«АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТІҢ ТӘУЕЛСІЗ АГЕНТТІГІ» КЕМ

НУ «НЕЗАВИСИМОЕ АГЕНТСТВО АККРЕДИТАЦИИ И РЕЙТИНГА»

INDEPENDENT AGENCY FOR ACCREDITATION AND RATING

REPORT

on the results of the work of the external expert commission for assessing compliance with the standards for specialized accreditation of educational programs

5B070200 «Automation and control»,
5B070400 «Computers and Software»,
5B071700 «Thermal Engineering»

KOSTANAY ENGINEERING AND ECONOMICS UNIVERSITY named after M. DULATOV
Site-Visit Dates: from «11» to «13» December 2018

INDEPENDENT AGENCY FOR ACCREDITATION AND RATING
External expert commission

Addressed to
To the IAAR
Accreditation
Council

АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТІҢ ТӘУЕЛСІЗ АГЕНТТІГІ
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CONTENT

(I) DESIGNATIONS AND ABBREVIATIONS

AA – additional agreements;
ACS – automated control system;
AIS – automated information system;
APTECH - Applied Technologies;
CED – catalog of elective disciplines;
CIS – Commonwealth of Independent States;
CNC – computer numerical control;
CTA – Comprehensive testing of applicants;
CTE – credit technology of education;
DLT – distance learning technologies;
EALA – external assessment of learning achievements;
EB – education board;
EEC – External expert commission;
E-library – electronic library;
EMC – educational and methodological council;
EMCD – educational and methodological complex of discipline;
EMCS – educational and methodological complex of specialty;
EMW – educational and methodological work;
EP – educational program;
EPDC – Education Programme Development Committee;
EW – educational work;
FDL – Faculty of Distance Learning;
GIZ - Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH;
GS – general subjects;
HACCP – Hazard Analysis and Critical Control Points;
HEI – higher educational institution;
HVT – higher vocational training;
IAAE – International Academy of Agricultural Education;
IAAR – Independent Agency for Accreditation and Rating;
IC – individual curriculum;
ICT – information communications technology;
IIA – International Informatization Academy;
IS – international standard;
IS ISO – international standard of International Organization for Standardization;
IT – information technology;
ITC – information technology center
IWL/IWS – independent work of learner/student;
JSC – joint-stock company;
KEnEU – Kostanay Engineering and Economics University;
KNA NS – Kazakhstan National Academy of Natural Sciences;
KSU – Kostanay State University named after A. Baitursynov;
LC – labor contract;
LLP – limited liability partnership;
MA RK – Ministry of Agriculture of the Republic of Kazakhstan;
MC – model curriculum;
MCI – monthly calculation index;
MEP – managerial and executive personnel;
MEP – modular educational programs;

MES RK – Ministry of Education and Science of the Republic of Kazakhstan;
MM – mass media;
MTB – material and technical base;
PACS – Physical Access Control System;
QMS – quality management system;
RIC – regional innovation center;
RIEL – republican interuniversity electronic library;
RO – registrar's office;
RPA – research and production activities;
RSCI – Russian Science Citation Index;
RSE – Republic state enterprise;
RSME on the REM – republican state municipal enterprise on the right of economic management;
RSW – research scientific work;
RSWL/RSWS – research scientific work of learner/student;
SAC – state attestation commission;
SCS – state compulsory standard;
SCSE RK – state compulsory standard of education of the Republic of Kazakhstan;
SIWT – student's independent work with teacher;
SLA – statutory legal act;
SME – state municipal enterprise;
SP – study program;
SPCAE – Scientific production center of agricultural engineering;
SSS – student scientific society;
STR – Student traffic records;
SW – scientific work;
TC – Technical Committee;
TS – Teaching staff;
TSS – teaching and support staff;
TVT – technical vocational training;
UHEMS – unified higher education management system;
UNT – unified national test;
Vice-Rector for AD – Vice-Rector for Academic Development;
Vice-Rector for CD – Vice-rector for corporate governance;
Vice-Rector for STSI – Vice-Rector for Strategic Development, Science and Innovation;
WC – work curriculum.

(II) INTRODUCTION

In accordance with Order №123-18-OD dated 28.11.2018 of Independent Agency for Accreditation and Rating from 11 to 13 December 2018, the external expert commission assessed the compliance of OP 5B073200 "Standardization and certification (by industry)", 5B072800 "Technology of processing industries (by industry)" of Kostanay Engineering and Economics University named after M. Dulatov with IAAR specialized accreditation standards (dated 24 February 2017 № 10-17-OD, fifth edition).

The report of the External Expert Commission (EEC) contains an assessment of compliance of activities of M. Dulatov Kostanay University of Engineering and Economics within the framework of specialized accreditation criteria of the IAAR, EEC recommendations for further improvement of parameters of the specialized profile.

Members of EEC:

1. **Chairman of the Commission** - Pogrebitskaya Marina Vladimirovna, Candidate of Pedagogical Sciences, Associate Professor, North Kazakhstan State University named after M. Kozybayev (Petropavlovsk).
2. **Foreign expert** - Elena Evgenievna Sokolova, Candidate of Economic Sciences, Associate Professor, National Aviation University (Kiev, Ukraine).
3. **Foreign expert** - Alexey Mikhailovich Gostin, Candidate of Technical Sciences, Associate Professor, Ryazan State Radio Engineering University (RGRTU) (Ryazan).
4. **Expert** - Kegenbekov Zhandos Kadyrkhanovich, Candidate of Technical Sciences, Associate Professor, Kazakh-German University (Almaty).
5. **Expert** - Abishev Kairotolla Kayrollinovich, Candidate of Technical Sciences, Associate Professor, Pavlodar State University named after S. Toraigyrov (Pavlodar).
6. **Expert** - Rakhimov Murat Amanzholovich, Ph.D., associate professor, Karaganda State Technical University (Karaganda).
7. **Expert** - Malika Akhyadovna Saidulaeva, Karaganda State Medical University (Karaganda).
8. **Expert** - Nurlan Narkenovich Tashatov, Candidate of Physical and Mathematical Sciences, Associate Professor, Eurasian National University named after L.N. Gumilyov (Astana).
9. **Expert** - Musabekov Rasulbek Akylbekovich, Ph.D., associate professor, Almaty University of Energy and Communications (Almaty).
10. **Employer** - Bekmagambetov Gabiden Baurzhanovich, project manager of the human capital development department of the Chamber of Entrepreneurs of the Kostanay region (Kostanay).
11. **Employer** - Aleksey Vasilyevich Korniyasev, chief engineer of AgromashHoldingKZ JSC (Kostanay).
12. **Student** - Anuarbekova Diana Talgagyzy, 4th year student of EP “5B080100-Agronomy”, Kostanay State University named after A. Baitursynov (Kostanay).
13. **Student** - Nusipbek Nurlybek Nusipbekuly, 4th year student of EP “5B073200-Standardization and Certification”, Kostanay State University named after A. Baitursynov (Kostanay).
14. **Student** - Amanova Oralai Maulenovna, 3rd year student of EP “5B071700-Heat Power Engineering”, Rudny Industrial Institute (Rudny).
15. **Agency observer** - Timur Erbolatovich Kanapyanov, PhD, Head of International Projects and Public Relations of the IAAR (Astana).

(III) EDUCATIONAL ORGANIZATION

Kostanay Engineering and Economics University named after Myrzhakyp Dulatov (KEnEU) is a higher educational institution with the status of a legal entity that implements professional educational programs of higher and postgraduate education.

KEnEU has the necessary regulatory documents for conducting educational activities (license №12020748 dated 05.11.2012, KEnEU Charter, a package of internal regulatory materials, professional educational programs).

Kostanay Engineering and Economics University named after M. Dulatov is the first private higher educational institution in the Kostanay region, which arose as a result of the changed economic and social conditions in independent Kazakhstan, the history of formation and development of which is 22 years old. The basis for its emergence, formation and further development was the opening in 1996 of the Institute of Business and Management LLP, transformed a year later into the Institute of Business and Management, in which students studied in three economic specialties: “Economics and Management”, “Accounting and Audit”, “International Economic Relations”.

Currently, the structure of the University includes 3 faculties (Economics, Engineering and Technology, Faculty of Distance Learning), 7 departments (Standardization and Food Technologies, Information Technology and Automation, Transport and Service, Energy and Mechanical Engineering, Accounting and Finance, Economics and Management, General Education). There is a Center for Work with Students, a Center for Recruiting Applicants and Work with Alumni, a Digital Academy, a Center for Project Development and Implementation, an Entrepreneurship Center, a STARTUP Academy, a Co-working Center, etc.

In an effort to become a leading entrepreneurial, socially responsible university, focusing on the higher schools of entrepreneurship in the world, the university is actively working to create and implement the following innovative projects:

- the functioning of the training laboratory "Company Accountant and 1C Accounting" using the experience of Germany under the program of the German Society for International Cooperation (GTZ) and the opening of the Certified Training Center of the "1C" company in 8 profile and 2 school directions;
- functioning with the aim of training world-class specialists in IT technologies, the International Scientific and Educational Center for Computer Technologies APTECH (Applied Technologies) was created as an official representative (license № 0122 of the franchise agreement dated December 20, 2012 of the APTECH Corporation, Mumbai) ;
- functioning of the innovative educational laboratory "Modeling and application of technological processes" with CNC machines.

Seven university departments provide training in 19 bachelor's degrees and two master's degrees.

As of October 1, 2018, the contingent of full-time students was 2,194 people, of which 51 were based on state educational grants, and 55 undergraduates.

Currently, the total number of full-time teachers at the university is 112 people. The staff includes 5 doctors of sciences, 2 professors, 52 candidates of sciences, 21 associate professors, 3 PhD doctors, 40 masters. The university employs 24 people who are part of the MAAO, MAIN, and AEN RK.

Since the 2011-2012 academic year, KEnEU has been using distance learning in case study, network and TV technologies for all undergraduate specialties. The distance learning system Elsyma, developed by the university staff, is the only one in the northern region. This allows students to study online. These technologies allow using all scenarios of e-

learning training. These scenarios are being developed within the Tempus project funded by the European Commission.

Today, the university trains personnel for the national economy of Kazakhstan and, in particular, for the northern region. Over twenty-two years, the university has trained more than 20 thousand people in engineering, agricultural and economic fields.

The university trains specialists in close cooperation with the main employers of the region (KF JSC "Agromash-Holding"; LLP "SaryarkaAvtoProm"; LLP "Ivolga-Raster"; LLP "Company of Energy-Efficient Technologies"; JSC NCEX, Bayan-Sulu JSC; Evraz Caspian Steel LLP; Zatobolskaya Heating and Power Company SCP; KTZ - Cargo Transportation - Kostanay GP Department JSC; Alliancom LLP; Kostanay Mill Plant JSC; Baltic Control Kazakhstan LLP, etc.).

Managers of the largest enterprises and firms joined the Board of Trustees of the University. Many heads, heads of departments, chief specialists of organizations and enterprises, city and regional administrations are graduates of the University (http://kineu.kz/popechitelskij-sovet).

The University has a modern level of material and technical base, ensuring the provision of quality educational services and the implementation of the mission, goals and objectives of the university. New classrooms are put into operation every year due to the modernization of fixed assets. In 2005, a new sport hall with a total area of 1087.5 m^2 was built using own funds, in 2007 an administrative building with a total area of 2935.3 m^2 was commissioned, in 2012 an academic building with a total area of 561 m^2 was built, in 2011 the academic building B was expanded by building the 5th floor with a total area of 588.4 m^2. In 2014, an attic extension of the 5th floor of building A was commissioned, with a total area of 720.7 m^2.

The University is a signatory of the Great Charter of Universities (Magna Charta Universitatum Bologna). In 2014, according to the results of the national rating of the Independent Kazakhstan Agency for Quality Assurance in Education (IQAAE) and the Centre of Bologna Process and Academic Mobility of MES RK, the best educational programmes of the university were recognized: "Organization of transportation, traffic and operation of transport" - 4th position, "Standardization, certification and metrology" - 9th position, "Economics" - 10th position, "Electric power engineering" - 11th position.

In 2015, the university underwent institutional and specialised accreditation for 8 programs at the NAAR. The educational programs "Transport, Transport Engineering and Technology", "Standardization, Metrology, Certification", "Agrarian Engineering and Technology", "Automation and Management", "Computer Engineering and Software" and "Agronomy" are accredited for 3 years, "Organization of Transportation, Traffic and Operation of Transportation" and "Mechanical Engineering" for 5 years (http://kineu.kz/akkreditatsiya/).

In 2018, the university took part in the rating of the National Chamber of Entrepreneurs "Atameken": 5B080600 Agricultural machinery and technology – 1, 5B080100 Agronomy – 2, 5B090100 Organization of transportation, traffic and operation of transport – 3, 5B071200 Mechanical engineering – 2, 5B073200 Standardization and certification (by industry) - 3, 5B070400 Computer science and software - 5, 5B070200 Automation and control - 6, 5B071300 Transport, transport equipment and technologies - 7, 5B090900 Logistics (by industry) - 7, 5B071700 Heat power engineering - 8.

Since 2012, a library of KEnEU has had access to Thomson Reuters "Web of Knowledge", "Science Direct" and "Scopus" international full-text resources.

The University annually hosts international scientific and practical conferences with the participation of leading specialists, scientists from universities of the near and far abroad.

The development of international cooperation is actively supported. The University has signed 28 agreements on cooperation in the field of science and education with foreign universities and organizations, including Weihenstephan-Triesdorf University (Germany, Freising), Caucasus International University (Georgia, Tbilisi), and others.

(IV) DESCRIPTION OF THE PREVIOUS ACCREDITATION PROCEDURE

In accordance with the order of the Independent Agency for Accreditation and Rating 29-15-OD dated 16.11.15, from November 18 to 20, 2015, an external expert commission assessed the compliance of the educational program 5B073200 "Standardization, Certification and Metrology" (by industry) with the standards of specialized accreditation of the IAAR (dated April 26, 2012, No. 08-OD, second edition).

The educational program 5B071700 "Thermal Engineering" is being accredited for the first time.

The report of the external expert commission (EEC) contains an assessment of the submitted educational programs of educational organizations to the criteria of the IAAR, recommendations of the EEC for further improvement of educational programs and the parameters of the profile of educational programs of the Kostanay Engineering and Economics University named after M. Dulatov.

Members of the previous EEC in the KEnEU named after M. Dulatov:

1. Chairman of the Commission - Vladimir Nikolaevich Kosov, Doctor of Physics and Mathematics, Professor, Kazakh National Pedagogical University named after Abai.

2. Foreign expert - Petr Hajek, PhD, professor of the Central Bohemian University (Prague, Czech Republic);

3. Expert - Gulnara Bayanovna Turtkaraeva, Candidate of Pedagogical Sciences, Associate Professor, Kokshetau State University named after Sh. Ualikhanov (institutional);

4. Expert - Khamraev Sheripidin Itakhunovich, Ph.D., Associate Professor, Kazakh National Pedagogical University named after Abai (1 cluster);

5. Expert - Sembaev Nurbolat Sakenovich, Ph.D., Pavlodar State University named after S. Toraigyrov (1 cluster);

6. Expert - Aldabergenova Saule Salimzhanovna, M.Sc., Kazakh Agro Technical University named after S. Seifullin (2 cluster);

7. Expert - Akhmedyanov Abdulla Ugubaevich, Ph.D., Associate Professor, Eurasian National University named after L.N. Gumilyov (cluster 2);

8. Employer - Olkinyan Lyudmila Yurievna, Director of the Center for Personnel Training and Development of AgromashHolding JSC and SaryarkaAvtoProm LLP (Kostanay);

9. Student – Abilnasirova Symbat Adilbekkyzy, 3rd year student of ENU named after L.N. Gumilyov;

10. Agency observer – Kanapyanov Timur Erbolatovich, head of international projects of the Agency (Astana).

RECOMMENDATIONS FROM THE PREVIOUS ACCREDITATION PROCEDURE

EEC for specialized accreditation of educational programs 5B070400 - "Computers and software", 5B070200 - "Automation and control" recommends:

In order to improve the management processes of educational programs, the commission recommends:

1. Conduct an analysis of the compliance of the development plan of educational programs with the current University Development Strategy and, on the basis of the data obtained, improve the development plans of accredited educational programs, intensify the work on analyzing the success of the implementation of educational programs with subsequent corrective actions;

2. Assess the risks of the development of the educational program in full compliance with the University Development Strategy and develop a mechanism to reduce them;

3. Strengthen the further development of cooperation with domestic and foreign universities that implement similar educational programs.

In order to improve the specifics of educational programs, the commission recommends:

4. Provide for the implementation of the process of diagnosing the knowledge of students at the beginning of training in EP or a separate academic discipline;

5. Consider the possibilities of organizing dual education in senior courses and the implementation of joint EP with other higher educational institutions.

6. Ensure the continuity of the content of educational programs at various levels.

In order to improve the quality and efficiency of teaching, the commission recommends:

7. It is necessary to organize refresher courses or training seminars on planning learning outcomes for educational programs and implementing the basic principles of the Bologna process.

8. Strengthen work on the development of academic mobility, advanced training of teaching staff, attracting the best foreign and domestic teachers and conducting joint research in the implementation of accredited educational programs;

9. Take measures to encourage young teachers to participate in academic mobility programs, Bolashak, conferences of all levels, competitions, research projects, etc., the development of mentoring;

10. It is necessary to activate the work of the teachers of the department to publish articles in journals with a non-zero impact factor on the basis of Thomson-R, Scopus.

In order to meet the needs of students, the commission recommends:

11. Strengthen work on attracting students to research and develop mechanisms for implementing the program to support gifted students;

12. Provide opportunities for continuing education in educational programs of magistracy and additional education;

13. It is necessary to provide for the possibility of professional certification of students in the process of studying at the university.

In order to improve the resources of available EP, the commission recommends:

14. It is necessary to develop programs for the development of educational and scientific laboratories and create conditions for the development of research teams with the involvement of various enterprises funded by contractual topics;

15. Develop a system for organizing seminars on topical issues of disciplines of educational programs with the involvement of corporate partners;

16. Continue the practice of updating the educational process with modern software products and the book fund of the university library in the state language in accordance with modern requirements.

December 12, 2015 by the decision of the Accreditation Council of the IAAR educational programs 5B070400 - "Computers and software", 5B070200 - "Automation and control", implemented by the Kostanay Engineering and Economic University named after M. Dulatov were accredited for 3 years.

Post-monitoring control to assess the implementation of the recommendations of the IAAR EEC, formed as a result of specialized accreditation of educational programs 5B070400 - " Computers and software ", 5B070200 - "Automation and control" by the IAAR expert group was carried out at the Kostanay Engineering and Economic University named after M. Dulatov in October 24, 2018.

