Power Engineering", "5B073100 Life Safety and Environmental Protection". Taking into account the 7th level of the National Qualifications Framework, they were updated in 2017: competence model of the graduate of EP "6M071700 Heat Power Engineering", "6M073100 Life Safety and Environmental Protection"; taking into account the 8th level of the National Qualifications Framework, they were updated in 2017: competence model of the graduate of EP "6D071700 - Heat Power Engineering".

The list of interested parties of EP includes stakeholders, graduates, students and faculty staff. Educational programmes are aimed at meeting the needs of the state, stakeholders (employers), students and their parents.

Compliance of the educational programme with the requirements of employers is carried out by collecting and processing proposals, comments and recommendations of the chairmen of the State Attestation Commission, reviewers of diploma works, studying the employers' feedback on graduates, trainees, graduate survey.

The development of EP "5B071700 Heat Power Engineering", "5B073100 - Life Safety and Environmental Protection", "6M071700 Heat Power Engineering", "6M073100 Life Safety and Environmental Protection", "6D071700 Heat Power Engineering" specialists of large enterprises of the city are invited to make their proposals regarding teachers disciplines necessary for the formation of a competitive specialist who is able to solve tasks.

Employers are involved in the development and implementation of EP through: the formation of professional competencies, within the chosen specialty; creating branches of departments at enterprises; organizing and conducting professional practices - conducting training sessions, guest lectures, round tables; leadership in writing term papers and dissertations; joint participation along with teachers and students in scientific conferences held by the university.

Responsible for reviewing the content and structure of the EP taking into account changes in the labor market, employers' requirements and social demand of the society - vice-rector for academic activities, specialists DAV, director of the Institute of Heat Power Engineering and Heat Engineering, heads and teaching staff of the departments

For an objective assessment of the results of the implementation of the educational programme and determining the directions of its development and improvement of the department, they support feedback from employers. Responses are requested both directly from the place of work, and from structures with which graduates collaborated in the framework of their professional activities.

In order to determine employers' satisfaction with the quality of graduate training, a survey and analysis of feedback received from them is carried out. The survey of managers of enterprises, organizations and institutions of Almaty showed that the social partners of the university are satisfied with the level of training of graduates and note the quality of training.

Monitoring the implementation of EP and their periodic evaluation guarantee the achievement of learning objectives, compliance with the needs of students, employers and society. Based on the results of monitoring and evaluation, decisions are made aimed at continuous improvement of the EP.

The university has implemented the following mechanisms for collecting, storing and analyzing information on the implementation of educational programmes: a system for monitoring the implementation of plans for the development of educational programmes; various forms of self-esteem; self-evaluation of programmes in preparation for state certification of the MES of the Republic of Kazakhstan; self-assessment of educational programmes in preparation for institutional and programme accreditation; self-assessment of educational programmes for compliance with the criteria of rating agencies; annually reviewed programmes participate in the rating of the Bologna Process Center and academic mobility of the MES RK; annual self-assessment of processes ensuring the implementation of educational programmes; development, development and active use of information systems in the management of educational programmes.

An agreement was concluded with the closed joint-stock company Antiplagiat (license agreement No. 259). Antiplagiat provides the EP with monitoring capabilities: verification of undergraduate theses; verification of the master's thesis; verification of articles by young scientists, as well as faculty; verification of guidelines, manuals and textbooks.

AIS "Platonus" provides the EP with monitoring capabilities: characteristics of the contingent; criteria that characterize educational activities necessary for the management of educational programmes; educational process: the formation of statements, the fixation of the results of the rating and intermediate control (certification, exams, term papers and course projects), as well as the final control of students (state exam and defense of graduation projects); the formation of curricula and modular EP; various resources for the implementation of the EP; planning and implementation of classroom and extracurricular pedagogical workload.

Access to the electronic journal has each teacher in their disciplines and students in all studied disciplines. Thus, the principle of transparency and access to information on the results of control is achieved. The effectiveness of the student's assessment procedures is evidenced by a statistical analysis of students 'and graduates' academic performance, recording in the form of reports in the form №34 (automatic in the AIS Platonus is formed) and reports of the chairmen of the GAK and GEK.

A stable set of students, an analysis of the labor market testify to the compliance of educational programmes with the applicants' requests, and a stable employment of graduates of the cluster specialties indicates that their competence corresponds to the qualification requirements.

The content and form of the EP is reviewed annually, taking into account the suggestions and recommendations of students, faculty, enterprises and organizations involved in the selection process and the formation of a list of elective disciplines for the EP, which works closely with the heads of the EP.

For an objective assessment of the results of the implementation of the educational programme and determining the directions of its development and improvement of the department, they support feedback from employers. Responses are requested both directly from the place of work, and from structures with which graduates collaborated in the framework of their professional activities. In order to determine employers' satisfaction with the quality of graduate training, a survey and analysis of feedback received from them is carried out.

All changes made to the EP are approved at meetings: the graduating department, the council of the institute, the NMS (scientific and methodological council of the university), the Academic Council of AUPET. The results are posted on the university website: MUP OP, QED, where all interested persons can read the documents.

Analytical part

The university has organized continuous monitoring and periodic evaluation of all SPs. The data of the educational process of bachelors, undergraduates, doctoral students, the results of training for semesters, academic years, the results of various practices, the results of the achievement of graduates are collected and analyzed. A survey of students, teaching staff, employers on various issues and criteria.

According to the results of monitoring and questioning, changes are made to existing EPs, and new ones are being developed. All documents on EP are available on the website of the university.

To enhance the quality monitoring of the EP, the Antiplagiat programme is used, which provides opportunities: verification of undergraduate diplomas; verification of master's theses; checking articles by young scientists and teaching staff; verification of guidelines, manuals and textbooks.

Strengths / Best Practices

1. Monitoring and periodic evaluation of EPs are developed to ensure the objectives of the EP, the tasks of the specialty, meet the needs of students and employers, as well as to make changes to the EP.

2. The management of the EP provides a review of the content and structure of the EP, taking into account changes in the labor market, the requirements of employers and the social demand of society.

EEC recommendations

1. Strengthen the work on the survey of students of all levels on various issues and criteria;
2. Systematically monitor satisfaction with the learning process and EP.

Conclusions of the EEC on the criteria: 10 criteria are disclosed, of which 6 have a strong position, 4 - satisfactory.

6.5. Standard "Student-centered learning, teaching and performance evaluation"

The evidence part

Providing the same conditions for all students is achieved by providing all the information in a convenient and accessible form, so all the information is presented on the AUPET website <https://aues.kz/> in three languages.

Equal conditions are provided to meet the needs of different groups of students: student research sections and circles; participation in various scientific and technical conferences and Olympiads of the institute, university and universities of the Republic of Kazakhstan; providing the possibility of studying abroad for all groups of students; orphaned students are granted the right to free residence in a hostel; for language adaptation of foreign students, the courses "Russian language", "Kazakh language" are organized; etc.

To ensure the harmonious development of students in the programme "Heat Power Engineering", "Engineering ecology and safety in the energy sector" (Life safety and environmental protection), taking into account their intellectual development and individual characteristics, students' needs are taken into account when implementing student-centered educational programmes, which affects to teaching, and in general to teaching.

In AUPET in the framework of EP "Heat Power Engineering" and "Life Safety and Environmental Protection", flexible learning paths are provided, which is presented in detail in the Modular curricula of specialties. The flexibility of the learning trajectories is due to the election of elective disciplines, as well as the choice of specialization, starting from the third year.

The department ensures the systematic development, introduction and effectiveness of active teaching methods and innovative teaching methods. The Moodle programme was

introduced, which remotely allows students to study the educational and methodical complex of the discipline and deepen their knowledge.

The development and use of innovative methods and information technologies in the educational process are of great importance. The experience of introducing the most relevant and effective methods becomes the object of exchange between teachers through demonstration and open classes and is recorded in the journals of teachers' mutual visits and is reflected in the work plans of the department.

Lectures, training seminars, open classes with the use of innovative technologies are systematically held.

One of the promising methods used in the implementation of educational programmes is "contextual learning", when the motivation to acquire knowledge is achieved by building the relationship between specific knowledge and its application.

A problem-oriented approach to learning is being introduced, which allows developing a competence-based approach to learning and expanding the possibilities for developing the student's core competencies, focusing students on analyzing and resolving a particular problem situation, which becomes the starting point in the learning process.

The faculty of the department in their work applies a system of methods that ensure the activity and diversity of mental and practical activities of students in the process of mastering educational material.

Studies related to the development of teaching methods for academic disciplines, conducted by teachers of the departments, are discussed at the meetings of the departments. Adaptation of existing innovations, methods and ways of learning takes place through open lessons and mutual visits to classes in order to share experiences, discuss lessons.

In the process of introducing various methods of teaching and teaching by teachers of the department, scientific-methodological and educational materials, teaching aids, educational-methodical complexes and multimedia educational complexes are being developed and created. In order to track the effectiveness and efficiency of the introduction of innovations, a survey is conducted among students "The teacher through the eyes of students", the purpose of which is to determine the effectiveness of the use of various teaching methods.

The organization of the educational process in the departments is carried out jointly by both the teacher and the students. The teachers provide guidance and assistance to students in the classroom, at the SRSP and SRMP, according to the approved schedule of classes. Moreover, the teacher-student dialogue continues on the basis of the Moodle software package, which allows for online consultation and monitoring of the student's independent work.