Post-monitoring control established that the following work was carried out according to the recommendations of the EEC:

1. According to the recommendations of the "Management of the educational program" standard:

- According to the accredited EP, the main risks have been identified in accordance with the Development Strategy of the Kostanay Engineering and Economic University named after M. Dulatov. Plans for the development of educational programs have been improved by introducing new learning trajectories that correspond to the plans for the development of educational programs and the current University Development Strategy. The plans for the development of the EP identified measures to reduce the impact of risks for the EP.

- A working group has been created for analysis and detailing, for the development and prevention of risks as part of the teaching staff of the Department of Information Technologies and Automation, with the participation of stakeholders. The working group carried out a SWOT analysis in the formation of annual plans for risk management (as part of operational planning), the result is reflected in the plans for the development of EP in accredited specialties, which led to a change in training trajectories, bringing the content of the EP in accordance with the requirements of the regional economy, improving feedback with consumers.

- Organizational and methodological work was carried out to strengthen the further development of cooperation with domestic and foreign universities that implement similar educational programs, in particular with the Kostanay State University named after A. Baitursynov; with the Eurasian University in Pavlodar, the Humanitarian and Technical Academy in Kokshetau; University of Entrepreneurship, Bielefeld, Germany; Joanneum University of Applied Sciences, Graz, Austria; Kaunas Technical University KTU, Lithuania. According to EP 5B070200 - "Automation and Control" developed on the basis of the European Tempus projects "Development and implementation of the curriculum "Energy Management" based on distance learning in universities of Kazakhstan and Turkmenistan", "Implementation of a quality management system in the field of e-learning at universities in Central Asia (QAMEL)".

The Commission notes that, in general, the university has implemented the recommendations of the standard, but cooperation with other universities in the practical part should be strengthened.

2. According to the recommendations of the "Specificity of the educational program" standard:

- The process of assessing the knowledge of learners is carried out by the university at the beginning of each individual discipline. It provides an assessment of the knowledge, skills and abilities of students on the material covered and each discipline after college or school.

- Practical training was organized within the framework of the Tempus program "Development and implementation of the energy management curriculum based on distance learning in universities in Kazakhstan and Turkmenistan".

The Commission notes that there is a positive trend in the implementation of the recommendations of the standard. However, joint educational programs with other universities are still not implemented, as well as two-degree education.

3. *According to the recommendations of the "Teaching staff and teaching efficiency" standard:*

- As part of the organization of refresher courses, training seminars are planned and conducted within the framework of decades of departments in the 2016-2017 and 2017-2018 academic years. Refresher courses were organized at the Aptech Arena Multimedia Training Center of the International Scientific and Educational Center for Computer Technologies «APTECH-KEnEU» and on the basis of the Certified Training Center of the 1C Company at the KEnEU named after M. Dulatov.

The Commission notes that the recommendation is being implemented for accredited EPs.

- At the Kostanay Engineering and Economic University named after M. Dulatov, according to accredited EP, work was carried out to develop academic mobility, improve the qualifications of teaching staff, attract the best foreign and domestic teachers and conduct joint research in the implementation of accredited educational programs. Academic mobility of the teaching staff is currently determined by internships and short-term lectures.

The Commission notes that, in general, the recommendation is being implemented, but it is necessary to intensify the activities of the university on academic mobility of teaching staff, in particular, external academic mobility.

- In order to stimulate teachers to participate in academic mobility programs, research projects and conferences, the university conducts introductory and explanatory work on possible foreign and republican internships, training, grants, competitions, etc., with further assistance in documenting these programs. The regulation "On the system of key performance indicators of the teaching staff" has been changed, which clearly defines the rating system aimed at encouraging teaching staff to participate in academic mobility programs, Bolashak, conferences of all levels, competitions, research projects, etc.

The Commission notes that, in general, the recommendation is being implemented, but it is necessary to intensify the activities of the university on the participation of teaching staff in academic mobility programs, in particular, Bolashak.

- According to the Regulations on the system of key performance indicators of the teaching staff for the publication of scientific articles in journals with a non-zero impact factor on the Thomson-R base, Scopus adds 500 points to teachers, which is a stimulating factor in activating scientific work on the publication of these articles.

The Commission notes that, in general, this recommendation is being implemented.

4. According to the recommendations of the "Students" standard:

- To enhance the work on attracting students to RSW, the following stands were developed: "Control and measuring devices KIP-WEN", "Programming of industrial equipment OWEN", educational and laboratory installation for the discipline "Microelectronics", demonstration laboratory stands "Security and fire alarm" , "Battery charge controller (alternative sources of electricity)", Lighting control system "Smart home". According to them, 3 acts of implementation of scientific and technical developments used in the educational process of the laboratory "Control Systems and Microelectronics" were received. Together with the students, an educational game was developed for primary school pupils; an act of introduction into the educational process of the Voskresenov secondary school was received. Students of the specialty 5B070400

"Computers and software" took part in the StartupWeekend, held by the business incubator KEnEU with the involvement of Zhersu, Atameken, TelAvivUniversity, ERG, won the Grand Prix and received a certificate. The commission notes that, in general, there is a positive trend in attracting students to research and development, and this recommendation is being implemented at a sufficient level.

- There are programmes of professional certification of students in the process of studying at the university: "ARENA MULTIMEDIA", "APTECH ENGLISH" International Scientific-Educational Centre of Computer Technologies "APTECH-KEnEU", 1C company for knowledge of the basic mechanisms of "1C: Enterprise 8" platform.

The Commission notes that for the accredited EPs the recommendation is implemented.

5. According to the recommendations of the "Resources available to educational programs" standard:

- As part of the development of programs for the development of educational and scientific laboratories at the Department of Information Technology and Automation, a project group was created to develop laboratory, within the framework of the university program, on special terms for the supply of equipment intended for the educational process. At present, 3 laboratory stands and installations have been developed (certificates of introduction of laboratory stands into the educational process have been received).

- Seminars on topical issues of the disciplines of educational programs with the involvement of corporate partners were organized at KEnEU named after M. Dulatov. Seminars and master classes have been held within the decade of the department. Professional development courses and seminars were organized on the basis of Aptech Arena Multimedia Training Center of International Scientific and Educational Center of Computer Technologies "APTECH" and on the basis of 1C Certified Training Center at KEnEU named after M. Dulatov.

- The book fund, as well as the fund of electronic publications is replenished and updated on a regular basis with publications in Russian, Kazakh and English languages.

The analysis conducted by the experts showed that, in general, according to the recommendations given by the EEC for the educational programs under accreditation, there is a good positive trend. The measures and actions taken by the university contribute to the improvement of the quality of the educational process and implementation of educational programs, positive trends in the development of student mobility, expansion of creative relationships, support for young teachers and development of the research component of the EP.

At the same time, the Commission considers that for the accredited study programs in the field of international cooperation, academic mobility of teaching staff and students, organization of joint educational programs and dual degree education, involvement of contractual topics funded by various enterprises, development of master's programs, the recommendations are partially implemented and require further elaboration and implementation.

(V) DESCRIPTION OF THE EEC SESSION

The work of the EEC was carried out on the basis of the Visit Program of the Expert Commission on Institutional Accreditation of the Kostanay Engineering and Economics University named after M. Dulatov in the period from 11 to 13 December 2018.

In order to coordinate the work of the EEC, on December 10, 2018, an opening 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 accordance with the requirements of the standards, the program of the visit covered meetings with the rector, vice-rectors, heads of structural divisions, deans, heads of departments of the university, teachers, students, alumni, employers and employees from various departments, interviews and questioning of teachers and students. A total of 227 people took part in the meetings (Table 1).

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

Category of participants	Number
Rector	1
Vice-rector	4
Heads of structural divisions	15
Deans of faculties	3
Heads of departments	7
Teachers	49
Students, undergraduates, doctoral students	83
Alumni	43
Employers	22
Total	227

EEC members attended training sessions:

- on discipline "Electrical engineering and electronics", topic " Research of electronic devices", 2nd course, specialty 5B071700 - Thermal engineering, senior lecturer O.A. Rostislavov (lecturer: 104, building B);

- on discipline "Linear Systems of Automatic Regulation", topic of practical lesson "Research of Stability of Linear Systems Depending on Roots Positions of the Characteristic Equation", third course, specialty 5B070200 - Automation and Control, lecturer candidate of technical science, associate professor Klassen Y.V., (classroom 205, block A)

- on the discipline "Models and methods of control", topic "Network planning and control models", 3rd course, specialty 5B070400 - Computers and Software - lecturer, master professor I.I. Gerauf, (classroom 1, building A).

During the excursion, the EEC members got acquainted with the state of the material and technical base, visited the conference hall, the KEnEU library, the assembly hall, the sports complex, the laboratory of Internet technologies for distance learning, computer classes, the International Scientific and Educational Center of Computer Technologies “APTECH- KEnEU”, educational laboratory “Accountant of the company + 1C”, laboratory “Technology of confectionery production” (mini-shop), “Mechanics of liquid and gas” laboratory, laboratory of electronics and the basics of microprocessor technology, networks and telecommunications, “Labor protection and safety” laboratory, "Descriptive geometry and engineering graphics" office; laboratories: “Chemistry”, “Standardization and certification”, “Technology of storage and processing of grain”, “Machine parts and lifting and transport mechanisms”, “Electric machines”, “Organization of train traffic”, “Technological processes of machine-building production”, “Heat supply and energy-saving technologies”, “Theoretical foundations of electrical engineering”, “Modeling of technological processes”.

In the course of the EEC visit, the experts visited the practice bases of the accredited programmes:

- “Evraz Caspian Steel” LLP;
- "SaryrkaAvtoprom" LLP;
- State Enterprise "Kostanay Heat and Power Company", boiler house No.3.

In accordance with the accreditation procedure, a survey was conducted of 47 teachers, 85 students, including junior and senior students.

In order to confirm the information presented in the Self-Assessment Report, external experts requested and analyzed the working documentation of the university. Along with this, experts studied the Internet positioning of the university through the official website of the university.

All conditions were created for the work of the EEC; access to all necessary information resources was organized. On the part of the KEnEU team, the presence of all persons indicated in the program of the visit was ensured, observing the established time interval.

As part of the planned program, recommendations for improving the activities of KEnEU, developed by EEC based on the results of the examination, were presented at a meeting with the management on 13.12.2018.

(VI) COMPLIANCE WITH THE STANDARDS OF SPECIALIZED ACCREDITATION

6.1. «Educational programme management» standard

- *The university should have a published quality assurance policy.*
- *The quality assurance policy should reflect the link between research, teaching and learning.*
- *The HEI should demonstrate the development of a culture of quality assurance, including in the context of the EP.*
- *A commitment to quality assurance should apply to all activities carried out by contractors and partners (outsourcing), including in the implementation of joint/double degree education and academic mobility.*
- *EP management ensures transparency in the elaboration of EP development plan based on the analysis of its functioning, real positioning of the university and its focus on satisfying the needs of the state, employers, stakeholders and learners.*
- *The EP management demonstrates the functioning of mechanisms for the formation and regular review of the EP development plan and monitoring its implementation, assessment of the achievement of learning objectives, compliance with the needs of students, employers and society, decision-making aimed at the continuous improvement of EP.*
- *The EP management should involve representatives of stakeholder groups, including employers, students and teaching staff in the formation of the EP development plan.*
- *EP management should demonstrate the individuality and uniqueness of the EP development plan, its consistency with national development priorities and the development strategy of the educational institution.*
- *The university has to demonstrate a clear definition of responsibility for business processes within the EP, unambiguous distribution of staff responsibilities, and separation of collegial bodies’ functions.*
- *EP management should provide evidence of the transparency of the educational program management system.*
- *The EP management has to demonstrate the successful functioning of the internal quality assurance system of EP, including its design, management and monitoring, their improvement, decision-making based on facts.*
- *The EP management should carry out risk management.*
- *EP management should ensure that representatives of stakeholders (employers, teaching staff, and students) are included in the collegial management bodies of the study program, as well as their representativeness in decision-making on the management of the study program.*
- *The university should demonstrate innovation management within EP, including analysis and implementation of innovative proposals.*
- *EP management should demonstrate evidence of openness and accessibility for learners, teaching staff, employers and other stakeholders.*
- *The management of the EP shall be trained in educational management programs.*
- *The management of the EP should ensure that the progress made since the last external quality assurance procedure is taken into account in the preparation for the next procedure.*

The evidentiary part

The activities of KEnEU are regulated by the Charter of the university, the Quality Policy, the Strategic Development Plan of the Kostanay Engineering and Economics University named after M. Dulatov for 2014-2020, a series of documents defining the academic policy of the university.

The Commission notes that the Strategic Development Plan defines a long-term vision, which indicates that the educational activities of the university are aimed at close integration of education, science and production, ensuring high quality of educational and professional training of graduates, as well as the development of the innovative potential of the University and its positioning as a social and entrepreneurial university in the North Kazakhstan region.

The mission of the university is to provide education by meeting the needs of society and business for competitive specialists for the innovative development of the region, as well as strengthening corporate and international ties, developing and supporting entrepreneurial thinking.

The University vision is to become a social and entrepreneurial university in Northern Kazakhstan.

The mission, strategic goals and objectives of the university correspond to the state policy in the field of education, are consistent with national priorities and development programs in the field of education and science of the Republic of Kazakhstan. EEC emphasizes that the mission, strategic goals and objectives of the university are formulated on the basis of material and financial resources, human and intellectual potential, assessment of the possibilities of their implementation, as well as taking into account the analysis of external market situations. The strategic plan for the development of the University, which contains the mission, tasks and goals, as well as the Quality Policy, was approved by the decision of the Academic Council (Minutes № 10 of April 28, 2014). The plans for the development of educational programs were approved at the meeting of the Academic Council of the University № 5 of May 25, 2017.

The main directions of the development plans of the educational programs 5B070200 – “Automation and Control”, 5B070400 – “Computers and Software”, 5B071700 – “Thermal Engineering” are developed in accordance with the Development Strategy of the Republic of Kazakhstan until 2050.

Monitoring of the implementation of the strategy is carried out on an ongoing basis in the course of reports on the areas of activity and, in general, reports of the entire university at meetings of the Academic Council. Issues that reflect strategic planning and its monitoring are considered at meetings of the University Board of Trustees. In addition, medium-and short-term objectives are outlined in the annual and monthly work plans of the university. The results of the high-quality implementation of the planned activities are discussed monthly at the rector's office, which is confirmed by the available protocols.

Prospective and strategic issues of EP development are solved taking into account the opinions of students, faculty, university employees and employers.

Assessment of the effectiveness of the University mission, goals and objectives, as well as on the progress of EP implementation is based on the monitoring of key performance indicators and deadlines of planned activities, the results of which are discussed at the meetings of departments, the Academic Council and the Rectorate. The decisions taken at the meetings of the above-mentioned collegial bodies are brought to the attention of the stakeholders, and questions on the implementation of the decisions taken are heard regularly.

KEnEU regularly reviews the strategic objectives of the university, taking into account changes in external factors, new key areas of state policy. For example, according to the

State Program for the Development of Education and Science of the Republic of Kazakhstan for 2016-2019, adopted on March 1, 2016, additions were made to the University Development Strategy.

The members of the EEC were convinced that the university has developed a quality assurance policy aimed at continuous improvement of the educational process, research activities, and implementation of innovative projects. This policy is based on the mission, vision and values of the University and is published on the KEnEU website.

The university conducts internal audits by monitoring the implementation of work plans of structural units, sociological surveys, monitoring research on the quality of students' knowledge.

The educational institutions submitted for accreditation comply with the requirements of the Decree of the Government of the Republic of Kazakhstan dated 15.08.2017 № 484 "On Approval of the State mandatory Standards of Education of the relevant levels of education" and are practically directed in their subject-content direction. A special feature of EP 5B070200 – "Automation and control", 5B070400 – "Computers and software", 5B071700 – "Thermal engineering" is:

- orientation in the development, implementation and assessment of the educational program on the competences of the graduates as learning outcomes;
- using ECTS credit system (credit units) to assess the competencies that ensure their achievement;
- development of international cooperation with universities and enterprises;
- development of close relations with the enterprises of the region.

The main ways to support the mission, goals and objectives of EP 5B070200 – "Automation and Control", 5B070400 – "Computers and Software", 5B071700 – "Thermal Engineering" are:

- development and implementation of the Strategic Development Plan of the department for 2014-2020;
- development and implementation of the Programme for the implementation of the Strategic Development Plan of the Department for 2014-2020;
- development of the Regulations on academic mobility of students, undergraduates and teachers (2017);
- development and implementation of the annual plan and report of the department;
- annual internal audit;
- discussion of the achieved results of the department activities at the meetings of the Department, Academic Council of the Faculty and University.

The University ensures awareness of stakeholders and transparency of the content of the main strategic documents and EP development plans, conducts a public discussion with representatives of all stakeholders, discussion at collegial bodies.

EP are considered at a meeting of the department (Minutes № 8 of 04/19/2017), further considered by the Academic Council of the University (Minutes № 4 of 12/26/2017), approved by the Rector based on the decision of the Academic Council.

The teaching staff, partners and employers take part in the development of the EP. The following organizations take part in the formation and revision of the development plan of educational programs:

- 5B070200 - "Automation and Control" - JSC "Transtelecom" (Kostanay branch of "Kostanaytranstelecom"), LLP "Energetik-Kostanay", LLP "Montazh LTD";

- 5B070400 – "Computers and software" – "Soft – Integration" LLP, "Intelligent Decision Group" LLP (protocol № 11 dated 06/15/2016, minutes № 9 dated 04/12/2017). Conducting a round table on the topic "Formation of professional competencies within the EP of the department" (minutes № 3-1 of 20.10.2017);

- 5B071700 “Thermal Engineering” - LLP “Teplostroimontazh-KZ”, Kostanay branch of JSC “Kazakhstan Center for the Modernization of Housing and Utilities”, GKP KTEK (Minutes № 9-1 dated April 13, 2016), Round table “Project Engineering School. Competence-based approach in personnel training” (minutes № 8 of 03/30/2016).

The individuality of the EP lies in the choice of the trajectory of training in the following areas: "Telecommunications and control systems", "Energy management and automated technological processes", specialty 5B070200 - "Automation and Control"; "Information technologies in engineering and management", "System programming and information security", specialty 5B070400 - "Computers and Software"; "Industrial heat power engineering" and "Heat power systems and networks in housing and communal services" specialty 5B071700 - "Thermal Engineering".

The individuality and uniqueness of the accredited educational programs lies in their orientation to the labor market of the region, the availability of elective courses that complement the basic disciplines ordered by employers in the region. Reviews of the EP and recommendations of employers by the teaching staff of the department are converted into elective courses.

At the end of each academic year, the departments, taking into account the needs, make an application for the necessary information and other material resources, and update the laboratory development programs.

The individuality of plans for the development of educational programs is due to close interaction with employers, taking into account the specifics of the region. Also, within the framework of the EP, it is possible to build individual educational trajectories by students through the choice of disciplines, taking into account personal preferences and the needs of the labor market in the region.

The focus of the EP on the development of professional skills is implemented through constant monitoring of the quality of teaching updated disciplines and the compliance of learning outcomes with the requirements stated in the graduate's models.

Starting from the 1st year, students undergo special disciplines and various types of practices that form professional competencies. This approach allows us to form a model of a graduate who is competitive in the labor market, aimed at continuous development and self-improvement. EEC members note that students of accredited EPs discuss the content of education offered by the university, but are less involved in the management of educational programs.

During the meetings with the teaching staff, students and employers, the EEC commission was convinced of the openness and accessibility of the EP management when solving a variety of problems. When the experts visited the Department of Information Technology and Automation, as well as during conversations with the teaching staff, those responsible for all business processes within the EP were identified, evidence of the participation of employers in the collegial management bodies of EP 5B070200 “Automation and Control” and 5B070400 “Computers and software”.

Analytical part

The analysis carried out by the commission showed that the strategic plan for 2014-2020 corresponds to the current legislation of the Republic of Kazakhstan in the field of education and science, strategic and program documents adopted at the republican level. Experts note that teachers, staff and students are aware of the presence of the Strategic Development Plan of the University, EP development plans, which allows for the synchronous development of EP in the context of the content of strategic documents, presupposes the successful implementation of the Smart-university project.

At the same time, the EEC notes the need to update the Strategic Plan and the Internal Quality Assurance Policy to reflect the individuality of the university in the region, focus on the development of entrepreneurship and digitalization of the economy of Kazakhstan,

concretize the indicators of strategic planning in the context of directions and time intervals.

Despite the fact that the mission, goals, objectives and quality assurance policy are published in the public domain on the university website, as a result of the interviews, the commission revealed that teachers and students are not sufficiently aware of the content of these documents, do not understand their role in their implementation. EEC also revealed insufficient risk management by the heads of the EP.

Also, EEC members note the lack of cooperation of the university with partners in the development of double-diploma education and external academic mobility of teaching staff, in particular, according to EP 5B071700 "Thermal Engineering" (Table 10).

As a result of the analysis, the experts were convinced of the consistency of the strategic goals of the university, the adequacy of the mission, vision, strategy to the available resources: financial, information, personnel, material and technical base.

The members of the EEC believe that for the development of accredited EP of the cluster, as well as the implementation of the recommendations of the previous accreditation, it is necessary to strengthen the role of scientific research in the management of EP in the future in order to open a master's program in the areas of EP of the cluster.

The results of the survey of students showed that the mission and strategy are reflected in the curricula (full compliance- 64.7%, compliance- 34.1%, partial compliance- 1.2%), as well as in the assessment procedures (full compliance- 70.6 %, compliance- 25.9%, partial compliance- 1.2%).

Strengths / best practice for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- availability of a published quality assurance policy;
- openness and accessibility of EP management to students, teaching staff, employers and other interested parties.

Additional strengths / best practice for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software":

- determination of those responsible for business processes within the EP, distribution of job duties of personnel, delineation of functions of collegial bodies;
- participation of employers in the collegial management bodies of the EP.

Recommendations of the EEC for УР 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

– Carry out a set of measures to update and disseminate the Internal Quality Assurance Policy, reflecting the individuality of the university.

– To increase the role of scientific research in the field of digitalization of the economy and production and reflect these changes in the EP, in the future with the aim of opening a master's degree in the areas of the EP cluster.

– Conduct training for heads of departments and educational programs in the field of risk management; implement risk management at the level of structural divisions, processes and educational programs.

Additional recommendations for EP 5B071700 "Thermal Engineering":

– Strengthen the role of external academic mobility and international cooperation in the implementation of the EP internal quality assurance policy.

EEC conclusions by criteria: (strong / satisfactory / suggests improvement / unsatisfactory)

According to the "Educational program management" standard, 17 criteria are disclosed, of which:

- according to EP 5B070200 “Automation and Contro” 5B070400 “Computers and Software” 4 has a strong position, 11 - satisfactory, 2 - needs improvement;

- according to EP 5B071700 “Thermal Engineering” 2 has a strong position, 12 - satisfactory, 3 - needs improvement.

6.2. «Information management and reporting» standard

- *The university should ensure the functioning of a system of information collection, analysis and management based on the application of modern information and communication technologies and software tools.*
- *EP management should demonstrate the systematic use of processed, adequate information to improve the internal quality assurance system.*
- *EP should have a system of regular reporting, reflecting all levels of the structure, including evaluation of the effectiveness and efficiency of units and departments, scientific research.*
- *The university should establish the frequency, forms and methods of evaluation of EP management, activities of collegial bodies and structural units, top management, implementation of research projects.*
- *The university should demonstrate the definition of the procedure and ensuring the protection of information, including the identification of responsible persons for the reliability and timeliness of information analysis and data provision.*
- *An important factor is the involvement of students, employees and teaching staff in the processes of information collection and analysis, as well as decision-making based on them.*
- *EP management should demonstrate that there is a mechanism for communication with learners, staff and other stakeholders, including mechanisms for conflict resolution.*
- *The university should ensure the measurement of the degree of satisfaction of the needs of teaching staff, staff and students within the framework of EP and demonstrate evidence of elimination of detected deficiencies.*
- *The university should assess the effectiveness and efficiency of its activities, including in terms of EPs.*
- *The information collected and analysed by the university within the framework of study programmes should take into account:*
  - key performance indicators;
  - the dynamics of the student population in terms of forms and types;
  - the level of academic progress, student achievements and drop-out rates;
  - student satisfaction with the implementation of EP and the quality of education at the university;
  - the availability of educational resources and support systems;
  - accessibility of educational resources and support systems for students;
  - employment and career development of graduates.
- *Students, employees and teaching staff should document their consent to the processing of personal data.*
- *The management of the EP should facilitate the provision of all necessary information in the relevant fields of science.*

The evidentiary part

The university has implemented information management processes, including collection and analysis. In the management of the main processes of the university (educational, methodological, scientific, educational), the following administrative documents are used: decisions of collegial governing bodies (Educational and Methodological Council, Academic Council, Rector's Office), orders of the rector and orders of vice-rectors in areas of activity, documents for students (orders for staff, students, undergraduates), planning, analytical, reporting, financial and accounting documents, etc.

In all departments of the university, office work is carried out in accordance with the approved nomenclature of cases, the safety and archiving of documents is ensured. Responsibility for reporting to the Ministry of Education and Science of the Republic of Kazakhstan and other departments on the activities of the university, the provision of public services, and work with the Unified Higher Education Management System (UHEMS) is enshrined in the rector's administrative documents.

The university has introduced the following systems for collecting, analyzing and managing information based on the use of modern information and communication technologies and software:

- Information management within the official portal of the university. The portal provides information and communication for students, teachers and other interested parties. The site provides information on the management of educational, methodological, scientific, educational processes; there are web pages of individual departments: faculties, departments, personal pages of the teaching staff. Separate sections of the site are focused on different categories of users: applicants, students, masters, graduates and teaching staff. The site has a modern dynamic design, information is published in three languages, there is a rector's blog, a news section with posted video content, and there are university representations in social networks. The site is managed centrally. The head of the marketing and communications department is responsible for the content of the site.

- Information management within the AIS “Platonus” is carried out in terms of interaction and unloading of reports on students in UHEMS, software integration of AIS “Platonus” with “ACS HEI” has been established.

- The automated control system “ACS HEI” developed by the university is used to work with the contingent of students and is used by the admissions committee, dean's offices, educational administration, student office. Also, the ACS of the university is used to assign admission of students to exams and sessions, to compare tests for testing. The ACS of the university includes the modules "Entrant", "Book of orders", "Office", "Ratings", "Registration department", "Dean's office" and "System of automated testing of knowledge". Experts note that the advantage of “ACS HEI” is great opportunities for statistical analysis of information and monitoring the quality of the educational process, including test current monitoring of progress and analysis of the results of intermediate and final state certification of students; monitoring the compliance of educational programs with the requirements of the state educational standard, the completeness of their provision with educational and methodological complexes; monitoring the quality indicators of the activities of educational units.

- The student's personal account includes an academic calendar, a guidebook, links to the catalog of elective disciplines, a list of practice bases by specialties. Also, the student's personal account contains information about the student's current progress, exam results, ratings and information about the student's payment of tuition.

- The distance learning system developed by the university provides students with access to the resources of the electronic library, which contains electronic educational resources and the teaching materials of teachers, as well as the webinar system based on the Adobe Connect technology.

- The library management information system includes a library website, an electronic catalog in the “KABIS” system, access to library resources: RIEL (Republican Interuniversity Electronic Library of Kazakhstan), scientometric databases Web of Science Core Collection, Scopus, Russian Science Citation Index eLibrary (RSCI).

The University ensures the openness and accessibility of information to all interested parties, as well as the existence of an effective communication mechanism with students, employees and other interested parties.

The information collected as part of this monitoring, in particular, takes into account:

- key performance indicators;
- availability of educational resources and support systems for students;
- employment and career growth of graduates.

The university has introduced a rating assessment of the effectiveness of teaching staff, which is used to stimulate educational and scientific activities.

The safety of information is ensured by the distribution of roles and functions in the used IS; the presence of installed anti-virus programs; system administration of servers; a backup system on servers; restricting access of individuals to the premises with servers; technical equipment of premises with servers to ensure the safety of work.

The reporting system includes annual reports of structural units, reports on research and development work and research work, financial statements.

The system for collecting, analyzing and managing information of the KEnEU named after Dulatov is used to ensure the quality of the implementation of the EP, which is confirmed by the relevant internal regulatory documents.

The information and feedback system is focused on students and employees, and includes information stands at the departments, the functioning of the official website of the university in three languages.

The main forms of feedback are:

- direct mail of the rector in the form of complaints and suggestions boxes placed in each academic building;
- feedback forms placed on the university website;
- the rector's blog posted on the university website;
- questionnaire survey of consumers of educational services and staff.

Representatives of student youth who are part of the Academic Council have the opportunity to make a complaint or grievance directly at a meeting of the Academic Council and get an answer about the timing and methods of resolving the problem.

Students and teaching staff, employers are involved in the processes of collecting and analyzing information through questioning, interviewing, and making decisions based on them during the meetings of the departments, the Faculty's EMC, the EMC and the Academic Council of the University.

Within the framework of the organized meetings of the EEC and the survey of the teaching staff and students, regular monitoring of the satisfaction of the needs of the teaching staff, staff and students was confirmed. The information collected and analyzed by the university, in particular, takes into account: the dynamics of the contingent of students in the context of forms and types; availability of educational resources and support systems for students; employment and career growth of graduates, which is the strength of the OP cluster.

Experts note that the information collected and analyzed by the university is effectively used to improve the internal quality assurance system.

During conversations with teaching staff and students and analyzing documents, experts found that all students, employees and teaching staff document their consent to the processing of personal data.

Analytical part

The EEC Commission notes that the structure and volume of information collected, sources, frequency, time interval, persons responsible for the reliability and timeliness are determined by the internal regulatory documentation of the university, job descriptions of department heads. At the same time, experts note the absence of the Regulations on the site, the rules for updating the information on the pages of departments and personal pages of the teaching staff have not been determined, the list of scientific publications of the teaching staff needs to be updated, the English version of the site is not fully presented.

Experts note the absence of an electronic document management system in the university, which is a prerequisite in the era of the development of the digital economy.

The EEC Commission notes the massive use of distance learning technologies and e-learning in the educational process of the university. The effectiveness of the use of distance learning at the university is confirmed by positive feedback from employers and graduates in the course of conversations. Nevertheless, the analysis of the system revealed the absence of a real possibility of asynchronous communication between students and teachers in offline mode.

The members of the EEC, as a result of the analysis of the content of the training courses, meetings with the teaching staff and students of EP 5B071700 “Thermal

Engineering", indicate the lack of informing the teaching staff and students about the latest scientific achievements in the field of heat power engineering.

According to the results of the survey, 82% of students are fully satisfied with the usefulness of the university website. 98% of the teaching staff is fully or partially satisfied with the level of feedback from the management. Full satisfaction of students with the level of accessibility of the dean's office is 92%, accessibility and responsiveness of management - 87%, accessibility of academic consulting - 80%, accessibility of counseling on personal problems - 79%.

Strengths / best practice for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- All students, employees and teaching staff confirm their consent to the processing of personal data.
- The University uses a developed system of communication with students, teachers and employees, used, among other things, to resolve conflicts.
- Systematic use of processed, adequate information to improve the internal quality assurance system.

Recommendations of the EEC for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- Introduce an electronic document management system into the university management process.

- Develop and implement a regulation on the university website with the appointment of responsible persons and the procedure for updating information.

- To organize the possibility of asynchronous communication for communication between students and teachers in the distance learning system while maintaining the history of messages.

Additional recommendations for EP 5B071700 "Thermal Engineering":

- To inform teaching staff and students about the latest scientific achievements in the field of thermal engineering.

EEC conclusions by criteria: (strong / satisfactory / suggests improvement / unsatisfactory)

Under the Information Management and Reporting standard, 17 criteria are disclosed, of which:

- according to EP 5B070200 "Automation and Control", 5B070400 "Computers and Software" 6 has a strong position, 11 - satisfactory;
- according to EP 5B071700 "Thermal Engineering" 6 has a strong position, 9 - satisfactory, 2 - needs improvement.

6.3. «Development and approval of the educational program» standard

- *The university should define and document the procedures for the development of EPs and their approval at institutional level.*
- *The management of the Programme must ensure that the Programme is designed in line with the set objectives, including the intended learning outcomes.*
- *EP Management should ensure that there are developed models of graduates describing learning outcomes and personal qualities.*
- *The management of the Programme must demonstrate that external expertise has been carried out on the Programme.*
- *The qualifications to be obtained at the end of the study programme should be clearly defined, explained and aligned with the defined NQF level.*
- *EP supervisors should determine the impact of the disciplines and professional practices on the formation of learning outcomes.*
- *An important factor is the possibility to prepare students for professional certification.*

- *EP management should provide evidence of participation of learners, teaching staff and other stakeholders in the development of EP and its quality assurance.*
- *The workload of EP should be clearly defined in Kazakhstani credits and ECTS.*
- *The management of EP should ensure the content of academic disciplines and learning outcomes of the level of study (Bachelor, Master, Doctorate).*
- *The structure of the Programme should provide for different activities in line with the learning outcomes.*
- *An important factor is the existence of joint EPs with foreign educational institutions.*

The evidentiary part

Educational activities of specialties 5B070200 - "Automation and Control", 5B070400 - "Computers and Software", 5B071700 - "Thermal Engineering" are conducted on the basis of the Model curriculum of the order of MES RK №425 from 05.07.16 and the Decree of the Government of RK dated 15. 08.08.2017 № 484 "On approval of state compulsory standards of education of relevant levels of education" and on the direction of bachelor training is carried out in accordance with the state license of CCES MES RK №12020748 from 05.11.2012. Graduates are awarded an academic degree Bachelor of Engineering and Technology 5B070200 - "Automation and Control". The graduates are awarded the academic degree of Bachelor of Engineering and Technology in the specialty.

According to the regulation on the development and implementation of higher education study programmes, the university independently develops and approves Bachelor and Master programmes based on the SCSE in accordance with the National Qualifications Framework, professional standards and aligned with the Dublin Descriptors and the European Qualifications Framework.

EP 5B070200 - "Automation and Control", 5B070400 - " Computers and Software" are implemented in the Department "Information Technology and Automation", EP 5B071700 - " Thermal Engineering" is implemented in the Department of "Power and Mechanical Engineering", which are structural subdivisions of the Faculty of Engineering and Technology and include the development of the structure and content of the accredited EP, analysis of information on the implementation, report preparation, coordination of draft decisions on the results of EP implementation, generalization of comments and suggestions, presentation of the results to the management. Chairs also carry out scientific and practical, scientific-pedagogical and methodological, informational, consulting services to thermal power sector organisations, develop and implement innovative technologies in the educational process.

The review and approval of the EP takes place at the department, is recommended by the decision of the University Academic Council and approved at the meeting of the Educational and Methodological Council of the University.

Regulatory, legal and technical documents of KEnEU regulate all processes, form labour, executive and corporate culture and allow for documented assessments of the effectiveness of the mission, strategy, goals and objectives.

Educational and methodical documentation includes the educational-methodical complex of the specialty (EMCD), which includes Modular educational programs (MEPs), working curricula (WCs), catalogues of elective disciplines (CEDs), where the disciplines of the elective component with a brief content, pre- and post-requisites are described, educational-methodical complexes of disciplines (syllabuses) (EMCD), methodical recommendations on various types of learning activities (IWL, practice, etc.).

EMCS documents are developed by the teaching staff of the department in accordance with the provisions (Regulations on the development of EMCD, EP, CED) and discussed at the meetings of the departments (Minutes of the meeting of departments №4 dated 23.11.2017 and №10 dated 17.05.2017).

At the stage of designing programs, graduate departments determine the models of graduates. The model is a set of knowledge, skills and experience of their application in practice, integrated into professional and universal competencies that graduates should have at the time of graduation from the program. Employers, teaching staff and students are involved in the development of a graduate model. During a visit to the Department of Information Technology and Automation, members of the EEC found that the final list of competencies of the graduate model was agreed with the head of the department, experts, representatives of employers, which is the strong point of the EP implemented by the department.

Industrial practice for accredited EP is carried out in accordance with the document "Rules for the organization and conduct of professional practice and the rules for determining the organization as practice bases" (Approved by order of the Ministry of Education and Science of the Republic of Kazakhstan dated January 29, 2016 dated № 107), as well as "Rules for organizing and conducting professional practice" (EB Protocol № 3 dated November 27, 2018), which describes all the processes and criteria for passing various types of practices.

The passage of educational, pedagogical and professional practice of students of accredited EP corresponds to the training of highly qualified specialists and is carried out in specialized institutions assigned to the university in the prescribed manner.

Passage by students of industrial practice is a compulsory element of training in the educational program of the specialty. The educational program provides for the following types of practice: educational (after 1 course), industrial (after 2 course), industrial (after 3 course), industrial, pre-diploma - after 7 semester of 4 courses.

For students to undergo all types of internships, the departments have agreements with organizations (Table 2).

Table 2 - Information about the practice bases.