During the implementation of the educational programme, the student's independent work is monitored, and a mechanism to adequately assess its results has been created. For this purpose, checks are performed on the performance of tasks for independent work that students receive from a teacher. The results of monitoring are recorded in the journal of the teacher and are taken into account when grading the midterm control.

When implementing a student-centered approach, the feedback process takes into account the wishes and needs of students and makes decisions on adjusting the content of the educational programme.

The rector's blog is actively working in AUPET, where you can ask questions, express complaints and suggestions. Also in the composition of the Academic Council of the University includes undergraduate Mukashev A.Sh. and doctoral student Orazalieva SK, who can express complaints and wishes on behalf of all students, both in the educational process and in the work of the university as a whole.

Communication between the trainer and the teacher is provided through the Moodle educational portal, through which the learner can receive online counseling.

Monitoring the progress of students on the educational trajectory and the students' achievements is carried out through the AIS system "Platonus", in which the results of the current control are

reflected weekly, and the results of the intermediate certification - after passing the current exams.

AUPET practices the “lecturer-examiner” policy, which provides that the main course is taught by one teacher, and the exam is taken by another. To support this process, an “Order for lecturers and examiners” is issued every semester and the data are entered into the automated programme “ARHIT”, which is used to compile an exam schedule. This policy allows minimizing corruption and ensuring objectivity in the assessment of students' knowledge.

The combination of these control methods allows you to get a fairly accurate and objective picture of the state of preparedness.

The qualifications of the evaluators and the verification of the availability of the necessary competences are assessed by the head of the departments. In appointing examiners in the disciplines, the head is guided by data on basic education, the specialty of master's, candidates or doctoral theses, advanced training courses and other information provided by teachers.

AUPET creates conditions for the improvement of teaching methods and the growth of the professional potential of the faculty at the Institute for Advanced Studies and two-diploma education, as well as sending teaching staff for advanced training to other universities of the Republic of Kazakhstan and foreign universities and enterprises in the specialty profile.

Analytical part

The university uses a student-centered approach based on EP, various forms and methods of teaching and learning are used, distance learning is developed, and its own development of educational disciplines of EP is used.

The student is given the opportunity to get acquainted with: the results of the weekly intermediate control, the midterm control, the final grades (admission to the examination session), the results of the exams. Also, students have access to all sorts of information developed by the faculty: MUP, QED, syllabus, methodological instructions, textbooks, lecture notes, etc.

The university conducts systematic work to improve the skills of teaching staff.

Strengths / Best Practices

The manual of the EP to various groups of students provides flexible learning paths that allow you to choose the most appropriate direction for the EP.

EEC recommendations

Continue the work on conducting our own research in the field of teaching disciplines in the context of EP.

Conclusions of the EEC on the criteria: 10 criteria are disclosed, of which 1 has a strong position, 1 - satisfactory” and 1 criterion suggests improvements.

6.6. Standard "Students"

The evidence part

Educational programme EP "5B071700 Heat Power Engineering", "5B073100 Life Safety and Environmental Protection", "6M071700 Heat Power Engineering ", "6M073100 Life Safety and Environmental Protection", "6D071700 Heat Power Engineering " demonstrates the policy of forming a contingent of students from admission to graduation and ensures its transparency procedures. Procedures governing the life cycle of students approved and published. Questions of contingent formation and the results of admission are considered at meetings of departments, educational-methodical commission of the Institute, the Academic Council of the University.

In its activity on the formation of a contingent of students, the admission committee of the NAO AUPET is guided by the regulatory legal acts of the Republic of Kazakhstan.

Applicants to undergraduate educational programmes in the field of "Heat Power Engineering" must have knowledge in the volume of secondary school, confirmed by the necessary number of points in the unified national testing (UNT) or integrated testing (IT).

Applicants to abbreviated programmes must present a diploma of graduation from a secondary vocational school and an approved-type certificate confirming the passage of IT.

In the magistracy and doctoral studies are accepted persons with higher education. Admission to the magistracy is carried out on a competitive basis according to the results of entrance exams. The following order of formation of a contingent of students is determined on the basis of:

- 1) the placement of the state educational order for training;
- 2) tuition fees at their own expense and other sources.

Issues of contingent formation and admission results are considered at the meetings of departments, the Learning Council. The contingent of students of the educational programme of specialties according to the forms of education is approved by the rector.

The direction of the institute's activity is as follows: creation, implementation and development of services for support of foreign students (informational, social, cultural and linguistic), promotion of social, cultural, socio-academic and psychological adaptation of foreign citizens. The contingent of foreign students on the EP "Heat and Power Engineering" is represented mainly from Uzbekistan.

When entering foreign students all the conditions. Namely, when entering the university at the beginning of the school year, it is possible to take into account foreign students, the implementation of visa support and the primary diagnosis of the level of knowledge of the Kazakh (Russian) language.

Adaptation of foreign students is carried out within the framework of teaching the disciplines "Political, legal and social foundations of society" and "Social institutions of modern society: politics, law, religion", aimed at transferring such knowledge of national culture that helps them to better adapt and contribute to the solution of the strategic task - formation of a positive attitude towards the Republic of Kazakhstan and Kazakh culture.

In addition, the approach to adaptation involves conducting periodic studies of a range of problems experienced by foreign students through student questioning and interviewing. The University actively cooperates on the recognition of qualifications, academic mobility with the center of the Bologna process and academic mobility of the MES RK, which is part of the information network ENIC - NARIC.

In total, in the cluster, the total number of people enrolled in full-time education during the reporting period in the specialties "5B071800 Heat Power Engineering" is 420 students, "5B073100 Life Safety and Environmental Protection" - 62 students; "6M073100 Heat Power Engineering" - 27 undergraduates, "6M073100 - Life Safety and Environmental Protection" - 12 undergraduates, "6D071700 – Heat Power Engineering" - 33 doctoral students.

Informing students about the requirements for the content of educational programmes before training is carried out in the process of career guidance through the official website of the university, the media and television broadcasting.

In the 2017-2018 academic year, according to academic mobility, student TE(kaz group)-16-1 Baykatov Taymas was trained at the Bialystok Technical University, Bialystok, Poland. In 2015-2016 academic year the undergraduates of the specialty " Heat Power Engineering" Kaldan D.S. and Korobkov M.S. were trained at the Moscow Power Engineering Institute, Russia. In 2018 undergraduates A.Hasenov and M.Kadyrkhan were trained at the Moscow Engineering and Physics Institute in Moscow, Russian Federation and Moscow Power Engineering Institute, Moscow, Russian Federation, respectively. In the specialty "Engineering Ecology and Safety in Energy" (Life Safety and Environmental Protection) a request was sent for academic mobility of 5 students (Sharshankulova A. B., Amirova Z. A., Tuleshova A. K., Tulegen E. S., Serik AB) at the Technical University of Lodz, Poland.

The university demonstrates the compliance of its actions with the Lisbon Recognition Convention. The Institute cooperates with other educational organizations and national centers and participates in the activities of the Center of the Bologna Process and Academic Mobility, which is the Kazakhstan Center for the European Network of National Information Centers for

Academic Recognition and Mobility, i.e. ENIC / NARIC National Academic Recognition Information Center to ensure comparable recognition of qualifications. The geography of cooperation of NAO AUPET with other universities and abroad on the recognition of diplomas / qualifications, confirmed by the documents on the education of the state sample (diploma).

In AUPET, work continues on international cooperation under contracts with the Moscow Energy Institute (MEI) since 1997, on the basis of which the agreement “On the joint organization of the Distance Education Programme” was signed in 2008, respectively, students receive two diplomas simultaneously: a technical education diploma AUPET and an economist diploma from the Moscow Energy Institute, as well as after a meeting with the teaching staff of the educational institution, information on the defense of diploma theses, which are evaluated remotely by a joint commission, was confirmed.

Academic exchanges are implemented in accordance with the agreements between NAO AUPC and partner universities, agreements with international companies, foundations and other organizations, which are listed in the self-report of the EP.

In order to assist in finding employment, AUPET holds a job fair twice a year.

The university provides graduates with documents confirming their qualifications, including the achieved learning outcomes, as well as the context, content and status of the education received and evidence of its completion.

The university is making maximum efforts to provide graduates with employment, systematic monitoring of graduates' employment, developing their careers and improving the performance of alumni associations.

The center for organizing and conducting work with young people is the trade union of students. They hold events, games, competitions and tournaments in non-training time. Various clubs are organized in AUPET, such as: ChildrenCharityClub, Gibrat, Ulagat, guitar club, two debate leagues, StudiA315, etc. There is the “Entel” Youth Center, where KVN teams, the Brain-Ring Club, dance groups, and singers work and rehearse. For the same purposes, the assembly hall in the USU named after G. Daukeev is used. Debate leagues, volunteers, etc. engaged in and hold working meetings in the university lecture halls, at least 2-3 times a week.

Students of OP 4 clusters participate in student conferences of regional and republican level. The results and effectiveness of NIRS demonstrate diplomas and certificates.

The university's website has a page of the Alumni Association of NAO AUPET, as well as a page in contact <https://www.vk.com>, which discusses issues of improving the quality of education and the future prospects of the university. An electronic database of graduates has been developed, access to which is also organized from the site of the Association of Alumni of NAO AUPET. To maintain feedback, graduates can fill out an online questionnaire on the association's website (<https://aues.kz/>). As a result of the alumni meeting, it was confirmed that the alumni meeting is held annually once a year in May.

The university is implementing student support activities based on the provision of student discounts on tuition.