Specialty code and name	Practice bases
5B070200 «Automation and Control»	1 “AiF” LLP 2 “SpetsMontazh-2” LLP 3 “Evraz Caspian Steel” LLP 4 “Rastorguev O.V.” IE 5 “Ivolga-Rastr” LLP 6 “BT-Energo Company” LLP 7 “Energetik-3” LLP 8 “Kazakhstan Center for Modernization and Development of Housing and Communal Services” JSC 9 “Montazh LTD” LLP 10 “Luchik Sveta” JSC 11 “Baykogyrat” LLP 12 “Institute for the Development of Electric Power Industry and Energy Saving (Kazakhenergoexpertiza)” JSC 13 “Leader-2” KF LLP 14 “PKF ASIA VEK” LLP 15 “Transtelecom” JSC
5B070400 «Computers and Software»	1 “AiF” LLP 2 “SpetsMontazh-2” LLP 3 “Rastorguev O.V.” IE 4 “Bubnov Yu.M.”

	5 “Ivolga-Rastr” LLP 6 “Uplink” LLP 7 “Baykogyrat” LLP
5B071700 «Thermal Engineering»	1. “Ekoservice-2030” LLP 2. “Zatobolsk Heat and Power Company” GCE 3. “Energy Efficient Technologies Company” LLP 4. “Leader-2” KF LLP 5. “Kostanay heat and power company” GCE 6. “Kostanay certification center" Criterion” LLP

The participation of employers in the development of EP is carried out through participation in conducting industrial practices, reviewing graduation works, supervising diploma theses at enterprises, participation in the work and as part of state certification commissions.

The following elective disciplines were introduced into the educational programs at the meetings of the Department of Information Technology and Management in 2017 (minutes of the meetings of the department №10 of 05/17/2017 and №4 of 11/23/2017) with the participation of employers:

1. Programmable logic controllers;
2. Software and hardware complexes of electronic systems;
3. Administration of telecommunication networks;
4. System administration;
5. 3D modelling in CNC machines;
6. Model design in CAD systems;
7. Structured cabling systems;
8. Corporate networks and technologies.

During the meetings of EEC experts with the teaching staff it was established that EP 5B070200 "Automation and Control" and 5B070400 " Computers and Software" are updated annually by 15-20%, taking into account the interests of the labor market, the interests of employers, aimed at the development of professional competencies.

The experts note that the content of the disciplines of CED and professional practices of EP 5B070200 "Automation and Control" and 5B070400 "Computers and Software" have a significant impact on the formation of professional competence of the graduate.

The members of EEC confirm that within the framework of educational programmes 5B070200 "Automation and Control" and 5B070400 " Computers and Software" there are programmes of professional certification of students: "ARENA MULTIMEDIA", "APTECH ENGLISH" International Scientific and Educational Center of Computer Technologies "APTECH-KEnEU", "1C Company for knowledge of the basic mechanisms of the platform "1C: Enterprise 8", which is a strength of these EPs.

In order to implement the EP development plan for 2017-2021 of the accredited specialties in the reporting period, branches of the department were established on the basis of «SaryarkaAvtoprom» LLP, «AiF» LLP, Computer firm IE «Rastorguev O.V.», Boiler Room №3 of SE «Kostanay Heat Power Company».

In order to cooperate in the field of higher education, science, to improve the efficiency of the EMW and RSW, the university has concluded cooperation agreements in the field of education and science with the following educational institutions:

1. FSBEI HE Ural State Agrarian University.
2. Tajik National University.
3. Almaty Management University.
4. Tashkent Institute of Irrigation and Agricultural Mechanisation Engineers.

5. National Public Educational Institution of Higher Professional Education "Synergy" Moscow Financial-Industrial University.

6. FSBEI HE Kabardino-Balkarian State Agrarian University named after V.M. Kokov.

7. JSC Kazakh Academy of Transport and Communications named after M. Tynyshpayev.

8. Karaganda State University named after Academician E.A. Buketov.

9. Innovative Eurasian University.

A variety of master classes, training seminars, guest lectures and student meetings are held at the university on a regular basis.

A questionnaire survey of students conducted during the EEC visit showed:

- 85.9% of students are fully satisfied with the information provided on requirements for successful graduation, 11.0% are partially satisfied, and 2.4% are partially dissatisfied.

- 83.5% of students are completely satisfied with the information on courses, study programs and academic degrees, 12.9% are partially satisfied, 1.2% are partially dissatisfied, and 1.2% are not satisfied.

Analytical part

Analyzing the "Development and approval of an educational program" standard, the commission came to the conclusion that the accredited areas take into account the ultimate goals of higher technical education, which are aimed at mastering professional competencies, in accordance with the requirements of the standard, as well as the acquisition of knowledge, skills and abilities necessary for implementation of future professional activities.

The results of the EP development are determined by the competencies acquired by the graduate, i.e. his ability to apply knowledge, skills and personal qualities in accordance with the tasks of professional activity.

Experts note that educational programs are fully provided with WC, syllabuses, EMCD, developed in accordance with regulatory documents, the content of which corresponds to the specifics of educational programs. IWL tasks are included in the EMCD. The types of independent work of students, their labor intensity in hours, the form and timing of control are regulated in the corresponding sections of the syllabus (working curriculum) for each discipline. The content of the working curricula reflects the specifics of the EP.

Experts note that in order to organize joint and double-diploma education within the framework of the EP 5B070200 “Automation and Control”, 5B070400 “Computers and Software”, 5B071700 – “Thermal Engineering”, it is necessary to expand the policy of cooperation with universities of the near and far abroad, public educational organizations and scientific centers.

Also, the lack of real cooperation with foreign and domestic partners is the reason for the lack of academic mobility in the framework of the accredited EP.

During a meeting of experts with students of educational programs 5B070200 “Automation and Control”, 5B070400 “Computers and Software” and 5B071700 - “Thermal Engineering”, it was found that not all students have a clear idea of the ways and forms of inclusion in the development of educational programs.

A survey of students conducted during the visit of the EEC showed that:

- *72.6% of students are fully satisfied with the level of information on courses, educational programmes and academic degrees;*
- *72.6% of students are completely satisfied with the level of accessibility and responsiveness of the university management;*
- *91,8% of students are completely satisfied with the level of accessibility of dean's office, 8,2% of students are partially satisfied;*

– *80% of students are fully satisfied with the availability of academic advising, 18,8% of students are partially satisfied, 1,2% of students are partially unsatisfied.*

Strengths/best practice for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software":

- EP has a practice-oriented model of a graduate, to the formation of which interested persons from among employers are involved;
- the significant influence of the content of CED disciplines and professional practices on the formation of professional competencies of a graduate was determined;
- preparation of students for professional certification in the framework of the specialty is carried out.

EEC recommendations for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

– *To enhance student participation in the design and development of educational programmes.*

– *Expand the list of joint and/or double-degree programmes with foreign universities.*

EEC conclusions on criteria (strong/satisfactory/suggested improvement/unsatisfactory):

For the "Development and approval of educational programs" standard 12 criteria are disclosed, out of which:

- for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software" 4 has a strong position, 7 - satisfactory, 1 - requires improvement;
- 11 have a satisfactory position, 1 - needs improvement; for EP 5B071700 "Thermal Engineering" 11 has a satisfactory position, 1 - needs improvement.

6.4. «Continuous monitoring and periodic evaluation of educational programs» standard

- *The university should monitor and periodically evaluate the EP in order to ensure that it achieves its goal and meets the needs of learners and society. The results of these processes are aimed at continuous improvement of the program.*
- *Monitoring and periodical evaluation of EP should consider:*
  - the content of the programs in the light of the latest achievements of science in a particular discipline in order to ensure the relevance of the taught discipline;
  - the changing needs of society and professional environment;
  - the workload, the progress and the graduation of the students;
  - the efficiency of the evaluation procedures of the students;
  - the expectations, needs and satisfaction of the learners with the study program;
  - the educational environment and support services and their relevance to the objectives of the EP.
- *The university and the governance of the EP should provide evidence of the involvement of learners, employers and other stakeholders in the review of the EP.*
- *All stakeholders should be informed of any actions planned or taken in relation to the EP. All changes made to the EP should be made publicly available.*
- *The management of the EP shall ensure that the content and structure of the EP is reviewed, taking into account changes in the labor market, employers' requirements and the social demands of society.*

The evidentiary part

KEnEU named after M. Dulatov constantly monitors the quality of education to identify the degree and completeness of the implementation of educational standards, the compliance of the operational goals of the university with the strategic requirements for a specialist by the labor market, the level of teachers' ability to train a competitive specialist. To monitor and periodically evaluate its educational programs as an intra-university control, the University uses the following methods: attestation of the current academic

performance of students, final attestation, attestation of all types of practice, checking the state of the methodological support of the educational process, collecting and analyzing data on customer satisfaction.

In November 2017 and March 2018, within the framework of the planned monitoring, a study was carried out aimed at identifying the satisfaction of students of the accredited EP with the conditions of study. On average for the analyzed period, the majority of respondents (83.3%) are confident in getting a good education at the KEnEU named after M. Dulatov.

The system for monitoring the implementation of plans for the development of accredited EP includes the following mechanisms:

- annual reports of the graduating department and faculty;
- the annual reports of the lecturers of the department;
- the results of internal audits;
- consideration of the issues of development of different directions of specialists' training at the meetings of collegial bodies.

The internal environment of the EP is:

- results of the monitoring and execution of the processes of KEnEU;
- evaluation of staff satisfaction;
- results of surveys of students, employers, applicants and parents;
- results of university attestation (due diligence) and rating scores.

The external environment of the EP is:

- interaction with enterprises and organisations of the city and region on the organization of educational and professional practices, employment of students, research and contractual works;
- interaction of the department with educational institutions of the city and the region;
- Department's teaching staff visits and talks with parents and schoolchildren during UNT, CTA.
- conducting various events positioning the specialty.

The list of stakeholders of the EP includes stakeholders, alumni, students, teaching staff of the department. All stakeholders are familiarized, in particular, during the round table, also during the signing of educational programmes. Educational programs are aimed to meet the needs of the state, stakeholders (employers of Kostanay region), students and their parents.

In the development of educational programs in the specialty 5B070200 - "Automation and Control", 5B070400 - "Computers and Software", 5B071700 "Thermal Engineering" invited stakeholders - the heads of major enterprises of the city, which make their suggestions for teaching disciplines necessary to create a competitive specialist capable of solving the problems. The changes made to the EP are published on the University website.

The university has a system of internal monitoring of the quality of knowledge, or student learning outcomes, which are carried out by the Student Services Centre. The monitoring is carried out regularly at intervals of once a semester at the end of the winter/summer session. Analysis of learning outcomes (progress) is provided by level: course, faculty, and specialty. The efficiency and reliability of information for managing the quality of educational activities is achieved through the use of interested departments (registrar's office, dean's offices, departments, students) information on academic achievements with the help of ACS "University" (http://kipu.kineu.kz/).

The coordinating center for monitoring the quality of knowledge is the University Student Services Centre. The mastering of learning outcomes by each graduate is ensured by passing the final attestation.

The educational process at the University is regulated by the internal regulatory and

methodological documents, developed on the basis of the requirements of the MES RK.

Formation of the Catalogue of elective disciplines in the university is carried out in accordance with the approved form of the catalogue of elective disciplines at the meeting of the Educational and Methodological Council (Minutes № 7 of 20.02.2017).

Analytical part

As a result of visiting the graduating department and studying the documents, the EEC members confirmed that at the Department of "Information Technologies and Automatics" regular monitoring and periodic assessment of EP is conducted, responsible for the revision of the content and structure of EP is determined, taking into account changes in the labour market, employers' requirements and social demand of society.

The experts also note that during the regular monitoring and periodic assessment of EPs the university takes into account the workload, progress and graduation of students, which is confirmed by the content of AIS "Platonus".

At the same time, the Commission notes that the content of the working programmes of disciplines of EP 05B0717 "Thermal Engineering" does not take into account the latest scientific and technical achievements in the field of thermal power engineering and requires updating.

Strengths/best practice for EP 5B070200 "Automation and Control", 5B070400 " Computers and Software", 5B071700 " Thermal Engineering":

- regular monitoring and periodic assessment of EPs takes into account the workload, progress and graduation of students;

Additional strengths/best practices for EP 5B070200 "Automation and Control", 5B070400 " Computers and Software":

- Revision of the structure and content of EPs taking into account the changes in the labour market, employers' requirements and social demand of the society.

Recommendations of EEC for EP 5B071700 "Thermal Engineering":

- Update the content of the work programmes of the disciplines in accordance with the latest achievements of science and ensure their relevance.

EEC conclusions by criteria: (strong / satisfactory / suggests improvement / unsatisfactory)

- According to the "Continuous monitoring and periodic evaluation of educational programs" standard, 10 criteria are disclosed, of which:

- According to EP 5B070200 "Automation and Control", 5B070400 "Computers and Software" 3 has a strong position, 7 - satisfactory;

- According to EP 5B071700 "Thermal Engineering" 2 has a strong position, 7 - satisfactory, 1 - suggests improvement.

6.5. «Student-centred learning, teaching and performance assessment» standard

- *The management of the EP should ensure that different groups of learners and their needs are respected and taken into account, and that flexible learning pathways are provided.*
- *The management of the EP should ensure the use of different forms and methods of teaching and learning.*
- *An important factor is the availability of own research in the field of teaching methodology of EP subjects.*
- *EP supervisors should demonstrate the availability of a feedback system on the use of different teaching methods and assessment of learning outcomes.*
- *EP supervisors should demonstrate support for learner autonomy while being guided and assisted by a teacher.*
- *EP supervisors should demonstrate that there is a procedure for responding to learners' complaints.*
- *The university should ensure consistency, transparency and objectivity of the evaluation mechanism of learning outcomes for each EP, including appeals.*

➢ *The university should ensure that the procedures for assessing the learning outcomes of EP students correspond to the planned learning outcomes and objectives of the programme. The assessment criteria and methods of the EP should be published in advance.*

➢ *The university should define mechanisms to ensure that each graduate has mastered the EP learning outcomes and ensure that they are complete.*

➢ *Assessors should be proficient in modern methods of assessing learning outcomes and regularly update their qualifications in this area.*

The evidentiary part

The EP management ensures equal opportunities for students regardless of the language of instruction to form an individual educational program aimed at the formation of professional competence. The educational process is conducted in the state and Russian languages.

Individual educational trajectory is reflected in the modular educational programs, working curricula and individual curricula, where, along with general education, basic disciplines of the compulsory component, there are elective courses and various types of practices, which are aimed at providing professional competences.

Within each study program there are two learning trajectories:

– EP 5B070200 "Automation and Control": "Telecommunications and Control Systems" and "Energy Management and Automated Technological Processes";
– EP 5B070400 " Computers and Software": "Information Technologies in Engineering and Management", "System Programming and Information Protection";
– EP 5B071700 "Thermal Engineering": "Industrial Thermal Engineering" and "Heat Power Systems and Networks in Housing and Communal Services".

The subjects taught at the Departments "Information Technologies and Automation", "Power Engineering and Mechanical Engineering" within the curriculum "5B070200 Automation and Control", 5B070400 " Computers and Software ", 5B071700 "Thermal Engineering" are provided with EMCD, methodological guidelines for IWS, SIWT, laboratory works in the Kazakh and Russian languages.

During the visit to the graduate departments, the EEC experts came to the conclusion that the most flexible training trajectories are realized within the curriculum 5B070200 "Automation and Control" and 5B070400 "Computers and Software", through effective cooperation with employers. This is a strength of the EP.

For the successful mastering by the students of the accredited EPs, the teaching staff use in the learning process innovative teaching methods in the form of business and role-playing games, simulation training, discussion, situational tasks, slide shows. Teachers successfully practice training course presentations using interactive whiteboards (2), multimedia projectors (6), and use of video equipment in the classroom. When conducting seminars, the teaching staff actively uses controlling and learning technologies, electronic textbooks.

Non-simulation (problem-based lectures, seminar-discussion, thematic discussions, round tables) and simulation technologies (simulation exercises, trainings, educational games, project defence) of active learning are successfully used.

In order to successfully master the relevant level of education, the student is obliged to complete his/her individual curriculum (IC) by accumulating the required number of credits. Academic support is provided to learners by academic advisors. Advisers consult students in the preparation of ICs.

In 2016, open classes were held for students of specialty 5B070200 - "Automation and control" on the topic "Fundamentals of mechatronics. Machines with numerical program control", lecturer senior teacher Ryspaeva A.K., in 2017 for students of specialty 5B070400 - " Computers and software" on the topic "Security model in operating systems", lecturer Zhunusov K.M., head of the department "IT and A".

Senior lecturers I.I. Gerauf and A.J. Moldabekova use English-language video clips downloaded from YouTube hosting service to conduct lecture classes on "Information and Communication Technologies (in English)" for all the EP subjects. For each of the 15 themes, 2-4 video clips ranging from 3 to 10 minutes have been selected. The clips are shown using a video projector in classroom 503.

Senior lecturer O.A. Rostislavov according to EP 5B071700 " Thermal Engineering" trajectory "Industrial Thermal Engineering" with students of specialty 5B071700 "Thermal Engineering" gr.1TE211 in the 1st semester 2017-18 academic year conducted laboratory classes in the discipline "Electrical Engineering and Electronics", where he used group work as an interactive technology of non-standard tasks.

In 2016 held a seminar-training for senior students: "The use of Internet resources in entrepreneurial activities", Intellectual game "Information scientist - businessman", seminar "Application in the educational process of automated learning systems (AOS)" in 2017 Master class on "Image processing in Photoshop".

Students of the 2nd year of the specialty "Computers and Software" took an active part and won prizes in the student international scientific-practical conference "Science and technology: ten global challenges of the XXI century": Diploma of II degree - Zhaksylyk Shyngyskhan; Diploma of III degree - Fedossenko Evgeny.

On October 26, 2018, students of specialty 5B071700 - Thermal Engineering (T. Mukha, E. Ivanchenko and M. Abulkanov) took part in the Regional Entrepreneurship Weekend organized by ERG and AlmaU University (Almaty) within the project "Ecosystem of student entrepreneurship", where 12 startup projects of KEnEU students were presented.

Independent work is carried out in two forms - student's independent work under the guidance of a teacher (SIWT) and student's independent work (IWS). The volume of independent work in each discipline is determined by the curriculum. It is defined in the EMCD, the syllabus of the discipline with an indication of the volume in credits and hours, duration of study in weeks, the terms of delivery of the IWS tasks.

Monitoring of training and independent work of students of EP accredited specialties is carried out through current, interim and final control. Current control of students' knowledge is carried out within the point-rating system of assessment.

Final control is carried out in accordance with the SES, the academic calendar and curriculum in the form of testing in the subject. The results of academic performance are shown in Table 4.

Table 4 - Academic performance of students by academic year in the context of specialties.

Speciality, indicator	2015-2016	2016-2017	2017-2018
5B070200 – «Automation and control»			
Knowledge quality, %	77	68	65
Performance based on the results of final examinations, %	91	77	79
5B070400 – «Computers and software»			
Knowledge quality, %	58	47	48
Performance based on the results of final examinations, %	80	70	69
5B071700 – «Thermal Engineering»			
Knowledge quality, %	89	64	73

Performance based on the results of final examinations, %	96	80	87

The following documents shall be considered as the main ones for organising and conducting professional practice: practice programmes, agreements with practice bases in accordance with speciality, orders on assignment of students to them. Professional practice programmes are developed by the Department and reflected in the educational-methodical complex of professional practices. Professional practice in accredited EP is carried out according to the document "Rules of organization and carrying out professional practice and rules of determination of organization as the bases of practice" (Approved by the Order of MES RK from January 29, 2016 №107), as well as "Rules of organization and carrying out professional practice" (RS, Minutes №3 from 27.11.2018), where all processes and criteria of different types of practice are described.

The results of all types of internships are summarized in a final conference, where internship supervisors present a report on the work done and listen to the views of the students on the place of internship. Satisfaction of employers with the level of training of students during the internship is discussed at the meeting of the department. The result of satisfaction of the student by the employer reflects in the questionnaire survey.

The members of the EEC note that the management of EP promptly responds to the complaints of students, there is a mechanism of appeal, the assessment of learning outcomes is transparent and objective, which is confirmed by the results of the interview and questionnaire of students and is strength of EP.

A questionnaire survey of learners carried out during the EEC visit showed that: the learners expressed full and partial satisfaction:

а) level of teaching quality (90,6%);

б) fairness of examinations and certification (85,9%);

в) conducted tests and exams (84,7%).

Analytical part

Analyzing the standard " Student-centred learning, teaching and performance assessment" in accredited areas, the commission came to the conclusion that modern information and pedagogical technologies are used within the framework of the implemented EP.

At the same time, the EEC members note that the educational process does not use such methods and technologies as learning in collaboration, project methodology, multimedia technologies and interactive programs are not used enough to help implement a student-centered approach to learning, providing individualization and differentiation of learning from taking into account the abilities of students.

The analysis of the content of the distance learning system by the EEC members revealed the lack of access of students to the results and assessments obtained in the course of distance learning.

During conversations with students, members of the EEC found out that midterm control and exams are conducted in most cases orally, which affects the objectivity of learning outcomes.

The results of the survey of employers, in turn, testify to the good theoretical training of graduates of the accredited EP, the ability to apply the acquired knowledge and skills in practice. This is the basis for the growing demand for graduates of the specialty in the regional labor market.

Strengths / best practice for EP 5B070200 "Automation and Control", 5B070400 "Computer Engineering and Software", 5B071700 "Thermal Engineering":

- availability of a procedure for responding to student complaints;

- the presence of consistency, transparency and objectivity of the mechanism for assessing learning outcomes for each EP.

Additional strengths / best practice for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software":

- providing students with flexible learning opportunities.

Recommendations of the EEC for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- Include the introduction of new forms and methods of teaching and learning in curricula development plans and provide feedback on the effectiveness of their use.

- Organise in-house research on teaching methodology and assessment of learning outcomes.

- To reflect the information on the progress of learning and current assessments in the distance learning system and organize access to them for students.

- Increase the proportion of written knowledge assessment in midterm tests and examinations.

EEC conclusions by criteria: (strong / satisfactory / suggests improvement / unsatisfactory)

According to the standard "Student-centered learning, teaching and performance assessment ", 10 criteria are revealed, of which:

- in EP 5B070200 "Automation and Control", 5B070400 "Computers and Software" 3 has a strong position, 5 - satisfactory, 2 - suggests improvement;

- EP 5B071700 "Thermal Engineering" 2 has a strong position, 6 - satisfactory, 2 - suggests improvement.

6.6. «Students» standard

- *The university should demonstrate a policy on the formation of the student population from admission to graduation and ensure the transparency of its procedures. Procedures regulating the lifecycle of learners (from intake to graduation) should be defined, approved, published.*
- *EP management should demonstrate that special adaptation and support programmes are in place for new entrants and international students.*
- *The university should demonstrate its compliance with the Lisbon Recognition Convention.*
- *The university should cooperate with other educational organisations and the national centres of the ENIC/NARIC "European Network of National Academic Recognition and Mobility Information Centres" in order to ensure comparable recognition of qualifications.*
- *EP management should demonstrate the existence and application of a mechanism for recognising the outcomes of academic mobility of learners, as well as the outcomes of additional, formal and non-formal learning.*
- *The university should provide opportunities for external and internal mobility of EP learners and assist them in obtaining external grants for their studies.*
- *The management of EP should make maximum efforts to provide students with internships, to facilitate the employment of graduates, to maintain contact with them.*
- *The university should provide the graduates of the study programme with documents confirming the obtained qualification, including the achieved learning outcomes as well as the context, content and status of the obtained education and the evidence of its completion.*
- *An important factor is the monitoring of employment and professional activities of EP graduates.*
- *EP management should actively stimulate learners for self-education and development outside the core programme (extra-curricular activities).*
- *An important factor is to have a functioning alumni association/association.*
- *An important factor is to have a support mechanism for gifted students.*

The evidentiary part

The formation of the contingent of students in educational programmes at KEnEU named after M. Dulatov is carried out in accordance with the existing resolutions of the Government of the Republic of Kazakhstan, standard rules and regulations. The university does not impose additional conditions on applicants. Students and visitors to the official website of the University http://kineu.kz can read the rules of admission, the order of transfer of students from one course to another from other universities, the regulations on the order of transfer credits taken in other universities, expulsion, etc. The official website of KEnEU has a page "Applicant", where you can get information on the rules of admission to university, the list of specialties of the University, the benefits for education, the order of admission documents and ask all the questions to the representatives of the selection committee.

The policy of formation of the contingent of students on accredited educational programmes consists in admission of persons most prepared for studies at the University, who consciously chose a specialty, who scored the required number of points by results of UNT (graduates of general secondary schools), CTA (graduates of technical vocational education and graduates of previous years' schools on a paid basis), and specialists with diplomas for the second higher education on the basis of an interview (Tables 5, 6).

The members of the EEC confirm that the policy on student enrolment is transparent and the procedures governing the lifecycle of education are approved and published on the university website.

Table 5 - Dynamics of the number of students in accredited specialties

Academic year	Specialty, the number of full-time students, including DLT		
	5B070200 Automation and Control	5B070400 Computers and Software	5B071700 Thermal Engineering
2015-2016	190	56	110
2016-2017	260	74	122
2017-2018	282	80	130
2018-2019	240	64	118

Table 6 - The number of enrolled applicants for the full-time course of study at the accredited EP, people

Specialty	2015	2016	2017	2018
5B070400 Computers and Software	2	14	10	14
5B071700 Thermal Engineering	2	26	21	11
5B070200 Automation and Control	22	50	51	30

Based on the data in Tables 5 and 6, the members of the EEC note a decrease in the number of enrolled applicants for full-time study programs 5B071700 Thermal Engineering and 5B070200 Automation and Control, as well as a decrease in the total enrollment in the cluster for 2018-2019 academic year.

Departments form individual learning paths presented in the individual curriculum (IC). Individual study plans determine the educational trajectory of each student and are formed in accordance with the curriculum and the catalogue of elective disciplines for each academic year, on the basis of which the working curriculum is formed.

The period of compilation and approval of the IC is indicated in the academic calendar. For the 1st year students the advisory and methodical work is conducted from the 25th of August to the 1st of September, for the 2nd, 3rd, 4th year students from the 1st

to the 15th of April, during the same period the registration for the disciplines is conducted.

The academic mobility of students is regulated by such internal regulatory documents as: "Regulations on the academic mobility of students, graduates and teachers" (approved by the Educational-Methodical Council of the University, Minutes № 3 from 13.10.2011), "Regulations on credit transfer by ECTS type in the evaluation of workload and achievement of educational levels" (approved by the EMC, Minutes № 4 from 18.11.2011).

Internal academic mobility is implemented on the basis of agreements of the University with higher education institutions of Kazakhstan (Table 7), external academic mobility - on the basis of international agreements, which at the moment do not exist.

Table 7 - Internal academic mobility of students

Indicators for external academic mobility

Specialty	Full name	Host university	Period of study	Number of students
2015-2016 academic year				
5B070200 - Automation and control	Maratov A.K.	Kazakh University of Railway Transport, Almaty	18.01.2016-14.05.2016	1
2017-2018 academic year				
5B070200 - Automation and control	Izteleuova G.U.	Kazakh University of Railway Transport, Almaty	01.09.2017-06.01.2018	1
2018-2019 academic year				
5B070400 - Computers and software	Khudyakov A.Yu.	Kazakh University of Railway Transport, Almaty	01.09.2018-06.01.2019	1

Indicators for incoming academic mobility

Specialty	Full name	Host university	Period of study	Number of students
2015-2016 academic year				
5B070200 - Automation and control	Bekenov S.B, Bopazova A.B.	Kazakh University of Railway Transport, Almaty	25.01.2016-28.05.2016	2

One of the university's priorities is the successful employment of graduates. In order to facilitate the employment of graduates, the Mansap Youth Personnel Centre has been established, which works through "Everest" NGO. The centre holds annual seminars for graduates of the year on "Writing a CV on the basis of International Standards", "Job Search Algorithm" and "Successful Self-fulfillment in Employment". EEC experts note that the functioning of the Youth Personnel Centre is undoubtedly a strength of the EP.

The bases for internships are the organizations that correspond to the profile of the studied specialty (or related organizations). The University concludes long-term agreements with the bases of internships in accordance with the form of the Model Agreement for carrying out professional internships. Agreements shall be concluded for the period of 3 years, 5 years or until termination depending on specifics of enterprise.

The organization of all types of practices within the framework of EP 5B071700 - "Thermal Engineering", is carried out in accordance with prolonged or individual contracts. Thus on EP 5B071700 - "Thermal Engineering" - 10 contracts, on EP 5B070200 "Automation and Control" - 11 contracts, on EP 5B070400 "Computers and Software" - 14 contracts.

Monitoring of the employment of graduates is carried out by the graduating department, general control over the process of employment of university graduates is carried out in the dean's office (Table 8). For all graduates, a data bank on their distribution is formed, including the following information: name, address of the organization to which the graduate is assigned, as well as the proposed position. For communication with graduates, a bank of their email addresses is formed. Information about university graduates is annually posted on the university website.

Feedback from alumni is maintained through negotiations, correspondence, meetings and e-mail, as well as by conducting a survey of alumni of the current and previous years.

Table 8 - Employment of graduates in accredited EP for 2016-2018

Code and name of specialty		2016 year			2017 year			2018 year		
		Total graduation	Employed	%	Total graduation	Employed	%	Total graduation	Employed	%
5B070200	Automation and control	70	65	92,8%	93	89	95,7%	67	64	90,1%
5B070400	Computers and software	31	27	87%	18	16	88,8%	21	17	80,9%
5B071700	Thermal Engineering	33	28	84,8%	34	34	100%	41	37	90,2%

The members of the EEC note that the weight of the graduates are employed according to the EP profile. Thanks to the professional certification procedure, many graduates of EP 5B070200 "Automation and Control" and 5B070400 "Computers and Software" are provided with documents confirming the qualifications received, including the achieved learning outcomes, as well as the context, content and status of the education received and evidence of its completion, which is strong side of the EP.

Analytical part

The commission, in the course of analyzing the contingent of students, observes a tendency towards its increase. When forming an individual educational trajectory, the peculiarities of the level of training of talented students are taken into account. In particular, when forming groups for the study of foreign languages, the initial level of knowledge of the language is determined by testing the student. When forming the educational trajectory, the University does not always have the opportunity to take into account the characteristics of the student in the educational process, because building an individual trajectory for a small number of students is not profitable.

The commission notes that there are no foreign students and no external academic mobility of students at KEnEU, and the work of the alumni association is also not organized.

In the course of interviewing students, the EEC members determined that the university created conditions to support gifted students by providing discounts, grants for training, stimulating creative activity, etc., while students expressed their wishes for holding events of various levels in areas of specialization on the basis of the university with the participation of students.

According to the results of the survey, 80.0% of students express complete satisfaction with the availability of academic counseling; availability of healthcare services - 81.2%; availability of library resources - 90.6%; existing training resources - 75.3%; overall quality of educational programs - 83.5%; the relationship between student and teacher - 87.1%.

Strengths / best practice for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- A policy of building the student pool from admission to graduation and ensuring transparency of its procedures;
- The existence of a youth recruitment centre to facilitate the employment of graduates;
- Support of gifted students by the university management.

Additional strengths/best practice for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software":

- providing graduates with evidence of the qualifications obtained, including the learning outcomes achieved as well as the context, content and status of the education obtained and the evidence of completion.

EEC Recommendations for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

– To organise work on attracting foreign applicants to study at the university.

– To continue the work on the development of external and internal academic mobility of students.

– Increase the role of the Alumni Association in the university's activities.

Additional recommendations for EP 5B071700 "Thermal Engineering":

– Develop an adaptation and support programme for international students.

EEC conclusions by criteria: (strong / satisfactory / suggests improvement / unsatisfactory)

According to the "Students" standard, 12 criteria are disclosed, of which:

- in EP 5B070200 "Automation and Control", 5B070400 "Computers and Software" 6 has a strong position, 4 - satisfactory, 2 - suggests improvement;
- in EP 5B071700 "Thermal Engineering" 5 has a strong position, 4 - satisfactory, 3 - suggests improvement.

6.7. «Teaching staff» standard

- *The university should have an objective and transparent human resources policy, including in terms of EP, including recruitment, professional development and staff development, ensuring the professional competence of all staff.*
- *The university should demonstrate compliance of the teaching staff potential with the university development strategy and the specifics of EP.*
- *EP management has to demonstrate responsibility for its staff and to provide them with a favourable working environment.*
- *EP management should demonstrate a change in the role of teaching staff in connection with the transition to student-centered learning.*
- *The university should identify the contribution of teaching staff to the implementation of the university development strategy and other strategic documents.*
- *The university should provide career and professional development opportunities for teaching staff.*
- *The management of the EP should involve practitioners from relevant industries in teaching.*
- *The management of the EP has to ensure targeted actions for the development of young teachers.*
- *The university should demonstrate motivation for the professional and personal development of EP teachers, including encouraging both the integration of research and education and the application of innovative teaching methods.*
- *An important factor is the active application of information and communication technologies in the educational process (e.g. on-line learning, e-portfolio, MOOCs).*
- *An important factor is the development of academic mobility within the framework of EP, attraction of the best foreign and domestic teachers.*

- *An important factor is the involvement of teaching staff in the life of society (the role of teaching staff in the education system, in the development of science, region, creation of cultural environment, participation in exhibitions, creative competitions, charity programmes, etc.).*

The evidentiary part

KEnEU has an objective and transparent personnel policy, including recruitment, professional development and staff development, ensuring the professional competence of the entire staff. The university management pays great attention to staff recruitment and training.

The teaching staff of accredited EPs is staffed in accordance with the legislation of the Republic of Kazakhstan and the Rules of competitive recruitment of teaching staff and researchers of higher education institutions.

In the formation of the educational programme an analysis of the staff composition is carried out, so, for example, in the 2017-2018 academic year, the educational process: EP 5B071700 - "Thermal Engineering" was provided by 25 full-time teachers, 14 of them are candidates of science. The percentage of teaching staff with academic degrees and titles is 56% (Table 9).

EP 5B070200 - "Automation and Control" was ensured by 27 full-time lecturers, 14 of them having PhD degrees. The percentage of teaching staff with scientific degrees and titles is 52%.

EP 5B070400 "Computers and Software" was provided by 22 full-time lecturers, 12 of them are PhDs. The percentage of teaching staff with academic degrees and titles is 54%.

The formation and implementation of personnel policy at KEnEU is based on the following principles: democratic approach to the management of teaching staff and academy employees; combination of the interests of the management staff and the managed subsystem; accessibility of management; respect for parity; stimulation of teaching staff activity; creation of conditions and atmosphere of initiative and creativity; personal improvement of personnel.

This approach corresponds to modern trends in the field of human resources and is based on the formation and strengthening of "human capital" in the context of transition to the knowledge society and the management of KEnEU implements human resources policy in accordance with the main priorities of the university strategy.

The strategic goals of the personnel policy of KEnEU are as follows:

- to form a hard-working, highly qualified team of like-minded people, capable of solving the tasks facing the university and responding promptly to the constantly changing requirements of the labor market and educational services;

- creation of effective human resources management system based on modern technologies of personnel management, aimed at its development (selection and evaluation, professional development, retraining)

- creation of favorable conditions for self-realization and career development of employees;

- increasing the attractiveness of working conditions at the university to attract and retain highly qualified specialists.

During the meetings of the EEC experts with the teaching staff it was found that at the Department of "Information Technology and Automation" to teach the disciplines actively involve teachers of practice, which is a strong point of the curriculum 5B070200 "Automation and Control" and 5B070400 "Computers and Software".

Table 9 - The qualitative and quantitative composition of the teaching staff of the departments "Information technology and automation" and "Energy and mechanical engineering"

Indicator	Academic year		
	2015-2016	2016-2017	2017-2018
Department of Information Technologies and Automation			
Total teaching staff, people including:	17	13	15
Full-time teaching staff, people. Of which:	16	12	14
with a doctoral degree	-	-	
with a PhD degree	-	-	
with a candidate of sciences degree	8	6	7
with a master's degree	8	7	7
Degree of teaching staff , %	50%	50%	50%
Share of full-time teaching staff , %	94,1 %	92,3 %	93,3 %
Department of Energy and Mechanical Engineering			
Total teaching staff, people including:	23	23	19
Full-time teaching staff, people. Of which:	21	21	17
with a doctoral degree	1	1	1
with a PhD degree	1	1	1
with a candidate of sciences degree	10	10	8
with a master's degree	5	5	5
Degree of teaching staff , %	52,2	52,2	52,6
Share of full-time teaching staff , %	91,3	91,3	89,4

Recruitment is based on an analysis of the needs of educational programmes, which results in a competition for filling vacant positions. For this purpose, a system of recruitment of teachers has been developed and approved in accordance with the Rules of competitive recruitment of teaching staff and scientific staff of higher education institutions, according to which a competitive commission has been established at the University (Order № 9 of 05.05.2017.). Competitive selection of candidates to fill vacant positions is carried out in accordance with the qualification characteristics of the positions of scientific and pedagogical workers, the announcement of the competition is placed in the regional newspaper "Kostanay News", as well as on the website of KEnEU.

Members of the EEC noted that the composition of the teaching staff of the educational program 5B071700 "Thermal Engineering" only D.Z. Osipov has a basic education in the specialty.