The university has the opportunity to support students with high academic performance and active research work with the help of academic incentives, such as nominal scholarships, rector grants, benefits provided by the social package for students, diplomas and letters of thanks. The departments pay attention to working with talented students, undergraduates take into account and support their interests, wishes, ideas and projects. To do this, students annually participate not only in university competitions, competitions, but also in Republican competitions, competitions.

Analytical part

During a visit to the bases of practices of CHP-2 in Almaty, we saw real places of practice and concluded agreements on the passage of students' professional practice. Proceeding from this, we can say that they are undergoing a real production practice.

Monitoring of graduates' employment is carried out through direct activities: graduate-department-enterprise. The database of graduates is being updated, for continuous monitoring and career growth, and also the employment of graduates is monitored through the SCPPP JSC.

Strengths / Best Practices

The management of the EP makes the maximum amount of effort to provide students with places of practice, to facilitate the employment of graduates, to maintain communication with them.

EEC recommendations

Create a mechanism to attract foreign students in the framework of academic mobility.

Conclusions of the EEC on the criteria: 12 criteria are disclosed, of which 1 have a strong position, 9 - satisfactory.

6.7. Standard "Teaching Staff"

The evidence part

The development strategy, which reflects the personnel policy of the university, reviewed and approved by the Board of Directors (Minutes No. 5-24 dated December 29, 2017) and the Academic Council (Minutes No. 4 dated November 21, 2017), is presented on the University website www.aues.kz.

The university demonstrates the compliance of the staff potential of the faculty with the development strategy of the university, the qualification requirements, the level and specificity of educational programmes and selection of personnel.

The current order at the university ensures transparency of personnel policy, since all decisions are announced at the Academic Council, the Council of Institutes and the meetings of the departments and are thus available to the faculty.

When applying for a job, teachers take part in a competition for the position they hold. First, a competition for vacant positions is announced, which is announced in the media. Teachers who wish to pass the competition prepare documents in accordance with the rules of the competition. The competition procedure for filling vacancies is regulated by the regulatory documents of the MES RK and the Competition Regulations developed at AUPET.

In general, the level of the faculty of the department is high, and their professional level corresponds to the requirements of the educational programme of the specialty.

The total number of teachers in the departments "Thermal Power Plants" and "Industrial Thermal Power Engineering", which provide training in EP "5B071700 Heat Power Engineering", "6M071700 Heat Power Engineering" and "6D071700 Heat Power Engineering" is 40 people, including 4 doctors of science, 2 PhDs, 16 candidates of sciences, 8 masters and 10 teachers have engineering education, including practice from production. Five part-time teachers are trained in doctoral studies. The share of faculty with academic degrees and titles is 60%; at the department "Labor Safety and Engineering Ecology", carrying out training in EP "5B073100 - Life Safety and Environmental Protection" and "6M073100 Life Safety and Environmental Protection" is 23 people, including 4 doctors of sciences, 1 doctor PhD, 7 candidates of sciences, 7 masters and 4 teachers have engineering education. The share of faculty with academic degrees and titles is 52.2%. Two teachers working part-time at 0.5 rates are trained in doctoral studies.

JSC AUPET is responsible for its employees, provides them with favorable conditions for work. The activity of the university in this direction is reflected in the AUPET Charter, the AUPET collective agreement, and the remuneration system.

According to the above OP, the required level of competence of faculty is determined by the volume of scientific products, the number of publications, including in rating journals with non-zero impact factor, in CCES journals, publications in foreign and domestic editions, participation of faculty in conferences of foreign and neighboring countries, textbooks and teaching aids, etc., which have been demonstrated.

The management of the university ensures the completeness and adequacy of individual planning of the work of teaching staff for all types of activities, monitoring the effectiveness and

efficiency of individual plans, and evidence has been demonstrated that teachers have completed all types of planned workload.

The workload of the faculty of specialties includes educational, educational and methodical, scientific, organizational and methodical work, increasing professional competence. All the planned work of a teacher is included in his individual work plan, which is the main document regulating the work of a teacher in a full-time position.

Planning of academic work of teaching staff of the department is carried out by the head of the department. Distribution of academic load among teachers is based on their qualifications. The total class load is approximately 60-80% of the total load for the year. The performance of the planned annual and semester load of teachers is recorded by each teacher in the "Journal" section of the Platonus and Moodle portals, the form of which is accepted in AUPET.

In all disciplines of the department, educational and methodological complexes were developed, where the syllabuses of academic disciplines, lectures, seminars plans, tasks on the IWS, types of tests, questions and tasks, rating tasks, exam materials were presented.

To support young scientists, the Council of Young Scientists has been established at AUPET. The head of the Council of Young Scientists is an assistant professor, doctor PhD Temirkanova E.

In order to support young teachers in the departments, work is underway to create a reserve of staff, material support is provided for research and internships. Young teachers who are actively engaged in scientific research, expressing themselves as creative individuals with an active lifestyle are sent to doctoral studies.

In the case of admission to a doctoral programme, the university provides social support and accepts them part-time at 0.5 rates in order to support the professional development of young full-time teachers.

The university has a system to encourage the professional and personal development of teachers and staff, which includes ideal and material incentives. Ideal incentives include a declaration of gratitude, awarding certificates, presentation to state and departmental awards.

Material incentives include the system of awarding teachers and employees for their personal contribution and the results achieved in their work. Employees are rewarded based on the results of the work for the academic year, the success of the admission campaign, certification, accreditation, scientific results, birthday and anniversary dates, official public holidays. Other mechanisms for motivating employees to work more efficiently and creatively are referral to courses, seminars, conferences and internships, including to foreign countries.

Leading scientists from Russia, Bulgaria and other countries of the world are involved in conducting joint scientific research, joint publications, and advising doctoral candidates.

For example, Stanislav Penchev, Senior Lecturer at Ruse Technical University named after Angel Konchev, gave interesting lectures for 3rd year students of the 3rd year of the specialty "Heat Power Engineering" and "Automation of Management", and also held a seminar "Thermal Installations and Automation" for faculty.

Tetra Tech Corporation Manager, Master of Engineering Markus Shtrashlichka came to Kazakhstan for the first time at the invitation of representatives of the USAID Future Energy Regional Programme, implemented by Tetra Tech, in collaboration with Almaty University of Energy and Communications. Within two days, the speaker shared his experience, knowledge and development. Mr. Shtrashlichka has extensive experience in the construction of renewable energy sources in various countries of the world, including in Spain, France, Italy, Great Britain, Mexico, Chile and Nigeria. Information on lectures with supporting materials is given on the website www.aues.kz in the news tab.

The social support of workers is guided by the EP through the trade union of AUPET employees. The trade union committee provides financial assistance to the faculty for the organization of general cultural events.

According to the statistical data we can conclude that the current composition of the teaching staff leading to SS "5B071700 Heat Power Engineering", "5B073100 Life Safety and

Environmental Protection", "6M071700 Heat Power Engineering", "6M073100 Life Safety and Environmental Protection" and "6D071700 Heat Power Engineering" has sufficient scientific and creative potential to ensure the strategic development of the EP.

Research and development support and consulting is carried out at the Center for Research and Development of Technologies under the guidance of the Vice-Rector for Research and Innovation. This center considers the applications of scientific groups for participation in R & D, provides information about the most popular R & D topics, and helps in preparing applications for participation in commercial R & D. Questions on R & D are considered at the University Academic Council. The link between research and teaching is traced in the work of doctoral students, undergraduates and bachelors participating in SRWS.

Advanced training of teaching staff takes place in areas related to innovations in the educational system of the university and in the areas of knowledge in which these teachers conduct their research or the disciplines taught. Chairs of ITETT develop plans for advanced training of teaching staff for each academic year, which is recorded in the work plans of the departments. Training and advanced training of faculty is carried out through short-term seminars, courses and internships at leading universities and enterprises of Kazakhstan and abroad

Practicing teachers conduct better vocational-oriented classes. Due to the involvement of practicing teachers, the educational results and the cognitive interest of EP students in their future profession is increasing.

The leadership of the EP provides targeted actions for the development of young teachers. Young scientists of the Institute of Heat Power Engineering and Heat Engineering are working to improve the scientific potential and contribute to the development of the EP cluster, so masters, senior teachers of the department entered the AUPET doctoral programme. The university demonstrates the involvement of faculty in practical activities in the field of specialization on an ongoing basis.

The educational process at the University is carried out on the basis of innovative learning technologies, informatization and computerization of the entire learning process, the application of new concepts in the field of education and science, the improvement of traditional teaching methods, the creation and continuous replenishment of the e-learning fund. The best foreign and domestic teachers were attracted to improve the quality of education.

The high level of professional competence of teachers ensures the representation of the university in various events of the MES RK, the Nur Otan party, cultural institutions, etc. Supporting educational initiatives, university teachers are actively involved in the development of the regulatory framework, state standards of specialties, test items; conducting an external evaluation of educational activities of universities; preparation of expert opinions on the quality of dissertation research, textbooks, scientific monographs; seminars for school teachers, subject olympiads of schoolchildren.

Consulting, research work of teaching staff of the department shows their focus on meeting the needs of the state, their consistency with the national development priorities and the development strategy of the university on topical economic issues.

Analytical part

The members of the EEC note the sufficient work of the university in attracting and developing young teachers.

The Commission has established a sufficiently high level of competence of teaching staff, the application of innovative methods and forms of education. During a visit to lectures and laboratory classes, a high professional level of theoretical and scientific teaching staff was noted - the knowledge and ability to use modern precision, measuring laboratory and analytical equipment.

An important factor is the development of academic mobility in the framework of the EP, attracting the best foreign and domestic teachers from different countries.

Strengths / Best Practices

1. The university has an objective and transparent personnel policy, including recruitment, professional growth and staff development, ensuring the professional competence of the entire state.
2. Demonstrated the compliance of the staff potential of faculty with the development strategy of the university and the specifics of the EP.
3. The contribution of teaching staff to the implementation of the university's development strategy and other strategic documents is taken into account in the rating of individual works of teaching staff.
4. The possibilities of career growth and professional development of the teaching staff of the OP are shown.
5. Attracted production staff of relevant industries for teaching at the university part-time.
6. The leadership of the EP provides targeted actions for the development of young teachers.

EEC recommendations

- 1 To continue the work on the implementation of the plan for the development of academic mobility in the framework of the EP.
2. Create a mechanism to attract the leading lecturers of the EP to participate in academic mobility of foreign universities.

Conclusions of the EEC on the criteria: 12 criteria are disclosed, of which 9 have a strong position, 3 – satisfactory

6.8. Standard "Educational resources and student support systems"

The evidence part

During the inspection of the EP cluster 4 - "5B071700 Heat Power Engineering", "5B073100 Life Safety and Environmental Protection", "6M071700 Heat Power Engineering", "6M073100 Life Safety and Environmental Protection" and "6D071700 Heat Power Engineering Management of educational programmes showed the presence of sufficient material and technical bases, resources and infrastructure of departments to ensure the quality of training of students at various levels. There are 8 laboratories (5 laboratories of the TEU department and 3 laboratories of the PTE department) and 2 computer classes equipped with modern equipment and software at EP "5B071700 Heat Power Engineering ". Thus, the laboratory "Boiler installations" (A107) is equipped with laboratory installations for studying the operation of auxiliary equipment of thermal power plants (heat exchangers, pumps, fans, compensators, ejectors, compressors, etc.). The laboratory has a modern measuring base with intelligent sensors "Metran". The laboratory of TTD and HME (B135) is equipped with benches for studying thermodynamic processes, processes in humid air, thermodynamic cycles. In 2004, a micro-turbine unit was installed in the laboratory. The laboratory is equipped with modern measuring equipment and equipped with stands for studying heat and mass transfer processes. The laboratory of steam and gas turbines (A109) is equipped with laboratory benches for studying the elements of steam and gas turbines, such as labyrinth seals, blade profiles, steam distribution system, etc. The laboratory of boiler plants (A111) is equipped with laboratory benches for studying the aerodynamic characteristics of burners, determining technical fuel characteristics, etc.

The department of PTE also actively uses the laboratory "Water treatment and water-chemical regimes" (A-233), the unique "Multifunctional automated laboratory installation of heat transfer processes" as well as for research purposes. The unit is built according to the block principle associated with the functions of the various types of heat exchange devices included in it and consists of: a distillation unit based on an aqua distillation unit, a nutrient solution preparation unit for receiving distillate and a nutrient solution for varying salt concentration for a steam generator, steam generator unit consisting of a steam generator ionic conductivity, heat

exchange block of vapor-water-air media based on a heater, heat exchange block of vapor-water media based on a single pipe, block and condensation, on the basis of a plate heat exchanger designed to prevent possible steam breakthroughs into the sewage system, a steam-water-water heat exchange process unit based on a multi-tube heat exchanger, a hot water supply unit based on a storage tank, and a heat exchange unit water-air medium based on a heating radiator .

There are 2 thematic research laboratories "Energy Monitoring and Expertise" (A503), "Energy Saving Technologies in Heat Supply Systems" (A 013) operating at EP "6M071700 Heat Power Engineering", master's level.

The laboratory of "Energy Monitoring and Expertise" conducts work with the largest heat and power engineering enterprises of Kazakhstan, ARNM RK, enterprises of the oil and gas sector. Employees of TNIL "Energy Monitoring and Expertise" are experts of AREM RK in the field of energy. Take an active part in expert advice.

Laboratory "Energy-saving technologies in heating systems" is engaged in the development of combined heat supply methods using renewable energy sources, the development of automated heat flow control systems (ASTD). ASTR with frontal regulation implemented in educational buildings of AIPET and allows you to save up to 5 million tenge per year. The laboratory performs work for the largest enterprises of heat networks in the cities of Almaty, Astana, Kustanai.

The presence of the above-mentioned thematic research laboratories is the basis for research activities of doctoral students and undergraduates, a good example of the interaction of the educational process and thermal power enterprises.

On EP "6D071700 Heat Power Engineering", the level of doctoral studies, a unique Center "Unconventional Renewable Sources of Energy and Intensive Energy Saving" is created and operates. Currently, this modern Center has the following unique modules:

- Automatic station for meteorological observations and measuring the power of solar radiation;
- Photovoltaic station;
- Solar heat-generating installation;
- heat supply and air conditioning systems based on the Water-to-Water and Water-to-Air heat pumps;
- a gel-navigation unit with a multi-programme control system for the implementation of automatic orientation of solar energy receivers;
- Low-potential heat supply and air conditioning system;
- Autonomous heating system based on a liquid-fueled boiler (45 kW);
- autonomous power supply system with monitoring of the state of the battery station and analyzer of the quality of electric energy;
- test bench on the basis of a polygeneration plant with an electric power of 6 kW and a heat of 35 kW;
- industrial prototype and pilot GTPU.

At present, LabWorks 1.2 virtual laboratory work on heat engineering developed by Tranzas CJSC (2015) is being introduced into the educational process of OP Thermal Power Engineering and the LabWorks 1.2 complex is being introduced. Product LabWorks 1.2 is a programme for carrying out laboratory work on a personal computer. From the teacher's workplace, management and control of the students' work is carried out; these works are performed at the student's workplace. The workplace of the student allows you to perform laboratory work remotely.

At the EP "5B073100 Life Safety and Environmental Protection", "6M073100 Life Safety and Environmental Protection" teachers, using ICT, conduct classes in the performance of laboratory work on occupational safety and industrial sanitation: the study of first aid to victims with a simulator VITIM 2-02; noise protection

To process the measurement results, the following software systems are used: the study of air pollution in industrial premises based on the Cascade H.41.2 instrument; pH analysis of a

solution based on a portable pH meter and dissolved oxygen pH / oxi 340i / set WTW; investigation of air pollution using the gas analyzer GANK-4A; study of the state of wastewater using the instrument "Spectrophotometer DR-2800".

Laboratory of Industrial Sanitation and Occupational Hygiene (A-117) (study of the parameters of the microclimate, study of the effectiveness of sound insulation, vibration isolation, study of illumination, etc.): "Study of the efficiency of the respiratory device D-2"; "The study of methods of providing first aid to victims"; "Study of industrial vibration and the effectiveness of vibration isolation"; "Determination of the content of harmful gases in the air of industrial premises"; "Protection against industrial noise"; and etc.

Laboratory Safety of operation of electrical installations (A-119) (electrical safety, including a study of the effectiveness of zeroing, the response time of the fuse link, the resistance of the human body, the grounding resistance, etc.) Presents the stands "Protective grounding and zeroing - 3331-C-P"; "Electrical safety in electrical installations up to 1000 V - EBUU2-S-R"; "Basics of electrical safety - OЭБ1-C-P", which contain the following blocks (modules): Model of zeroing; Ground fault model; The model of the electrical network; Protective grounding model; Protective shutdown model; Human body model for the study of electrical resistance; Ground measurement model; Isolation control device; Model of measuring the resistance of the human body.

Laboratory of industrial and environmental safety (A-017): A multi-component gas analyzer "Cascade Electrochemical" is designed to measure the concentrations of CO, NO, NO₂, SO₂ in the air of the working area; The universal gas analyzer GANK-4 (KPGU 413322 002 RE) is intended for automatic continuous monitoring of the concentrations of harmful substances in the atmospheric air, in the working area air, in industrial emissions and technological processes in order to protect the environment, ensure labor safety and optimize technological processes; Gauge system for determining BOD; Multifunctional instrument for measurements in the Testo 435 ventilation systems; Testo 340 flue gas analyzer for monitoring all types of emissions by operators of fuel combustion plants in industrial plants and CHP plants, etc.

On issues of environmental design and rationing of training is carried out by two software systems "Ecologist" and "ERA", which are allowed for use and are widely used by design companies of the Republic of Kazakhstan.

In the educational process is actively used software "TVT Shell" developed in the MEI. Students appreciate the quality of the software product, the modernity and relevance of the materials presented in it, the user-friendly interface of the software product, a wide range of reference materials, clarity, quality of drawings, diagrams, drawings, video clips, the ability to use the package when performing Settlement and graphic work, CW and self-study.

Since 2011, the Gate Cycle software product developed by GE and donated to AUPET at no cost is used in the educational process. The programme allows you to collect and calculate the diagrams of GTU and PGU cycles and is used in mapping courses and in the performance of diploma and master projects.

These unique teaching and research modules, which have practically no analogues in the Universities of the Republic of Kazakhstan, are the basis for the research work of undergraduates and doctoral students of SP "Heat Power Engineering".

Thus, it can be stated that the material and technical resources of the EP cluster 4 are the fundamental basis for ensuring the quality of training and fully complies with educational standards.

Evidence was presented that EP management annually plans and allocates significant financial resources to modernize and strengthen the existing material and technical base of educational and scientific laboratories that correspond to educational programmes, sanitary and epidemiological standards and the requirements of domestic and world markets of intellectual labor.