The University has established and operates a system of personnel assessment, which is carried out by conducting an attestation of teaching staff. (Order №22 dated 13.11.2017.) The purpose of the attestation is to identify the level of competence of the teaching staff of the university to the qualification requirements for the establishment and confirmation of the relevant position. The purpose of the attestation is to improve the level of performance of KEnEU staff, to increase the prestige and authority of employees, to expand opportunities for their moral and material incentives for their productive work.

According to the "Rules for Attestation of Educational Workers", the main criteria for the attestation are the qualification of the employee and the results achieved by him/her in the performance of job duties. For all categories of employees, in addition to general indicators (level of education, work experience in this or similar positions), the degree of independence, quality and timeliness of task performance, matching the employee's qualifications with the complexity of the task, personal contribution to the work performed and professional development are assessed.

The attestation of managers assesses their professional level, legal culture, integrity, organisational skills, ability to work with people, create a favourable psychological climate and creative atmosphere in the team. The attestation of specialists assesses the efficiency and quality of their work, their knowledge of the work, their relations with co-workers and capacity for self-improvement. The attestation of all categories of employees also includes conclusions on the compliance of their qualifications with the tariff and qualification characteristics of positions determined by the Ministry of Labour and Social Protection of the Republic of Kazakhstan, as well as their career prospects. The result of the attestation may be either the retention of the employee in the previous position, or recommendation for promotion, or termination of the employment contract at the initiative of the employer. The results of the attestation are drawn up in the form of a conclusion of the attestation commission, which are transmitted to the Rector of the University for making a decision.

The university policy recognises and encourages effective teaching and provides an opportunity to strengthen the academic competences of the teaching staff.

Members of the EEC note that the management of the university provides a comfortable psychological microclimate in the team and favourable working conditions for the teaching staff. The university management provides all kinds of support to the teaching staff, stimulates personal development, including the promotion of the integration of scientific activity and education. This is undoubtedly a strength of the teaching staff.

The system of incentives for professional and personal development of teaching staff and university employees is represented by mechanisms of financial and non-financial incentives.

According to the "Regulations on Incentives" the non-monetary incentive mechanisms include the following elements:

- Awarding of certificates of appreciation and certificates of merit for good performance;
- Presentation of letters of appreciation and awards from the departments supervising educational activities;
- Letters of appreciation in honor of public holidays from akimats and government agencies;
- Inclusion in the KEnEU Gallery of Honour.

So, for example, for high achievements in teaching activities, creativity and professional approach to work, a letter of appreciation was awarded to teacher Gerauf I.I.

In connection with the celebration of the Independence Day of the Republic of Kazakhstan for the productive work in the formation of spiritual and moral qualities in students and significant achievements in scientific and pedagogical activities, the certificate

of merit of the rector in 2016 - 2017 were awarded to Moldabekova A.J., Agdavletova A.A., Madin V.A.

To increase the efficiency of the teaching staff, improve teaching methods and the effectiveness of the results of labor activity, the KEnEU has a system for assessing the activities of the teaching staff, which is enshrined in the "Regulations on the system of key performance indicators of the teaching staff". The current regulation was revised and approved in May 2018. The main goals of the KPI system are the development of the creative principle of thinking, the activation of educational, research and socio-political work, improving the quality of training, as well as increasing the efficiency of teaching staff, structural divisions and the university as a whole in the implementation of educational programs.

In accordance with modern economic relations, the wages of each worker must correspond to the quantity and quality of his work.

The use of the KPI system makes it possible to more reasonably and differentially establish additional payments to the official salaries of the teaching staff, taking into account the results of their work at the expense of the university's own funds, based on the available financial capabilities.

The KPI system involves full-time teachers who have worked for at least one academic year. The results of the ranking of the teaching staff are considered and approved at an expanded meeting of the department. Summing up the results of the assessment of efficiency is carried out by a commission appointed by the order of the rector, which makes proposals to the rector for the establishment of personal allowances to the salary of the teaching staff. The monthly amount of allowances in 2018 amounted to 175,000 (one hundred seventy-five thousand) tenge (order No. 238-лс dated 12/13/2017).

The planning of advanced training is carried out on the basis of the individual plans of teachers, the activities that are reflected in them serve as the basis for the general plan of activities of the department in the field of advanced training of teaching staff, including vocational training. Table 10 shows the dynamics of professional development of the teaching staff of the university.

Table 10 - The number of teachers who completed advanced training courses for three academic years

Department name	2015-2016		2016-2017		2017-2018	
	RK	Near and far abroad countries	RK	Near and far abroad countries	RK	Near and far abroad countries
Department of "Information Technology and Automation"	6	34	12	5	12	5
Department of "Energy and Mechanical Engineering"	5	-	12	2	14	1
Total:	**11**	**34**	**24**	**7**	**26**	**6**

A significant and integral part in the activities of the university is the research work of teachers. The administration of the university is taking measures to stimulate RSW of teachers (Tables 11-13), namely:

- if articles were included in the list of bibliography earlier in the journal "Science", a 20% discount of the total amount of payment for the publication of the article is provided;
- RSW of teachers staff are calculated in summing up the ranking for teaching staff;

- for the publication of an article in scientific journals with a non-zero impact factor, the university pays 60% of the total amount;

- according to the results of scientific student conferences, participants are given a certificate of participation.

Table 11 - The effectiveness of RSW teaching staff by cluster

Full name	Research topic	RSW results
Zhunusov K.M.	Formation and development of innovative technologies in the regional economy (state registration number 0118RKI0191)	Publication of articles, participation in conferences
Kpmarov D.N.	Development of a telemechanical control system for a mechatronic device based on a visual feedback channel	Publication of articles, participation in conferences
Sarbasova A.Zh.	Formation and development of integrated automated systems on the platform of mobile B2B, B2C applications	Publication of articles, participation in conferences
Klassen Yu.V.	Electronic-ionic technology	Publication of articles, participation in conferences
Gerauf I.I.	Improvement and development of distance learning in universities of Kazakhstan	Publication of articles, participation in conferences
Moldabekova A.Zh.	Development of information structures for hypertext documents	Publication of articles, participation in conferences
Lyahovetskaya L.V.	Stability of overhead transmission line supports	Publication of articles, participation in conferences
Voicehovskaya L.A.	Recycling of waste paper	Publication of articles, participation in conferences
Podvalnyi V.V.	Mechanical engineering-as one of the priority directions of development of the Kostanay region and the Republic of Kazakhstan as a whole.	Publication of articles, participation in conferences
Serikbaeva A.Sh	Making homemade devices for physics lessons as one of the ways to activate the cognitive activity of students.	Publication of articles, participation in conferences
Rostislavov O.A.	Alternative energy supply for low-power consumers.	Publication of articles, participation in conferences
Bedych T.V.	Improving the system of machines for post-harvest grain processing	Publication of articles, participation in conferences
Osipov D.Z.	Energy survey of multi-family residential buildings	Publication of articles, participation in conferences

Table 12 - Publication activity of teaching staff by cluster

Mode of publication	2015	2016	2017	2018

Monographs	0	0	0	0
Textbooks	0	0	0	0
Teaching tools	0	0	6	5
Electronic textbooks	0	0	2	4
Teaching staff articles				
From them: Articles, abstracts in collections of conferences and other scientific events (foreign editions)	20	18	16	19
Articles, abstracts in collections of conferences and other scientific events (republican editions)	35	24	33	25
Articles in journals with a high impact factor, Thomson Reuters, SCOPUS	1	-	1	-
Articles in journals with a high impact factor, RSCI	4	4	6	6
Students Articles	10	12	12	15

The information is provided according to the reports of the department of "Information Technology and Automation" and department of "Energy and Mechanical Engineering"

Table 13-RSW financing by cluster, tenge

RSW funding	2014	2015	2016	2017	2018
Founder's funds	373600	315500	950000	400000	500000
International projects	11451573	0	11369359	5246850	257372
Household contracts	500000	0	40000	0	2634000
by order of the Ministry of Education and Science of the Republic of Kazakhstan	0	0	0	0	0

The following information technologies have been introduced into the educational process of KEnEU:

- electronic journal;
- modular forms of training, allowing to increase the degree of student involvement in the process of independent mastering of the necessary information and knowledge;
- using the possibilities of the Internet in the educational process. In this case, we are talking about both the application of teaching methods, the central part of which is the use of the teacher's information website, and the use of the network capabilities as an auxiliary tool in the modular form of training (distribution of assignments, provision of completed works, answers to questions, familiarization of students with grades etc.).

For the implementation of the above learning technologies at the university, teachers and students have free access to computers connected to the Internet. A number of requirements are put forward to the teachers themselves, these are: the teacher's skills in working on the Internet and knowledge about special software products (technical solutions) and Internet technologies, skills in developing and conducting classes using multimedia technologies; development of a course taking into account the use of information technology.

During the visit to the classes of the Department of "Information Technologies and Automation", the experts found that in the educational process of EP 5B070200 "Automation and Control" and 5B070400 "Computers and Software" open educational resources are widely used: YouTube video hosting (cycles of video lectures on disciplines), the platform of the National Open University INTUIT (courses on disciplines and fragments

of advanced training programs), educational platforms Lectorium and Coursera. The choice of the platform and materials is determined by the preference of the leading teachers of the department:

- videos from the YouTube video hosting service – http://youtube.com (Gerauf I.I.)
- materials of the National Open University of INTUIT – http://intuit.ru (Gerauf I.I., Moldabekova A.Zh., Madin V.A., etc.).
- information and communication technologies (Gerauf I.I.) - video materials from the YouTube video hosting for lectures.

Information technologies are used on an ongoing basis in the process of conducting classes for both full-time students – presentation multimedia material, projection equipment, etc., and students studying with the use of remote educational technologies – the Adobe Connect webinar system:

- lectures for students studying with the use of distance learning technologies are organized in the system conducting webinars Adobe Connect on a regular basis according to the schedule;
- training sessions in classrooms equipped with interactive multimedia and projection equipment (302 NC, 303 NC, 304 NC, 501-506 A, etc.) are conducted with the mandatory use of presentation and video materials according to the schedule.

In addition, individual faculty members of the department apply innovative methods of testing Plickers knowledge and develop and distribute electronic educational resources in Adobe Captivate.

Teaching staff apply innovations and information technologies in the teaching process. Thus, lectures for students studying with the use of distance learning technologies are organized in the Adobe Connect webinar system on a regular basis according to a schedule, and training sessions in classrooms equipped with interactive multimedia and projection equipment (302 NC, 303 NC, 304 NC, 501-506 A, etc.) are conducted with the mandatory use of presentation and video materials according to a schedule.

The purpose of implementing webinars is to provide students with the possibility of remote "presence" in the classroom, as well as re-viewing the recording of the lesson at any convenient time.

The members of the EEC found that the teaching staff of the Department "Information Technologies and Automation" in the 2016-2017 academic year passed internal refresher courses under the program "Fundamentals of the Development of Electronic Educational Resources", in which teachers received practical skills in the development of electronic courses and their individual elements using distance educational technologies in Adobe Captivate, which is undoubtedly the strong point of OP 5B070200 "Automation and Control" and 5B070400 "Computers and Software".

According to the terms of study or scientific internships, the teaching staff at KEnEU implements short-term mobility programs lasting from 2 to 4 weeks.

The exchange of teaching staff by researchers takes place with the following universities / research organizations:

Within the framework of academic mobility in the 7th term of the 2017-2018 academic year at the Humanitarian and Technical Academy of Kokshetau, Moldabekova A.Zh. conducted lectures on the disciplines "Object-oriented programming in the Delphi environment", "Web technologies", Agdavletova A.A.

- lectures on the discipline "Operating systems, environments and shells", Zhunusov K.M.
- lectures on the discipline "Computer Networks", Sarbasova A.Zh.
- lectures on the disciplines "Object-oriented programming in the environment of the Delphi ".

Master Krenichny A.B. – General Director of MIATEL LLC (Russia, St. Petersburg) conducted a lesson during the period January 29 - February 2, 2018 for students of the specialty 5B070400 "Computers and Software" on the discipline "Architecture and organization of computer systems" in the amount of 15 hours. Miatel provides a full range of high-quality telephone services based on a digital transport network (fiber-optic channels).

The EEC members note that the development of academic mobility of teachers within the EP makes it possible to improve the quality of educational services provided, to increase the intellectual potential of teaching staff, to develop cooperation between partner universities and also to enable young scientists and teachers to continue their education and gain scientific experience abroad by participating in short-term mobility program.

Analytical part

EEC experts note a good level of interaction between teaching staff and students, all students are provided with individual consulting support.

During the visit by the EEC members of the library and specialized departments, the study of reporting documents, it was found that over the past three years, the leadership of the EP and the teaching staff has paid very little attention to the development and release of educational and methodological literature (Table 12). This is partly connected with the widespread use of distance learning technologies and online learning.

During the meetings with the teaching staff and the analysis of the documents presented by the university, the experts found the insufficient academic mobility of the teaching staff, as well as the weak personnel potential of the EP "Thermal Engineering", expressed in non-core basic education of the teaching staff of the department.

Strengths / best practice for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- providing a comfortable psychological microclimate and favorable working conditions for teaching staff;

- university administration provides all kinds of support for the teaching staff, which stimulates personal development, including encouraging the integration of scientific activity and education.

Additional strengths / best practice for EP 5B070200 "Automation and Control", 5B070400 "Computer and Software":

- teachers of practice are actively involved in the implementation of the EP;

- active use of the teaching staff of distance educational technologies in the educational process.

EEC recommendations for educational program 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

– To intensify the process of developing textbooks and teaching aids in special disciplines of the cluster's EP, including interactive e-learning courses, and to provide students with these materials.

– Strengthen the work on academic mobility of teaching staff and attract the best foreign and domestic teachers.

Additional recommendations for EP 5B071700 "Thermal Engineering":

– Strengthen the provision of human resources with teachers with appropriate basic education.

EEC conclusions by criteria: (strong / satisfactory / suggests improvement / unsatisfactory)

According to the "Teaching staff" standard 12 criteria are disclosed, of which:

– according to EP 5B070200 “Automation and Control”, 5B070400 “Computers and Software” 4 has a strong position, 7 - satisfactory, 1 - needs improvement;

– according to OP 5B071700 “Thermal Engineering” 2 has a strong position, 8 - satisfactory, 2 - needs improvement.

6.8. «Educational resources and student support systems» standard

- *EP management must demonstrate sufficient material and technical resources and infrastructure.*
- *EP management should demonstrate that there are procedures in place to support different groups of learners, including information and counseling.*
- *EP management must demonstrate compliance of information resources with EP specifics, including compliance with:*
  - *technological support for students and teaching staff in accordance with educational programs (for example, online training, modeling, databases, data analysis programs);*
  - *library resources, including the fund of educational, methodological and scientific literature on general education, basic and major disciplines on paper and electronic media, periodicals, access to scientific databases;*
  - *examination of RSW, graduation works, dissertations for plagiarism;*
  - *access to educational Internet resources;*
  - *functioning of WI-FI on the territory of the educational organization.*
- *The university should strive to ensure that the educational equipment and software used to master educational programs are similar to those used in the relevant industries.*
- *The university must ensure compliance with safety requirements in the learning process.*
- *The university should strive to take into account the needs of various groups of students in the context of EP (adults, working, foreign students, as well as students with disabilities).*

The evidentiary part

The material, technical and social base under the operational management of KEnEU named after M. Dulatova, located in the city of Kostanay, consists of 10 objects; the total area of the territory is 10,464 m2.

The university has 2 educational and laboratory buildings with a total area of 1377 m2, per student of the given contingent; the useful study area is 6.5 m2.

Laboratory classes are carried out on the basis of educational and scientific laboratories of the university, as well as on the educational, scientific and production sites operating at the university. Laboratory and practical classes are also conducted on the basis of the branches of the departments, on the basis of an agreement on mutual cooperation with third-party organizations. Such an organization of the educational process makes it possible to more fully use the material, technical and human resources of both the university and enterprises and organizations of the region for the formation of students' professional skills and abilities in conditions close to real ones.

The infrastructure of the university includes a hostel, a sports base, a library, a first-aid post and other educational and auxiliary premises.

The KEnEU sports base consists of a combination of indoor and outdoor sports facilities. The university has 1 indoor sports hall, equipped with appropriate sports equipment, with a total area of 1087.5 m2.

Currently, the university has one hostel with a total area of 1821.5 m2 for 150 beds. The hostel also has an open-type sports ground with a total area of 954.5 m2.

To organize student meals, the university operates a youth cafe with a total area of 275.6 m2 for 100 seats.

Medical care for employees and students is provided by the health center, which is located in the building of the KEnEU sports complex and in the city polyclinic No. 1.

Building A has 24 classrooms with a total area of 1333.3 m2, 21 laboratories with an area of 685.3 m2, 4 computer rooms with an area of 164.1 m2. In addition, the building houses the International Scientific and Educational Center of Computer Technologies "ARTESN-KEnEU" and the laboratory of Internet technologies for distance learning.

Building B has 1 classroom with a total area of 33.5 m2 and 21 laboratories with an area of 2151.2 m2.

The main component of creating conditions for organizing and conducting scientific research at KEnEU are laboratories equipped with modern material and technical base. On February 4, 2015, the Regional Innovation Center (RIC) was created, which included KEnEU, the Kostanay branch of AgromashHolding JSC and SaryArkaAvtoProm LLP. The purpose of the RIC is to form an effective system of interaction between production, education and science: training highly qualified technical specialists, the introduction of a dual training system, the practical application of modern technologies and the commercialization of scientific and industrial developments.

To improve the efficiency of the educational process, the quality of training specialists at the department, a collection of electronic educational resources is being formed, acquired and partially developed by employees of the University for educational and scientific purposes. In addition to the informative content of the site, the possibility of interactive communication through a virtual representation, providing access to educational services and automated information systems, such as an electronic encyclopedia, a catalog of electronic educational resources, a catalog of educational programs, to the website of the KEnEU library, to AIS "Platonus", to DO system, e-mail, internal portal. Feedback from students is carried out through the website and information stands in each building.

Students who enrolled in the 1st year of study are provided with a guide-guide, an academic calendar by the advisor. The area of the reading rooms is 2870.1 m2; the total number of seats is 473.

The library is located in the main educational building. There is a reading room in the library, where students can work with electronic textbooks, an electronic catalog, the RIEB electronic library, audio or video materials. The electronic reading room is equipped with modern office equipment: computers, printers, and a scanner.

The library occupies the 4th floor of the new university building, its total area is 431.2 m2. The library has two structural divisions: a service department (subscription and a reading room for 120 seats) and an Internet room for 13 seats with 10 computers. All information resources are available to users every day from 8.30 to 18.00 (except Sunday).