AUPET has a video surveillance system and telephone service to ensure the safety of students and teaching staff.

All departments and laboratories are equipped with modern teaching and laboratory equipment, computer and office equipment.

The total area of the university is 29094.9 square meters. The total area of the entire sports complex is 6063 m². The university's sports base includes 5 indoor halls with a total area of 1,581 m²: a games room (864 m²), a fitness room (106 m²), an athleticism hall (280 m²), an aerobics room (54 m²), men's and women's showers and changing rooms. The university has an open stadium with an area of 4,187 m² and an open gymnastic ground with an area of 295 m². The number of computer classes, multimedia classrooms, language laboratories, television audiences and interactive classrooms meets the current needs of the educational process and research activities of the faculty, students, undergraduates and doctoral PhD students. A significant number of computers of the latest generation and a sufficiently high level of software and information resources, as well as high-quality support equipment in computer classes and multimedia classrooms are systematically purchased in accordance with the requirements of the educational process of the university.

In all computer classes and multimedia classrooms in buildings A, B, D, there is access to the information local-computing network of the university, as well as to the world-wide Internet. TV audiences are equipped with 26 plasma televisions. AUPET installed 50 projectors.

In 2017-2018 A new cluster was launched in the A-300, where 55 computers and 2 projectors are installed. The computer class A300 is realized according to the modern system of an open audience, equipped with modern computers and is an example of the future transformation of the AUPET classrooms. In 2018, the LED screen was installed (5 * 3 meters) in the assembly hall of the D. housing.

A local computer-information network was created at the Almaty University of Power Engineering and Telecommunications, connecting the local networks established in departments and institutes into a single whole.

In total, local computer networks have 1084 workstations, of which 1050 workstations have access to the Internet. Local computer networks installed in enclosures "A", "B", "D" are integrated into a single network via fiber-optic communication. The AUPET unified information network is used by professors and students to access information resources on the WEB-servers <http://www.aues.kz>, <http://info.aues.kz>, <http://online.aues.kz>, <http://lib.aipet.kz>, <http://e-cat.aipet.kz>, <http://www.edunet.kz>, <http://citforum.edunet.kz> and also to the teaching servers of the "Edusoft" department "Foreign Languages".

Almaty University of Power Engineering and Telecommunications has a distance learning web-server at <http://online.aues.kz>, which is freely available from the university's single network and is accessible by login / password from the Internet.

The Moodle distance education system (DLS) has been implemented, it is currently being upgraded to the latest version.

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).

Support of various educational, scientific, methodical information on the site in an up-to-date state allows citizens to receive complete, reliable, socially significant information about the services provided and areas of educational activity or services for applicants who wish to study at a technical college of AUPET.

In March 2018, Documentolog electronic document management system was introduced in AUPET. The system is implemented as a cloud version and is designed for 100 users. The introduction of electronic document management has significantly improved the work with documents, with a full transition to the electronic format of interaction. All advantages of electronic document circulation are used, first of all, the safety of documents and their versions.

The introduction of the Documentolog platform has made it possible to reduce paper circulation of documentation and reduce the time for approval in various structural divisions.

In 2018, a common postal and communication environment for university staff interaction based on the AUES.KZ domain was introduced. It is implemented on the basis of Google cloud services, in support of universities. Corporate mail covers all AUPET employees, more than 500 people. Currently, additional functions are being actively developed, for example, chat rooms, video conferencing and other corporate cloud resources.

Academic support for students is carried out by consulting with advisors during the presentation of elective disciplines, as well as studying QED.

Technological support for students and teaching staff of the “Thermal Power Engineering” EP is primarily access to educational, methodological and administrative information provided by the official website www.aues.kz with pages containing links to “Moodle”, “Architect”, AIS “Platonus, Documentolog. These programmes represent automated information management systems of the educational process.

The EP of cluster 4 has the necessary library resources, including a collection of educational, methodical and scientific literature on general education, basic and major disciplines on paper and electronic media, periodicals, and access to scientific databases. PPP works presented in paper and electronic form. The library has its own tab on the university website, which provides reference information about the library and informs Maintenance of the new arrivals and events. From the Libraries tab, access is provided to the Electronic Catalog of the Web-KABIS Library, to the full-text database of PPP works, to the RMEB and the international databases Scopus and ScienceDirect, ClarivateAnalytics.

On the territory of the EP of cluster 4 there is a wireless WI-FI network, the network coverage is partial, only in the places where students gather, inside educational buildings, in the lobby, and in the stairwells. On educational programmes of cluster 4 there is an examination of research reports on plagiarism, an examination of graduation theses, dissertations on plagiarism, which was shown to the commission during the inspection.

As a result of verification of EP cluster 4, the capabilities of various groups of students in the context of EP were demonstrated. Thus, adults and working students are provided with a distant form of education, foreign students have the opportunity to study in Russian, Kazakh and English groups, with the possibility of adaptation. There are no students with disabilities on these technical EPs.

Analytical part

Experts note the adequacy of the material and technical base, resources and infrastructure of the departments to ensure the quality of training of students at various levels and student support systems, including the competence of the personnel involved. The graduating departments of the studied educational institutions have a sufficient number of audiences equipped with modern technical training aids, including educational and scientific laboratories. The Commission notes the adequacy of the created conditions of the learning environment, reflecting the specifics of educational programmes in terms of interactive resources with access to the AUPET site from remote computers.

The EP uses an automated information management system for the educational process - AIS “Platonus”, the student population is formed using “Platonus” for the EP, by forms of education, by groups and is reflected monthly in the movement of students. Information on EMCD, teaching aids, presentation material in the context of EP is presented in Moodle. For the examination of the results of research, final works and dissertations, a mandatory plagiarism test is used.

At the EP cluster 4 created the necessary and comprehensive conditions for the safety of students and teaching staff in educational buildings and dormitories.

However, it is worth noting the need to expand various procedures for supporting students, to fully satisfy students through counseling and information on current and upcoming courses and events.

The Commission notes the insufficient consideration of the needs of foreign students at the level of graduate and doctoral studies. At the EP there are methodological and technical training opportunities in Kazakh and English, but groups of students in these languages are not represented. The reason for this fact, experts of the commission see in the savings of financial resources of the heads of the EP. However, work in this direction will improve the performance of the university, in general, among other universities of the Republic and at the global level.

Strengths / Best Practices

1. The sufficiency and high level of material and technical equipment of software tools, meeting the modern requirements of the industry, has been demonstrated;
2. Technological support for students and teaching staff in accordance with educational programmes (for example, online training, modeling, databases, data analysis programmes);
3. Compliance with safety requirements.

EEC recommendations

1. Ensure the functioning of WI-FI in the framework of the OP.
2. Intensify the use of innovative communication technologies in the teaching activities of the EP.

Conclusions of the EEC on the criteria: 10 criteria are disclosed, of which 4 have a strong position, 5 are satisfactory and 1 criterion suggests improvements.

6.9. Standard "Public Information"

The evidence part

AUPET has a system for collecting and monitoring information on the educational programme. The University publishes timely information on the implementation of educational programmes. The published information is reliable, clear, objective, relevant and accessible to all comers.

The universal tool of informing is the site of the Institute (www.aues.kz). The site contains the following sections: "Homepage", "About the University", "About the Institute", "Educational process", "Graduates"; "The science"; "Applicants"; "News"; "Contacts"; "Rector's blog".

Employees and students of the department appear on television and are published in various news publications: "Bilim el", "Aiqyn", "Evening Almaty", "24.kz", etc. A complete list with links to publications is presented on the official website on the "Media about us" page https://aues.kz/?page_id=8281.

Information is published on the website (<https://aues.kz/>) and on social networks telegram https://t.me/aues_university, in contact https://vk.com/aues_university, youtube <https://www.youtube.com/channel/UCUnDGC1ddotzf1fpn-hyXDA>, instagram https://www.instagram.com/aues_university/.

The website of the Institute reflects general information about the university, the mission of the university, goals and objectives, the history of the university, licenses for educational activities, a list of specialties. At the top of the site is a block of useful links, which includes links to the automated information system "Platonus", class schedule, websites of partner organizations, etc. According to the results of the survey, 84.7% of students were fully satisfied with the usefulness of the website, partially 15.3%.

The university's management uses various means of disseminating information - such as booklets and promotional materials, the university's website, briefings held by management, open doors, vacancy fairs at the university, round tables with heads of enterprises and organizations, universities and educational exhibitions, and professional orientation events. Management, faculty and students appear in the media, publish materials in national newspapers and magazines and participate in various programmes on radio and television.

Information about the content of educational programmes is regularly discussed at meetings with representatives of employers. In addition, employers are included in key collegiate bodies.

For the purpose of openness and transparency of educational programmes “Heat Power Engineering”, the departments review the departments annually, and the university publishes information about educational programmes in the form of a booklet, which lists the required, basic and major disciplines, and publishes a catalog of elective disciplines describing the content of each discipline.

The information published by the university in the framework of educational programmes is accurate, objective and relevant and will include ongoing programmes, indicating the expected learning outcomes. The implemented programmes with the indication of the expected learning outcomes are published on the AUPET website in the "Incoming" and "Student" sections. On the AUPET website <https://aues.kz> in the tab “Education” - “Institute of Heat Power Engineering and Heat Engineering”, following the links you can see information about the possibility of conferring qualifications at the end of the EP, compulsory and elective disciplines, catalogs of elective disciplines, bases of practice and employment, material and technical base of specialties "Power Engineering" (https://aues.kz/?page_id=6098).

The implemented programmes with the indication of the expected learning outcomes are published on the AUPET website in the "Incoming" and "Student" sections. On the AUPET website <https://aues.kz> in the tab “Education” - “Institute of Heat Power Engineering and Heat Engineering”, following the links you can see information about the possibility of conferring qualifications at the end of the EP, compulsory and elective disciplines, catalogs of elective disciplines, bases of practice and employment, material and technical base of specialties "Heat Power Engineering" (https://aues.kz/?page_id=6098).

Training on the EP "Heat Power Engineering" is conducted by the departments "Thermal Power Plants" and "Industrial Thermal Power Engineering". Information on the teaching staff of the department is available on the university website in the tab "Education" - "Teaching staff" at https://aues.kz/?page_id=17152.

Information about the partners of the university is published on the main page of the site <http://aues.kz/> in the tab “International cooperation” https://aues.kz/?page_id=5903#1529908997033-ba852e87-56f0. For international partners, information is provided by country with links to their sites, and scanned copies of the contracts concluded with them.

Information on the passage of institutional and specialised accreditation in 2015 in the Independent Kazakhstan Agency for Quality Assurance in Education (IQAA), conducted by the republican rating agency is on the AUPET website. The results of the national ranking of universities in the Republic of Kazakhstan 2018 are published on the official IQAA website <https://iqaa-ranking.kz/rejting-vuzov/rejting-vuzov-kazahstana-2018/natsionalnyj-rejting-luchshikh-tekhnicheskikh-vuzov-kazahstana-2>, according to which AEC located on the 6th place with a final score of 65.91. Rating of AUPET, including those on the “Power Engineering” and “Engineering Ecology and Energy Safety” (“Life Safety and Environmental Protection”).

AUPET in 2017 among universities - participants of the rating of the IAAR took the 1st place in the specialty of magistracy "6M071700 - Heat Power Engineering". The results of the AUPET rating and educational programmes are presented on the AUPET website at the link: https://aues.kz/?page_id=19636.

AUPET in 2018 participated in the Greenmetric ranking of the world environmental rating (UI GreenMetric World University Ranking). Criteria for environmental rating "Greenmetric" are: 1. University infrastructure and environment (24%) Setting and Infrastructure (SI); 2. Energy Efficiency and Impact on Climate Change (21%) Energy and Climate Change (EC); 3. Waste disposal (15%) Waste (WS); efficient use of water resources (10%) Water (WR); Transportation Policy (21%) Transportation (TR); Environmental education (9%) Education (ED).

The university has various services for informing, supporting students and receiving feedback, each of which performs separate functions. According to the principle of openness and accessibility for the public, the university openly publishes information on the activities of the

institute, rules for admission of applicants, educational programmes, terms and forms of education, international programmes and partnerships of the university, the benefits of the university and each institute information on the employment of graduates, reviews of graduates, events and successes students, contact and other useful information for applicants and students on various information carriers.

The link that provides access to online classes and educational materials in the disciplines for students and teaching staff is a distance learning system.

Wi-Fi network for university students is available and is constantly being upgraded to provide better coverage on the campus.

Access to information on the studied disciplines for students is organized through the University's electronic library (<http://lib.aues.kz>), and the distance learning system (<http://online.aues.kz>).

When carrying out educational activities, NAO AUPA is guided by regulatory documents governing the mandatory regulatory requirements for the material, technical and educational and laboratory facilities of educational organizations.

In AUPET there is a constant development of information resources, which include not only educational and laboratory complexes and computer equipment, but also a library fund. The university library is an important link in the educational space of an educational institution, its tasks are to accumulate and provide various information resources oriented towards the provision of the educational process.

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.

In order to improve the quality of organization and efficiency of the educational process, in order to control the independent performance of the written work by students, as well as to increase the level of their self-discipline and the observance of intellectual property rights, AUPET operates the Antiplagiat system. The university pays for an annual subscription to the services of Antiplagiat.ru and receives a limit of up to 10,000 checks.

The Antiplagiat system operates on the basis of the “Regulations for the passage of compulsory inspection for plagiarism of graduation projects (works), master's and doctoral theses” approved by the Vice-Rector of the AUPET NAO 07.05.2018

Analytical part

The Institute has a sufficient number of sources to inform the public about its activities. At the same time, experts note that the information posted on the website is not updated regularly. Audited financial statements are not publicly disclosed.

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

Strengths / Best Practices

1. The information published by the university within the framework of the EP is accurate, objective, relevant, indicating the expected learning outcomes.

2. Various ways of disseminating information (including the media, web resources, other information networks) are used to inform the general public and stakeholders.

3. The participation of the university and implemented EP in a variety of external assessment procedures.

EEC recommendations

Use a variety of ways to disseminate information to inform the general public and interested parties about the work carried out in all EPs.

Conclusions WEC on the criteria: disclosed 13 criteria, of which 3 have a strong position, 10 – satisfactory

6.10. Standard "Standards in the context of individual specialties"

The evidence part

In accordance with the standard, it is proved that all accredited EPs have disciplines and activities aimed at obtaining practical experience and skills in the specialty as a whole.

The departments "Thermal Power Plants", "Industrial Heat Power Engineering", "Labor Safety and Engineering Ecology" provide measures to strengthen the practical training of students in the field of specialization. In order to provide the bases for educational, pedagogical and industrial practices, contracts are concluded with educational institutions and organizations. The bases of practice in the educational programme "Power Engineering" are AIES JSC (CHP-1, CHP-2, CHP-3); Almatyteplokommunenergo LLP, Almaty Heating Networks LLP, KazNIPInergoprom LLP, Kazenergonaladka LLP, Buran-Boiler LLP, Ecoras Oil Refinery JSC, Kazkotloservis LLP, Kazakh Sanitary Engineering Project LLP, etc. Except for them practically all thermal power plants and other heat and power facilities of Kazakhstan can be places of industrial and pre-diploma practice.

For students of EP "5B073100 Life Safety and Environmental Protection", "6M073100 Life Safety and Environmental Protection" the main large organizations in which the production and pre-diploma practices are held: Republican State Institution "The Department of Ecology in Almaty City of the Committee for Environmental Regulation and Control of the Ministry of Energy Of the Republic of Kazakhstan ", Almaty Department of Emergency Situations, Almaty Power Plants JSC, Tartyp JSC, A About Intergas Central Asia, Smart Engineering LLP, etc. According to the results of the internship, the participants get an idea of the work of industrial enterprises, are included in the course of their main activities, and also get acquainted with the place of potential employment.

The department together with the enterprises organizes carrying out separate occupations at the enterprises which specialization corresponds to the direction of EP For example, the involvement of industrial specialists in the educational process by conducting practical and laboratory studies on the basis of universities and / or enterprises.

To assess the competence of university teachers, employers practice conducting faculty workshops in the workplace, in educational institutions. For example, from November 5 to November 13, 2018, AUPET employees of the specialty Thermal Engineering and Engineering Ecology and Safety in Energy (Life Safety and Environmental Protection) underwent improvement courses at the training center of Almaty Power Plants JSC with mandatory visits to production facilities CHP-1, CHP-2, CHP-3, ZTK. After completing the course, the teachers passed the exam and were given certificates.

Students of educational programmes participate in scientific and methodological, scientific and practical seminars and conversations on modern technologies.

According to the requirements of SES, the content of disciplines accredited by the EP is based on the knowledge and skills obtained at the previous level of education, and are aimed at obtaining knowledge in the field of basic natural sciences and scientific and professional skills and competencies.

According to the EP, the content of all disciplines is based on the fundamental natural sciences, such as physics, mathematics, chemistry, as evidenced by the modular curricula and the QED disciplines in the specialty "Heat Power Engineering" (https://aues.kz/?page_id=6098) and "Engineering ecology and safety in the energy sector" (Life safety and environmental protection) https://aues.kz/?page_id=6039.

In the process of studying the disciplines, in particular, such as "Info communication technologies", "Engineering graphics", etc. students acquire the skills of mathematical modeling, processing large amounts of data, carrying out computer calculations, process control systems, which will further contribute to the implementation of scientific research and professional activities.

Training in the proposed educational programmes, both in content and in the used educational technologies, requires the students to make extensive use of information technologies, mastering the basic functions and software of a modern computer. Graduates are well-versed in modern information flows, including skills in basic functions and software of a modern computer.

In the 2017-2018 academic years, the university opened a branch of AUPET IET (Institute of Engineering Technologies in the UK) on Campus Group. The activities of this branch are connected with scientific and innovative activities; the members of this group have the opportunity to publish in the UK rating magazines.

Students and undergraduates use the Internet resources to search for the necessary information; they process it, text, table and graphic.

Also, knowledge in the field of information technology by students in the field is applied in the process of working on research projects.

Thus, the department provides training of a graduate competent in production and management, organizational-technological and scientific-pedagogical areas on the basis of modern teaching tools, information technology and information resources.

Feedback from employers and a qualitative and quantitative analysis of the final state certification over the past five years confirm the high level of training and the effectiveness of the educational programme.

Analytical part

Experts of the EEC IAAR state that educational programmes in the areas of “5B071700 Heat Power Engineering”, “5B073100 Life Safety and Environmental Protection”, “6M071700 Heat Power Engineering”, “6M073100 Health Safety and Environmental Protection” and “6D071700 Heat Power Engineering Industry”

However, it can be noted that little information is given on conducting seminars to solve practical problems that are relevant to enterprises in the field of specialization. Also in the field of practical training.