The library fund of the university totals 385,690 copies as of 01.12.2018, incl. in the state language - 27,589 copies, of which educational literature - 261150 copies, educational and methodological literature - 41611 copies, information resources - 82,929 copies. Paper editions are 357323 copies, electronic editions - 28101 copies. For the convenience of users in the electronic hall of the university library, a database of intra-university publications has been collected on CDs: educational and methodological complexes of disciplines for educational programs, as well as licensed educational publications, electronic educational resources, computer training programs, etc.

For the organization of the educational process, the university is sufficiently equipped with modern technology in classrooms, lecture halls, in all departments of the university. In the educational process, a total of 19 computer classes are involved, 6 of which are located in information and communication centers in the cities of Rudny, Arkalyk, the villages of Karabalyk, Uzunkol, Sarykol.

The educational and laboratory facilities and the classroom fund correspond to the contingent of students, educational programs being implemented and sanitary and epidemiological standards and requirements. In total, KEnEU has 36 laboratories. Projection and interactive equipment is installed in 16 lecture halls and computer labs. There are 2 specialized language classes for 22 seats, equipped with special equipment for full-duplex audio transmission.

As a result of visiting the training laboratories, the EEC experts were convinced that all the premises meet the safety requirements, the classrooms are equipped with fire extinguishers, and the students are given an annual safety briefing.

Modern software is used for educational and research purposes. An academic license from Autodesk allows you to work with all engineering and graphics products of this company - AutoCAD, 3DMax, ArchiCAD, Maya, Inventor and others.

At the time of the visit, the EEC in the educational process used 12 virtual classrooms Adobe Connect in specially equipped classrooms. Since the beginning of the use of Adobe Connect virtual classrooms, more than 3000 lectures have been recorded, which are available in the student's personal account of the Elsyma distance learning system.

For the implementation of EP 5B070200 "Automation and Control", 5B070400 "Computers and Software" in the educational process, specialized laboratories are used: "Electronics and the basics of microprocessor technology", "Networks and telecommunications", "Computer systems architecture".

For the implementation of EP 5B071700 "Thermal Engineering" 7 specialized laboratories are used in the educational process: "Physics", "Mechanics of liquid and gas", "Chemistry", "Labor protection and life safety", "Theoretical foundations of electrical engineering", "Heat supply and energy-saving technologies ","Descriptive geometry and engineering graphics".

At the department of Information Technology and Automation there are four computer classes A211 (KZ №1, KZ № 2, KZ №3, KZ № 4), which are equipped with modern computers (40 computers). For the specialty 5B070400 "Computers and Software" in the studied disciplines, the necessary programs have been installed for laboratory work in computer classes. The department is constantly updating, improving, and expanding the information base.

During a visit to the department of Information Technology and Automation, experts found that the management of EP 5B070200 “Automation and Control” and 5B070400 “Computers and Software” comprehensively take into account the needs of various groups of students due to an individual schedule for mastering disciplines using distance learning technologies, which is the strong point of EP data.

Analytical part

As a result of a visual inspection by members of the EEC of the facilities of the material base, we note that to ensure the educational process of accredited educational programs, the university has all the necessary educational and material assets. The university building meets the current sanitary standards and fire safety requirements. Classroom and laboratory facilities, classrooms and other premises, sports facilities comply with the established norms and rules.

Experts note the need for cooperation between the university library and libraries of other universities in the country, near and far abroad, which will provide students with additional resources.

Nevertheless, EEC experts note that the disciplines "Technical thermodynamics" and "Heat and mass transfer" of the DB cycle, "Boiler plants and steam generators" and "Blowers and heat engines" of the EP cycle "Thermal Engineering" are not provided with the necessary laboratory facilities.

The Commission notes that attention should be paid to and improved conditions for students with disabilities.

Members of the EEC note that the university has a Regulation on plagiarism verification of written works of students and an organized verification process using its own anti-plagiarism system, but this is clearly not enough for a full-fledged search for borrowings in Internet sources.

According to the results of the questioning of students, 89.4% are "completely" satisfied with the existing educational resources of the university; classrooms, classrooms for large groups - 80%; lounges for students - 42.4%; computer classes and Internet resources - 78.8%; hostel - 61.2%.

Strengths / best practice for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering"

- compliance of the educational and material base with safety requirements.

Additional for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software"

- comprehensive consideration of the needs of various groups of students in the context of EP.

EEC recommendations for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- Introduce a system for checking written works for anti-plagiarism using external databases.

Additional recommendations for EP 5B071700 "Thermal Engineering":

- Strengthen the educational and laboratory base with modern equipment similar to those used in the industry.

EEC findings on criteria: (strong / satisfactory / suggesting improvement / unsatisfactory)

According to the standard "Educational resources and student support systems", 10 criteria are disclosed, of which:

- according to EP 5B070200 "Automation and Control", 5B070400 "Computers and Software" 2 has a strong position, 6 - satisfactory, 2 - needs improvement;

- according to EP 5B071700 "Thermal Engineering" 1 has a strong position, 6 - satisfactory, 3 - needs improvement.

6.9. «Public informing» standard

- *The information published by the university in the framework of the EP must be accurate, objective, up-to-date and must include:*
  - *ongoing programs, indicating the expected learning outcomes;*
  - *information on the possibility of qualifying at the end of the EP;*
  - *information about teaching, learning, assessment procedures;*
  - *information about passing scores and educational opportunities provided to students;*
  - *information about the employment opportunities of graduates.*
- *EP management should use a variety of ways to disseminate information (including mass media, web resources, information networks, etc.) to inform the general public and stakeholders.*
- *Public awareness should include support and explanation of the country's national development programs and the system of higher and postgraduate education.*
- *The university must publish audited financial statements on its own web resource.*
- *The university must demonstrate the reflection on the web resource of information characterizing the university as a whole and in terms of EP.*
- *An important factor is the availability of adequate and objective information about the teaching staff EP, in the context of personalities.*
- *An important factor is informing the public about cooperation and interaction with partners within the EP, including scientific / consulting organizations, business partners, social partners and educational organizations.*
- *The university should post information and links to external resources based on the results of external evaluation procedures.*
- *An important factor is the participation of the university and the implemented EPs in a variety of external evaluation procedures.*

The University regularly informs the public and key stakeholders about all aspects of its activities, conditions and features of the implementation of educational programs, within the framework of existing accreditations and licenses.

Through information policy, the university demonstrates the constant development of educational programs, adaptation to educational trends in the world. In its information work, the University uses all available channels and technologies, including the media, specialized events and conference materials. The possibilities of the Internet and social networks are actively used.

Sources of information about the activities of the university and the implementation of educational programs for stakeholders are the headings "Applicant", "Student", "Graduate" and "Education" on the University website http://kineu.kz.

The media for publication have been determined - these are the local newspapers “Kostanay news”, “Kostanay-Agro”, “Nash Kostanay”, “Uchitelskaya +” and the Qostanay TV channel.

The university has official pages on popular social networks:

- Facebook;
- Instagram: (@ kineu.kz);
- Classmates;
- VKontakte;
- Youtube.

The satisfaction of stakeholders in the quality of the information received and in its completeness is monitored through comments on social networks, through a complaint book and a feedback form on the university website and through the rector's blog.

During meetings with students and employers, members of the commission revealed that in order to establish feedback with students and employers, reception on personal and other issues is carried out by deans and heads of departments at certain times when interested persons can receive the necessary information. The WhatsApp channel is also used to communicate with stakeholders.

To inform applicants, information stands, banners and plaques with the names of faculties and departments are placed on the territory of the university. Open House Days are held on a regular basis.

The University annually holds Job Fairs, which allows graduates and employers to establish contact for the selection of the necessary personnel. As a result of such preliminary work, students get an idea of the labor market, existing vacancies and the requirements for them even before graduation.

The University regularly takes part in various ratings of higher educational institutions in Kazakhstan, as well as in external assessment procedures.

Analytical part

Analysis of the information presented on the university website showed that the University posts complete and reliable information about its activities, the rules for admitting applicants, educational programs, terms and form of training, contact and other information useful for applicants and students.

At the same time, the EEC notes:

- lack of information to explain the national development programs of the country and the system of higher and postgraduate education;
- the university does not publish audited financial statements;
- the personal pages of the teaching staff on the site require updating and bringing them to a unified form, indicating information about the disciplines taught, publications and contacts.

Assessment of satisfaction with information about the activities of the university, the specifics and progress of the EP implementation is carried out annually through a questionnaire, survey, feedback, as well as through the rector's blog.

A student survey conducted during the EEC visit found that satisfaction with the usefulness of the university website and with informing students about courses, EP and academic degrees was 82.4% and 83.5%, respectively.

Strengths / Best Practice for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- to inform the public, the university uses a variety of ways to disseminate information;
- the university takes part in the external evaluation of the EP.

EEC recommendations for EP 5B070200 “Automation and Control”, 5B070400 “Computers and Software”, 5B071700 “Thermal Engineering”:

- Ensure the publication on the university's website of national programs for the development of the country and education, including "Digital Kazakhstan", as well as ensure that students, teaching staff and employees are informed about the priorities and new tasks in the field of higher education.

- Ensure the publication of audited financial statements on the website.

- Provide regular updates of information about teaching staff (portfolio) on the university website, including a list of scientific publications.

EEC findings on criteria: (strong / satisfactory / suggesting improvement / unsatisfactory)

13 criteria are disclosed according to the "Public information" standard, of which:

- according to EP 5B070200 "Automation and Control", 5B070400 "Computers and Software" 2 has a strong position, 8 - satisfactory, 3 - needs improvement;

- according to EP 5B071700 "Thermal Engineering" 2 has a strong position, 8 - satisfactory, 3 - needs improvement.

6.10. «Standards in the context of individual specialities» standard

- *Educational programs in the areas of "Natural Sciences", "Technical Sciences and Technologies", such as "Mathematics", "Physics", "Information Systems", etc., must meet the following requirements:*
- *In order to familiarize students with the professional environment and topical issues in the field of specialization, as well as to acquire skills based on theoretical training, the educational program should include disciplines and activities aimed at gaining practical experience and skills in the specialty in general and major disciplines in particular, in including:*

- excursions to enterprises in the field of specialization (factories, workshops, research institutes, laboratories, training and experimental 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.

- *The faculty involved in the education program should include full-time teachers with long-term experience as full-time employees in enterprises in the area of specialization of the education program.*
- *The content of all EP disciplines should be based in one way or another and include a clear relationship with the content of fundamental natural sciences, such as mathematics, chemistry, physics.*
- *EP management must provide training for students in the use of modern information technologies.*

The evidentiary part

The development of educational programs 5B070400 - "Computers and Software", EP 5B070200 - "Automation and Control", EP 5B071700 - "Thermal Engineering" are aimed at obtaining the necessary theoretical and practical training for graduates.

The current state of training in the framework of the EP is supported by the active use of information and communication technology, the annual updating of the subject of term papers and theses, as well as the introduction of new elective disciplines, taking into account the recommendations of employers.

Within the framework of practical, laboratory work, coursework and RSWL, there are computational and graphic, standard calculations, mathematical modeling, information, technological processes of specific enterprises are considered.

In order to familiarize students with the professional environment and current issues in the field of specialization, as well as to acquire skills based on theoretical training, the educational program includes the disciplines of the department, together with enterprises, they organize individual classes at enterprises whose specialization corresponds to the direction of EP, as well as, within the framework of accredited EP, educational activities are carried out by teachers with industrial experience.

Every year for students EP 5B070400 - "Computers and Software", EP 5B070200 - "Automation and Control" departments conduct excursions to the enterprises of Kostanay: Ivolga-Rastr LLP, KostanayTranstelecom JSC, Evraz Caspian Steel LLP.

At the enterprises of Ekoservice-2030 LLP, Zatobolsk Heat and Power Company GKP, Energy Efficient Technologies Company LLP, Kostanay Heat Power Company GKP, excursions are conducted for students on EP 5B071700 - "Thermal Engineering". These activities are carried out in order to familiarize with the production equipment and production processes, functional duties of personnel.

The departments have collected educational and methodological materials on magnetic media, electronic textbooks, etc. The educational base of the departments is also

equipped with modern laboratory equipment, instruments and stands for major disciplines for all implemented EP.

When using electronic publications, the university provides each student, during independent training, with a workplace in a computer class with Internet access in accordance with the volume of disciplines studied.

Students of these specialties are fully provided with educational and methodological guidelines, teaching aids and electronic textbooks, as well as a place where they can conduct research independently or under the guidance of a teacher, mentor from production.

To ensure the acquisition of practical experience in the specialty, various types of practice are provided: educational, industrial, pre-diploma. At the end of the practice, students submit reports in the approved form.

Professional practice is carried out in accordance with the standard curriculum, according to the academic calendar. The organization and conduct of industrial practice at the department is carried out in accordance with the requirements of the Standard rules for the activities of the organization of higher and postgraduate education of the Republic of Kazakhstan. The number of professional practice credits corresponds to the model curriculum of the specialty. The departments have concluded contracts for the conduct of professional practice, which define the responsibilities of the department, the base enterprise and students. Also, the departments have developed guidelines for the implementation of work during the period of internship, educational and work programs, as well as reporting conferences are held on all types of practices.

With the aim of informing students about employment opportunities, as well as passing educational practices, the university annually holds job fairs, which allows graduates and employers to establish contact for the selection of the necessary personnel. As a result of such preliminary work, students, even before graduation, get an idea of the labor market of existing vacancies and the requirements for them.

Every year for graduates, the department holds a job fair and an open day with the participation of heads of various enterprises in the region, as well as a representative of employment agencies with which contracts for employment and certification of graduates of the relevant specialty have been concluded.

As a result of visiting the practice bases, the EEC members came to the unanimous opinion that the EP 5B070200 “Automation and Control” and 5B070400 “Computers and Software” guidelines comprehensively provide measures to strengthen the practical training of students in the field of specialization, as well as in the application of modern information technologies, which is the strong point of EP.

Analytical part

The organization of the educational process for the educational programs being implemented at the departments is based on a combination of education, science and practice in specialized training, as well as using modern pedagogical and information technologies. Based on the results of the analysis carried out, the EEC members came to the following conclusion.

Information on the complex of work of specialized departments for students to obtain skills and competencies of a professional orientation, undergo practical training in production, attract practitioners to conduct classes is presented and confirmed by facts.

The practical orientation takes place in the content and continuity of interdisciplinary connections, in the programs of practices. The EPs under consideration include the following types of practices: educational, industrial and undergraduate.

During a visit to a practical lesson in the discipline "Electrical and Electronics" EP 5B071700 "Thermal Engineering" and conversations with teachers of the graduating department, EEC members noted the dissatisfaction of the teaching staff with the poor mathematical training of students, their lack of specialized mathematical competencies necessary for mastering specialized EP disciplines.

Strengths / Best Practice for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- EP includes the conduct of individual classes and disciplines at enterprises of specialization.

Additional strengths / best practices for EP 5B070200 "Automation and Control" and 5B070400 "Computers and Software":

- Steps are provided by management to strengthen practical training in the area of specialization;

- The management provides training of students in the field of application of modern information technologies.

EEC recommendations for EP 5B071700 "Thermal Engineering":

- Consider the possibility of in-depth training in mathematics for mastering special disciplines of the EP cluster.

EEC findings on criteria: (strong / satisfactory / suggesting improvement / unsatisfactory)

According to the standard "Standards in the context of individual specialties" 5 criteria are disclosed, of which:

- According to EP 5B070200 "Automation and Control", 5B070400 "Computers and Software" 3 has a strong position, 2 - satisfactory;
- According to EP 5B071700 "Thermal Engineering" 1 has a strong position, 3 - satisfactory, 1 - needs improvement.

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

«Educational programme management» standard

For EP 5B070200 - "Automation and Control", 5B070400 - "Computers and Software" and 5B071700 "Thermal Engineering":

- Availability of a published quality assurance policy;
- Openness and availability of EP management to students, teaching staff, employers and other interested parties.

Additional strengths / best practices for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software":

- Determination of those responsible for business processes within the EP, distribution of job duties of personnel, delineation of functions of collegial bodies;
- Participation of employers in the composition of the collegial management bodies of the EP.

«Information management and reporting» standard:

For EP 5B070200 - "Automation and Control", 5B070400 - "Computers and Software" and 5B071700 "Thermal Engineering":

- All students, employees and TEACHING STAFF document their consent to the processing of personal data.
- The University uses a developed system of communication with students, teachers and employees, used, among other things, to resolve conflicts.
- Systematic use of processed, adequate information to improve the internal quality assurance system.

«Development and approval of the educational program» standard:

For EP 5B070200 - "Automation and Control", 5B070400 - "Computers and Software" and 5B071700 "Thermal Engineering":

- EP has a practice-oriented graduate model, in the formation of which stakeholders from among employers are involved.
- The significant influence of the content of CED disciplines and professional practices on the formation of professional competencies of a graduate was determined;
- Preparation of students for professional certification in the framework of the specialty is carried out.

«Continuous monitoring and periodic evaluation of educational programs» standard:

For EP 5B070200 - "Automation and Control", 5B070400 - "Computers and Software" and 5B071700 "Thermal Engineering":

- Regular monitoring and periodic assessment of EP takes into account the workload, academic performance and graduation of students;

Additionally for EP 5B070200 "Automation and Control" and 5B070400 "Computers and Software":

- Revision of the structure and content of the EP, taking into account changes in the labor market, employers' requirements and the social demand of society.

«Student-centered learning, teaching and performance assessment» standard:

For EP 5B070200 - "Automation and Control", 5B070400 - "Computers and Software" and 5B071700 "Thermal Engineering":

- Availability of a procedure for responding to student complaints;
- The presence of consistency, transparency and objectivity of the mechanism for assessing learning outcomes for each EP.

Additionally for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software":

- providing students with flexible learning paths.

«Students» standard:

For EP 5B070200 - "Automation and Control", 5B070400 - "Computers and Software" and 5B071700 "Thermal Engineering":

- The policy of forming the contingent of students from admission to graduation and ensuring the transparency of its procedures;
- The presence of a youth personnel center at the university to facilitate the employment of graduates;
- Support by the leadership of the university for gifted students.

Additionally for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software":

- providing graduates with documents confirming the acquired qualifications, including the achieved learning outcomes, as well as the context, content and status of the education received and evidence of its completion.

«Teaching staff» standard»:

For EP 5B070200 - "Automation and Control", 5B070400 - "Computers and Software" and 5B071700 "Thermal Engineering":

- providing a comfortable psychological microclimate and favorable working conditions for teaching staff;
- The leadership of the university provides all kinds of support for the teaching staff, stimulates personal development, including encouraging the integration of scientific activity and education.