Strengths / Best Practices

1. Demonstrated disciplines and activities aimed at obtaining practical experience and skills in the specialty as a whole and major disciplines
2. The teaching staff has a sufficiently long industrial experience in the field of specialization of the educational programme in all areas of the cluster.
3. The content of all disciplines OP is based on and includes a clear relationship with the content of the fundamental natural sciences, such as mathematics, chemistry, physics.
4. Demonstrated measures to enhance practical training in the field of specialization.
5. Demonstrated practical orientation of educational programmes in the field of specialization of practical training of students.

EEC recommendations

Consider the possibility of using elements of dual training in the framework of EP "5B073100 Life Safety and Environmental Protection", "6M073100 Life Safety and Environmental Protection."

Conclusions of the EEC on the criteria: 5 criteria are disclosed, of which 5 have a strong position.

VII REVIEW OF STRONG PARTIES / BEST PRACTICES FOR EACH STANDARD

Standard "Management of the educational programme"

The university has a published quality policy.

Identified responsible for the business processes for the implementation of the EP.

Information Management and Reporting Standard

Documentary evidence on the processing of personal data of students, employees and faculty.

Standard "Development and approval of the educational programme"

The presence of the developed models of the graduate of the EP.

The complexity of the EP is clearly defined in Kazakhstan loans and ECTS.

Standard "Continuous monitoring and periodic evaluation of educational programmes"

Created Academic Councils, which included employers, faculty and students to discuss, approve and revise the EP.

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

The existence of a procedure for evaluating the results of training and the combined control of students on re-accredited EP

Standard "Students"

AUPET provides graduates with a certificate of professional qualifications, including the learning results achieved.

Standard "Teaching Staff"

Involvement in teaching of practitioners of relevant industries in re-accredited OP.

Standard "Educational resources and student support systems"

Strengths are not identified by the EEC members.

Standard "Public Information"

Availability of information about implemented modular educational programmes with indication of expected learning outcomes;

Availability of information on the qualification at the end of re-accredited EP.

VIII REVIEW OF RECOMMENDATION TO IMPROVE QUALITY

Standard "Management of the educational programme"

To take comprehensive measures for the gradual transition of the university to a trilingual education and create a mechanism for organizing groups of graduate and doctoral studies in the Kazakh language;

To practice the training of university managers and accredited EPs in educational management programmes.

Standard "Information Management and Reporting"

Planned activities and expected results in the EP Development Plans for the long-term and short-term periods of time should be reviewed from the point of view of measurability, evaluation of effectiveness and efficiency.

Intensify the work on the involvement of all categories of stock holders: students, employees, teaching staff and personnel in the process of collecting and analyzing information and making decisions based on them.

Standard "Development and approval of the educational programme"

Consider the possibility of developing joint educational programmes with leading foreign educational organizations.

Strengthen the practice-oriented EP.

Standard "Continuous monitoring and periodic evaluation of educational programmes"

Systematically monitor satisfaction with the learning process and EP.

Standard "Student-centered learning, teaching and performance evaluation"

To continue the work on conducting our own research in the field of teaching disciplines in the context of EP.

Standard "Students"

Create a mechanism to attract foreign students in the framework of academic mobility.

Standard "Teaching Staff"

To continue work on the implementation of the plan for the development of academic mobility in the framework of the EP.

To create a mechanism for attracting leading EP lecturers to participate in academic mobility of foreign universities.

Standard "Educational resources and student support systems"

Ensure the functioning of WI-FI in the framework of the EP;

To intensify the use of innovation and communication technologies in the teaching activities of the EP.

Standard "Public Information"

Use a variety of ways to disseminate information to inform the general public and interested parties about the work carried out in all EPs.

Standard "Standards in the context of individual specialties"

Consider the possibility of using elements of dual training in the framework of EP "5B073100 Life Safety and Environmental Protection", "6M073100 Life Safety and Environmental Protection."



Appendix 1. Evaluation table "SPECIALISED PROFILE PARAMETERS"

for evaluating of educational programmes "5B073100 Life Safety and Environmental Protection", "6M073100 Life Safety and Environmental Protection", "5B071700 Heat Power Engineering", "6M071700 Heat Power Engineering", "6D071700 Heat Power Engineering"

	№	Evaluation criteria	Position of the organisation of education			
			Strong	Satisfactory	Suggests improvement	Unsatisfactory
Standard "Management of the educational programme"						
1	1.	The university must have a published quality assurance policy.	+			
2	2.	The quality assurance policy should reflect the link between research, teaching and learning.	+			
3	3.	The university should demonstrate the development of a culture of quality assurance, including in the context of the educational programme (EP).		+		
4	4.	Commitment to quality assurance should relate to any activity performed by contractors and partners (outsourcing), including in the implementation of joint / two-diploma education and academic mobility.		+		
5	5.	The EP management ensures the transparency of the development plan of the EP based on an analysis of its functioning, the real positioning of the university and the focus of its activities on meeting the needs of the state, employers, stakeholders and students.		+		
6	6.	The EP management demonstrates the functioning of the mechanisms for the formation and regular review of the EP development plan and monitoring its implementation, evaluation of the achievement of learning objectives, meeting the needs of students, employers and society, making decisions aimed at continuous improvement of EP.	+			
7	7.	The EP management should involve representatives of groups of stakeholders, including employers, students and faculty members in the formation of the development plan for the EP.	+			
8	8.	The EP management must demonstrate the individuality and uniqueness of the EP development plan, its consistency with the national development priorities and the development strategy of the educational organization.	+			
9	9.	The university should demonstrate a clear definition of those responsible for the business processes within the EP, the unambiguous distribution of job responsibilities of staff, separation of functions of collegial bodies.	+			
10	10.	EP management must provide evidence of the transparency of the educational programme management system.		+		
11	11.	The EP management must demonstrate the successful functioning of the internal quality assurance system of the EP, including its design, management and monitoring, their improvement, making decisions based on facts.		+		

12	12.	The management of the EP must carry out risk management.		+		
13	13.	The EP management must ensure the participation of representatives of stakeholders (employers, teaching staff, students) in the collegial bodies of the educational programme management, as well as their representativeness in making decisions on the management of the educational programme.	+			
14	14.	The university should demonstrate the management of innovations in the framework of the EP, including the analysis and implementation of innovative proposals.	+			
15	15.	The EP management must demonstrate evidence of openness and accessibility for students, teaching staff, employers and other interested persons.		+		
16	16.	The management of EP should be trained in educational management programmes.			+	
17	17.	The EP management must strive to ensure that the progress made since the last external quality assurance procedure was taken into account in preparing for the next procedure.		+		
Total on standard			8	8	1	0
“Information Management and Reporting” Standard						
18	1.	The university should ensure the functioning of the system for collecting, analyzing and managing information through the use of modern information and communication technologies and software.	+			
19	2.	The EP management must demonstrate systematic use of processed, adequate information to improve the internal quality assurance system.		+		
20	3.	Within the EP, there should be a regular reporting system reflecting all levels of the structure, including an assessment of the performance and effectiveness of the activities of departments and departments, and research.		+		
21	4.	The university should establish the frequency, forms and methods of evaluating the management of EP, the activities of collegial bodies and structural divisions, senior management, and the implementation of research projects.		+		
22	5.	The university should demonstrate the determination of the order and ensuring the protection of information, including the definition of responsible persons for the accuracy and timeliness of the analysis of information and the provision of data.	+			
23	6.	An important factor is the involvement of students, employees and teaching staff in the process of collecting and analyzing information, as well as making decisions based on them		+		
24	7.	The EP's management must demonstrate the presence of a communication mechanism with students, employees and other interested parties, including the existence of conflict resolution mechanisms.		+		
25	8.	The university should provide a measure of the degree of satisfaction of the needs of faculty, staff and students in the EP and demonstrate the evidence to eliminate the identified deficiencies.		+		
26	9.	The university should evaluate the effectiveness and efficiency of activities, including in the context of the EP.		+		
		Information collected and analyzed by the university should take into account:				

27	10.	efficiency key indicators	+			
28	11.	the dynamics of the contingent of students in the context of forms and types;	+			
29	12.	level of performance, student achievement and expel of the student from educational university;	+			
30	13.	students' satisfaction with the implementation of the EP and the quality of education at the university;		+		
31	14.	availability of educational resources and support systems for students;	+			
32	15.	Employment and career growth of graduates.		+		
33	16.	Students, employees and teaching staff must document their consent to the processing of personal data.		+		
34	17.	The administration of EP should contribute to the provision of all necessary information in relevant fields of science.	+			
Total on standard			7	10	0	0
Standard "Development and approval of educational programmes"						
35	1.	The university should define and document the procedures for the development of EP and their approval at the institutional level.	+			
36	2.	The EP management must ensure that the developed EPs comply with the established goals, including the expected learning outcomes.	+			
37	3.	The management of EP should ensure the availability of developed models of graduate of EP, describing learning outcomes and personal qualities.	+			
38	4.	The management of EP must demonstrate the conduct of external examinations of the EP.	+			
39	5.	Qualifications obtained at the end of the EP should be clearly defined, explained and correspond to a certain level of the NSC.	+			
40	6.	The EP management must determine the influence of disciplines and professional practices on the formation of learning outcomes.	+			
41	7.	An important factor is the possibility of preparing students for professional certification.		+		
42	8.	The EP management must provide evidence of the participation of students, faculty and other stakeholders in the development of EP, ensuring their quality.		+		
43	9.	The complexity of the EP should be clearly defined in Kazakhstan loans and ECTS.		+		
44	10.	The administration of EP must provide the content of academic disciplines and learning outcomes to the level of education (bachelor, master, doctorate).		+		
45	11.	The structure of the EP should provide for various types of activities corresponding to the learning outcomes.		+		
46	12.	An important factor is the presence of joint EPs with foreign educational organizations.		+		

Total on standard			6	6	0	0
Standard "Permanent monitoring and periodic evaluation of educational programmes"						
47	1.	The university should monitor and periodically evaluate the EP in order 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 periodic evaluation of the EP should consider:</i>				
48	2.	The content of the programmes in the light of the latest achievements of science in a particular discipline to ensure the relevance of the taught discipline;	+			
49	3.	Changes in the needs of society and the professional environment;	+			
50	4.	Academic workload, performance and graduation of students;	+			
51	5.	effectiveness of student assessment procedures;		+		
52	6.	expectations, needs and satisfaction of students with EP training;		+		
53	7.	educational environment and support services and their compliance with the objectives of the EP.	+			
54	8.	The university and the administration of EP must provide evidence of the participation of students, employers and other stakeholders in the revision of the EP.		+		
55	9.	All interested parties should be informed of any planned or taken actions in relation to the EP. All changes made to the EP should be published.		+		
56	10.	The administration of the EP must provide a review of the content and structure of the EP, taking into account changes in the labor market, the requirements of employers and the social demand of society.	+			
Total on standard			6	4	0	0
Standard "Student-centered learning, teaching and assessment of progress"						
57	1.	The management of EP should ensure respect and attention to various groups of students and their needs, providing them with flexible learning paths.	+			
58	2.	The management of EP must ensure the use of various forms and methods of teaching and learning.		+		
59	3.	An important factor is the availability of own research in the field for teaching methods of academic disciplines of EP.			+	
60	4.	The EP management must demonstrate the presence of a feedback system on the use of various teaching methods and evaluation of learning outcomes.		+		
61	5.	The EP management must demonstrate support for the autonomy of students with simultaneous guidance and assistance from the teacher.		+		
62	6.	The EP management must demonstrate the existence of a procedure for responding to students' complaints.		+		
63	7.	The university should ensure the consistency, transparency and objectivity of the mechanism for evaluating learning outcomes for each EP, including the appeal.		+		

64	8.	The university should ensure that the assessment of the results of the training of students of EP to the planned learning outcomes and the objectives of the programme. Criteria and assessment methods in the framework of the EP should be published in advance.		+		
65	9.	In the university, mechanisms should be defined to ensure that each graduate from the EP study results and ensure their completeness.		+		
66	10.	Assessors should possess modern methods of assessing learning outcomes and regularly improve their skills in this area.		+		
Total on standard			1	8	1	0
Standard "Students"						
67	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 completion) must be defined, approved, published.		+		
68	2.	The EP management must demonstrate the implementation of special adaptation and support programmes for new and foreign students.		+		
69	3.	The university must demonstrate the compliance of its actions with the Lisbon Recognition Convention.		+		
70	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 to ensure comparable recognition of qualifications.		+		
71	5.	The management of EP must demonstrate the presence and application of a mechanism to recognize the results of academic mobility of students, as well as the results of additional, formal and non-formal training.		+		
72	6.	The university should provide an opportunity for external and internal mobility of students of EP, as well as assist them in obtaining external grants for training.		+		
73	7.	The management of EP should make the maximum amount of efforts to provide students with places of practice, to facilitate the employment of graduates, to maintain communication with them.	+			
74	8.	The university should provide graduates of EP with documents confirming their qualifications, including the achieved learning outcomes, as well as the context, content and status of the education received and evidence of its completion.		+		
75	9.	An important factor is the monitoring of the employment and professional activities of graduates of EP.		+		
76	10.	The management of EP should actively encourage students to self-education and development outside the main programme (extracurricular activities).		+		
77	11.	An important factor is the presence of a valid alumni association / association.		+		

78	12.	An important factor is the availability of a support mechanism for gifted students.		+		
Total on standard			1	11	0	0
Standard "Teaching staff"						
79	1.	The university should have an objective and transparent personnel policy, including hiring, professional growth and staff development, ensuring the professional competence of the entire state.	+			
80	2.	The university should demonstrate the compliance of the staff potential of faculty with the development strategy of the university and the specifics of the EP.	+			
81	3.	The management of the EP must demonstrate an awareness of responsibility for its employees and ensuring for them favorable working conditions.		+		
82	4.	The EP's management must demonstrate a change in the role of the teacher in connection with the transition to student-centered learning.		+		
83	5.	The university should determine the contribution of teaching staff to the implementation of the university's development strategy, and other strategic documents.	+			
84	6.	The university should provide opportunities for career growth and professional development of faculty staff EP.	+			
85	7.	The EP's management should involve practitioners of relevant branches in the teaching.	+			
86	8.	The EP's management should provide targeted actions for the development of young teachers.	+			
87	9.	The university should demonstrate the motivation of professional and personal development of EP teachers, including encouraging both the integration of science and education, and the use of innovative teaching methods.	+			
88	10.	An important factor is the active use of information and communication technologies in the educational process (for example, on-line training, e-portfolio, MEP, etc.).	+			
89	11.	An important factor is the development of academic mobility within the framework of the EP, attracting the best foreign and domestic teachers.		+		
90	12.	An important factor is the involvement of teaching staff in the community (the role of teaching staff in the education system, the development of science, the region, the creation of a cultural environment, participation in exhibitions, creative competitions, charity programmes, etc.).	+			
Total on standard			9	3	0	0
Standard "Educational resources and student support systems"						
91	1.	EP management must demonstrate the adequacy of material and technical resources and infrastructure.	+			
92	2.	The EP's management should demonstrate the presence of procedures for supporting various groups of students, including information and counseling.		+		
		<i>The EP management must demonstrate the compliance of information resources with the specifics of the EP, including compliance with:</i>				

93	3.	The technological support for students and teaching staff in accordance with educational programmes (for example, online training, modeling, databases, data analysis programmes)	+			
94	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;		+		
95	5.	access to education Internet resources		+		
96	6.	An examination of the results of research, final works, dissertations on plagiarism;		+		
97	7.	WI-FI functioning on the territory of the educational organization.			+	
98	8.	The university should strive to ensure that the training equipment and software used for the development of EP, were similar to those used in their respective industries.	+			
99	9.	The university should ensure compliance with safety requirements in the learning process.	+			
100	10.	The university should strive to take into account the needs of various groups of students in the context of EP (adults, workers, foreign students, and students with disabilities).		+		
Total on standard			4	5	1	0
Standard "Public Information"						
		<i>The information published by the university within the EP should be accurate, objective, relevant and should include:</i>				
101	1.	implemented programmes, indicating the expected learning outcomes;	+			
102	2.	information on the possibility of assigning qualifications at the end of the EP;		+		
103	3.	information on teaching, learning, assessment procedures;		+		
104	4.	information on passing points and training opportunities provided by students;		+		
105	5.	Information about graduates' employment opportunities.		+		
106	6.	The administration of the EP should use a variety of ways to disseminate information (including the media, web resources, information networks, etc.) to inform the general public and stakeholders.	+			
107	7.	Public awareness should provide support and clarification of the country's national development programmes and the system of higher and postgraduate education.		+		
108	8.	The university should publish audited financial statements on its own web resource.		+		
109	9.	The university should demonstrate the information on the web resource describing the university as a whole and in the context of the EP.		+		
110	10.	An important factor is the availability of adequate and objective information about the teaching staff of the OP, in the context of personalities. о ППС ОП, в разрезе персоналий.		+		
111	11.	An important factor is informing the public about cooperation and collaboration with partners in EP, including with scientific / consulting organizations, business partners, social partners and educational organizations.		+		

112	12.	The university should post information and links to external resources on the results of external assessment procedures.		+			
113	13.	An important factor is the participation of the university and implemented EP in a variety of external evaluation procedures.	+				
Total on standard			3	10	0	0	
Standards in the context of individual specialties							
NATURAL SCIENCES, AGRICULTURAL SCIENCES, TECHNICAL SCIENCES, AND TECHNOLOGIES							
		EPs in the areas of "Natural Sciences", "Technical Sciences and Technologies", such as "Mathematics", "Physics", "Information Systems", etc., must meet the following requirements:					
114	1.	In order to familiarize students with the professional environment and relevant EPs in the field of specialization, as well as to acquire skills on the basis of theoretical training, the education program should include disciplines and EPs aimed at obtaining practical EPs and skills in the specialty in general and majors in particular , including: - field trips to enterprises in the field of specialization (factories, workshops, research institutes, laboratories, training programs, household farms, etc.), - conducting individual classes or entire disciplines at the enterprise of specialization, - holding seminars to solve practical problems relevant for enterprises in the field of specialization, etc.	+				
115	2.	The teaching staff involved in the education program should include full-time teachers who have a long EP and work as a full-time employee at enterprises in the field of specialization of the EP.	+				
116	3.	The content of all disciplines The EP should be based to one degree or another and include a clear relationship with the content of the fundamental natural sciences, such as mathematics, chemistry, physics.	+				
117	4.	The guidance of the EP should provide measures to strengthen practical training in the field of specialization.	+				
118	5.	The management of the EP should provide training for students in the application of modern information technologies.	+				
Total standard			5	0	0	0	
Total			50	65	3	0	