Additionally for EP 5B070200 "Automation and Control" and 5B070400 "Computers and Software":

- Teachers of practice are actively involved in the implementation of the EP;
- Active use of the teaching staff of distance educational technologies in the educational process.

«Educational resources and student support systems» standard»:

For EP 5B070200 - "Automation and Control", 5B070400 - "Computers and Software" and 5B071700 "Thermal Engineering":

- Compliance of the educational and material base with safety requirements.

Additionally for EP 5B070200 "Automation and Control" and 5B070400 "Computers and Software":

- A comprehensive consideration of the needs of various groups of students in the context of EP.

«Public informing» standard»:

For EP 5B070200 - "Automation and Control", 5B070400 - "Computers and Software" and 5B071700 "Thermal Engineering":

- To inform the public, the university uses a variety of ways to disseminate information;
- The university takes part in the external evaluation of the EP.

«Standards in the context of individual specialties» standard:

For EP 5B070200 - "Automation and Control", 5B070400 - "Computers and Software" and 5B071700 "Thermal Engineering":

- EP includes the conduct of individual classes and disciplines at enterprises of specialization.

Additionally for EP 5B070200 "Automation and Control" and 5B070400 "Computers and Software":

- Steps are provided by management to strengthen practical training in the area of specialization;

- The management provides training of students in the field of application of modern information technologies.

(VIII) OVERVIEW OF QUALITY IMPROVEMENT RECOMMENDATIONS FOR EACH STANDARD

«Educational programme management» standard»:

EEC recommendations for EP 5B070200 - "Automation and Control", 5B070400 - "Computers and Software", 5B071700 "Thermal Engineering":

- Carry out a set of measures to update and disseminate the Internal Quality Assurance Policy, reflecting the individuality of the university.

- To increase the role of scientific research in the field of digitalization of the economy and production and reflect these changes in the EP cluster, in the future with the aim of opening a master's degree in the areas of the EP cluster.

- Conduct training for heads of departments and educational programs in the field of risk management, implement risk management at the level of structural units, processes and educational programs.

Additional recommendations for EP 5B071700 "Thermal Engineering":

- Strengthen the role of external academic mobility and international cooperation in the implementation of the EP internal quality assurance policy.

«Information management and reporting» standard:

EEC recommendations for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- Introduce an electronic document management system into the university management process.

- Develop and implement a regulation on the university website with the appointment of responsible persons and the procedure for updating information.

- To organize the possibility of asynchronous communication for communication between students and teachers in the distance learning system while maintaining the history of messages.

Additional recommendations for EP 5B071700 "Thermal Engineering":

- To inform teaching staff and students about the latest scientific achievements in the field of heat power engineering.

«Development and approval of the educational program» standard:

EEC recommendations for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- To activate the participation of students in the design and development of educational programs.

- Expand the list of joint and / or double-degree programs with foreign universities.

«Continuous monitoring and periodic evaluation of educational programs» standard:

EEC recommendations for EP 5B071700 "Thermal Engineering":

- Update the content of the work programs of disciplines in accordance with the latest scientific achievements and ensure their relevance.

«Student-centred learning, teaching and performance assessment» standard:

EEC recommendations for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- Include in the plans for the development of educational programs the introduction of new forms and methods of teaching and learning, provide feedback on the effectiveness of their use.

- Organize their own research in the field of teaching methods and assessment of learning outcomes.

- Reflect information about the course of training and current grades of progress in the distance learning system and organize access to them for students.

- To increase the share of assessment of knowledge in writing during midterm controls and exams.

«Students» standard:

EEC recommendations for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- Organize work to attract foreign applicants to study at the university.

- Continue work on the development of external and internal academic mobility of students.

- To enhance the role of the Alumni Association in the activities of the university.

Additional recommendations for EP 5B071700 "Thermal Engineering":

- Develop a program for adaptation and support of foreign students.

«Teaching staff» standard:

EEC recommendations for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- To intensify the process of developing textbooks and teaching aids in special disciplines of the EP cluster, including interactive e-learning courses, to provide students with these materials.

- Strengthen work on academic mobility of teaching staff and attracting the best foreign and domestic teachers.

Additional recommendations for EP 5B071700 "Thermal Engineering":

- Strengthen the provision of human resources with teachers with appropriate basic education.

«Educational resources and student support systems» standard:

EEC recommendations for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- Introduce a system for checking written works for anti-plagiarism using external databases.

Additional recommendations for EP 5B071700 "Thermal Engineering":

- Strengthen the educational and laboratory base with modern equipment similar to those used in the industry.

«Public informing» standard»:

EEC recommendations for EP 5B070200 "Automation and Control", 5B070400 "Computers and Software", 5B071700 "Thermal Engineering":

- Ensure the publication on the university's website of national programs for the development of the country and education, including "Digital Kazakhstan", as well as ensure that students, teaching staff and employees are informed about the priorities and new tasks in the field of higher education.

- Ensure the publication of audited financial statements on the website.

- Provide regular updates of information about teaching staff (portfolio) on the university website, including a list of scientific publications.

«Standards in the context of individual specialties» standard:

EEC recommendations for EP 5B071700 "Thermal Engineering":

- Consider the possibility of in-depth training of students in mathematics for mastering special disciplines of the EP cluster.

Annex 1.1. Evaluation table «SPECIALIZED PROFILE PARAMETERS» (5B070400 «Computers and software», 5B070200 «Automation and control »)

№ item	№ item	Evaluation criteria	Position of the educational organization			
			Strong	Satisfactory	Suggests improvement	Not satisfactory
«Educational program management» standard						
1	1.	The university should 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 terms of EPs.		+		
4	4.	The commitment to quality assurance should apply to all activities carried out by contractors and partners (outsourcing), including in the implementation of joint/double degree education and academic mobility.		+		
5	5.	EP management ensures transparency in the elaboration of EP development plan based on the analysis of its functioning, real positioning of the university and orientation of its activities to meet the needs of the state, employers, stakeholders and learners.		+		
6	6.	The EP management demonstrates the functioning of mechanisms for the formation and regular review of the EP development plan and monitoring its implementation, assessment of the achievement of learning objectives, compliance with the needs of students, employers and society, decision-making aimed at the continuous improvement of EP.		+		
7	7.	EP management should involve representatives of stakeholder groups, including employers, learners and teaching staff, in the formation of the EP development plan.		+		
8	8.	EP management should demonstrate the individuality and uniqueness of the EP development plan, its alignment with national development priorities and the development strategy of the educational institution.		+		
9	9.	The university should demonstrate a clear definition of those responsible for business processes within the EP, an unambiguous distribution of staff duties, and the delineation of the functions of collegial bodies.	+			
10	10.	The EP's management should provide evidence of the transparency of the educational program management system.		+		
11	11.	The EP's management should demonstrate the successful functioning of the internal quality assurance system of the EP, including its design, management and monitoring, their improvement, decision-making based on facts.		+		
12	12.	The EP's management should carry out risk management.			+	
13	13.	The EP management should ensure the participation of representatives of interested parties (employers, teaching staff, students) in the collegial management bodies of the educational program, as well as their representativeness in making decisions on the management of the educational program.	+			

14	14.	The university should demonstrate innovation management within the EP, including the analysis and implementation of innovative proposals.		**+**		
15	15.	EP management should demonstrate evidence of openness and accessibility for students, teaching staff, employers and other interested parties.	**+**			
16	16.	The EP's management should be trained in educational management programs.		**+**		
17	17.	The EP's management should strive to ensure that the progress made since the last external quality assurance procedure is taken into account when preparing for the next procedure.		**+**		
		Total by standard	**4**	**11**	**2**	
«Information management and reporting» standard						
18	1.	The university should ensure the functioning of the system for collecting, analyzing and managing information based on the use of modern information and communication technologies and software.		+		
19	2.	EP management should demonstrate the 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 that reflects all levels of the structure, including an assessment of the effectiveness and efficiency of the activities of departments and departments, scientific research.		+		
21	4.	The university should establish the frequency, forms and methods of assessing EP management, the activities of collegial bodies and structural units, top management, and the implementation of scientific projects.		+		
22	5.	The university should demonstrate the determination of the order and ensuring the protection of information, including the identification of persons responsible 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 processes of collecting and analyzing information, as well as making decisions based on them.		+		
24	7.	EP management should demonstrate the existence of a communication mechanism with students, employees and other stakeholders, including the availability of mechanisms for resolving conflicts.	+			
25	8.	The university should ensure the measurement of the degree of satisfaction of the needs of teaching staff, staff and students within the EP and demonstrate evidence of elimination of the identified deficiencies.		+		
26	9.	The university should evaluate the effectiveness and efficiency of activities, including in the context of EP.		+		
		The information collected and analyzed by the university should take into account:				
27	10.	key performance indicators;		+		
28	11.	the dynamics of the contingent of students in the context of forms and types;	+			
29	12.	the level of academic achievement, student achievement and expulsion;		+		
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 EP's management should help to provide all the necessary information in the relevant fields of science.		+		
		Total by standard	**6**	**11**	**0**	
«Development and approval of the educational program» standard						
35	1.	The university should define and document procedures for the development of EP and their approval at the institutional level.		+		
36	2.	The EP's management should ensure that the developed EP meets the established goals, including the expected learning outcomes.		+		
37	3.	The EP's management should ensure the availability of developed models of the EP graduate, describing the learning outcomes and personal qualities.	+			
38	4.	The EP's management should demonstrate the conduct of external examinations of the EP.		+		
39	5.	The qualifications obtained upon completion of the EP should be clearly defined, explained and correspond to a certain level of the NQF.	+			
40	6.	EP management should determine the impact of disciplines and professional practices on the formation of learning outcomes.	+			
41	7.	An important factor is the ability to prepare students for professional certification.	+			
42	8.	EP management should provide evidence of the participation of students, teaching staff and other stakeholders in the development of EP, ensuring their quality.		+		
43	9.	The complexity of the EP should be clearly defined in Kazakhstani loans and ECTS.		+		
44	10.	The EP's management should provide the content of academic disciplines and learning outcomes to the level of education (bachelor's, master's, doctoral studies).		+		
45	11.	The EP structure should provide for various types of activities corresponding to the learning outcomes.		+		
46	12.	An important factor is the presence of joint EP with foreign educational organizations.			+	
		Total by standard	**4**	**7**	**1**	
«Continuous monitoring and periodic evaluation of educational programs» standard						
47	1.	The university should monitor and periodically evaluate the EP in order to ensure the achievement of the goal and meet the needs of students and society. The results of these processes are aimed at continuous improvement of the EP.		+		
		Monitoring and periodic evaluation of the EP should consider:				
48	2.	the content of the programs 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.	workload, academic performance and graduation of students;	+			
51	5.	the 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 relevance to the goals of the EP.		+		
54	8.	The university and EP management should provide evidence of the participation of students, employers and other stakeholders in the revision of the EP.	+			
55	9.	All stakeholders should be informed of any planned or taken actions in relation to the EP. All changes made to the EP must be published.		+		
56	10.	The EP management should ensure the revision of the content and structure of the EP, taking into account changes in the labor market, the requirements of employers and the social demand of society.	+			
		Total by standard	**3**	**7**	**0**	
«Student-centered learning, teaching and performance assessment» standard						
57	1.	The EP's management should ensure respect and attention to various groups of students and their needs, providing them with flexible learning trajectories.	+			
58	2.	EP management should ensure the use of various forms and methods of teaching and learning.		+		
59	3.	An important factor is the presence of their own research in the field of teaching methods of educational disciplines EP.			+	
60	4.	The EP's management should demonstrate the existence of a feedback system on the use of various teaching methods and assessment of learning outcomes.			+	
61	5.	The EP's management should demonstrate support for the autonomy of students while providing guidance and assistance from the teacher.		+		
62	6.	The EP's management should demonstrate the existence of a procedure for responding to student complaints.	+			
63	7.	The university should ensure consistency, transparency and objectivity of the mechanism for assessing learning outcomes for each EP, including appeal.	+			
64	8.	The university should ensure that the procedures for assessing the learning outcomes of EP students are consistent with the planned learning outcomes and the objectives of the program. Criteria and methods of assessment within the framework of the EP must be published in advance.		+		
65	9.	The university should determine the mechanisms for ensuring the development of learning outcomes by each EP graduate and ensure the completeness of their formation.		+		
66	10.	Evaluators should be familiar with modern methods of assessing learning outcomes and regularly improve their qualifications in this area.		+		
		Total by standard	**3**	**5**	**2**	
«Students» standard						
67	1.	The university should demonstrate the policy of forming the 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's management should demonstrate the implementation of special adaptation and support programs for newly admitted and foreign students.		+		
69	3.	The university should 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 Recognition Information Centers" ENIC / NARIC in order to ensure comparable recognition of qualifications.				
71	5.	The EP's management should demonstrate the existence and application of a mechanism for recognizing the results of academic mobility of students, as well as the results of additional, formal and non-formal education.		+		
72	6.	The university should provide an opportunity for external and internal mobility of EP students, as well as assist them in obtaining external grants for training.			+	
73	7.	The EP's management should make the maximum amount of effort to provide students with places of practice, promote the employment of graduates, and maintain communication with them.	+			
74	8.	The university should provide EP graduates with documents confirming the acquired qualifications, including the achieved learning outcomes, as well as the context, content and status of the education received and evidence of its completion.	+			
75	9.	An important factor is monitoring the employment and professional activities of EP graduates.	+			
76	10.	EP management should actively stimulate students to self-education and development outside the main program (extracurricular activities).	+			
77	11.	An important factor is the existence of an active alumni association.			+	
78	12.	An important factor is the availability of a support mechanism for gifted students.	+			
		Total by standard	**6**	**4**	**2**	
«Teaching staff» standard						
79	1.	The university should have an objective and transparent personnel policy, including recruitment, professional growth and development of personnel, ensuring the professional competence of the entire staff.		+		
80	2.	The university should demonstrate the compliance of the staff potential of the teaching staff with the development strategy of the university and the specifics of the EP.		+		
81	3.	EP management should demonstrate awareness of responsibility for their employees and providing them with favorable working conditions.	+			
82	4.	EP management should demonstrate the 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 the teaching staff of the EP to the implementation of the development strategy of the university, and other strategic documents.		+		
84	6.	The university should provide opportunities for career growth and professional development of the teaching staff of the EP.		+		
85	7.	The EP's management should involve practitioners of the relevant industries in teaching.	+			
86	8.	The EP's management should ensure targeted actions for the development of young teachers.		+		
87	9.	The university should demonstrate the motivation for the professional and personal development of EP teachers, including the encouragement of both the integration of scientific activity and education, and the use of innovative teaching methods.	+			
88	10.	An important factor is the active use of information and communication technologies by the teaching staff 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 EP, attracting the best foreign and domestic teachers.			+	

90	12.	An important factor is the involvement of the teaching staff of the EP in the life of society (the role of the teaching staff in the education system, in the development of science, the region, the creation of a cultural environment, participation in exhibitions, creative competitions, charity programs, etc.).		+		
		Total by standard	**4**	**7**	**1**	
«Educational resources and student support systems» standard						
91	1.	EP management should demonstrate the sufficiency of material and technical resources and infrastructure.		+		
92	2.	The EP's management should demonstrate the existence of support procedures for various groups of students, including information and counseling.		+		
		The EP's management should demonstrate the compliance of information resources with the specifics of the EP, including compliance with:				
93	3.	technological support for students and teaching staff in accordance with educational programs (for example, online training, modeling, databases, data analysis programs);		+		
94	4.	library resources, including the fund of educational, methodological and scientific literature on general education, basic and major disciplines on paper and electronic media, periodicals, access to scientific databases;			+	
95	5.	examination of research results, graduation works, dissertations for plagiarism;			+	
96	6.	access to educational Internet resources;		+		
97	7.	functioning of WI-FI on the territory of the educational organization.		+		
98	8.	The university should strive to ensure that the educational equipment and software used for mastering EP are similar to those used in the relevant 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, working people, foreign students, as well as students with disabilities).	+			
		Total by standard	**2**	**6**	**2**	
According to the «Public informing» standard						
		The information published by the university in the framework of the EP must be accurate, objective, relevant and must include:				
101	1.	programs being implemented, with an indication of the expected learning outcomes;		+		
102	2.	information on the possibility of qualifying at the end of the EP;		+		
103	3.	information on teaching, learning, assessment procedures;		+		
104	4.	information about passing scores and learning opportunities provided to students;		+		
105	5.	information about the employment opportunities of graduates.		+		
106	6.	The EP's management 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 include support and explanation of the country's national development programs 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 reflection on the web resource of information characterizing 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 EP, in the context of personalities.			+	
111	11.	An important factor is informing the public about cooperation and interaction with partners within the 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 based on the results of external evaluation procedures.		+		
113	13.	An important factor is the participation of the university and implemented EP in a variety of external assessment procedures.	+			
		Total by standard	**2**	**8**	**3**	
Standards in the context of individual specialties						
TECHNICAL SCIENCES AND TECHNOLOGIES						
		Educational programs in the fields of "Technical Sciences and Technologies", such as ***"5B070400 - Computers and Software", "5B070200 - Automation and Control"****, etc., must meet the following requirements:*				
114	1.	In order to familiarize students with the professional environment and current issues in the field of specialization, as well as to acquire skills on the basis of theoretical training, the education program should include disciplines and activities aimed at gaining practical experience and skills in the specialty in general and the major disciplines in particular, including - excursions to enterprises in the field of specialization (factories, workshops, research institutes, laboratories, educational and experimental 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.	Teaching staff involved in the education program should include full-time teachers with long-term experience as full-time employees in enterprises in the area of specialization of the education program.		+		
116	3.	The content of all EP disciplines should be based in one way or another and include a clear relationship with the content of fundamental natural sciences, such as mathematics, chemistry, physics.		+		
117	4.	EP management should provide measures to strengthen practical training in the field of specialization.	+			
118	5.	The EP's management should provide training for students in the use of modern information technologies.	+			
		Total by standard	**3**	**2**	**0**	
		ВСЕГО	**37**	**68**	**13**	

Annex 1.2. Evaluation table «SPECIALIZED PROFILE PARAMETERS» (5B071700-«Thermal Engineering»)

№ item	№ item	Evaluation criteria	Position of the educational organization			
			Strong	Satisfactory	Suggests improvement	Not satisfactory
«Educational program management» standard						
1	1.	The institution should 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 EP.		+		
4	4.	Commitment to quality assurance should apply to any activity performed by contractors and partners (outsourcing), including the implementation of joint / double degree education and academic mobility.			+	
5	5.	The EP management ensures the transparency of the development of the EP development plan based on the analysis of its functioning, the actual 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's management demonstrates the functioning of the mechanisms for the formation and regular revision of the EP development plan and monitoring its implementation, assessing the achievement of learning goals, meeting the needs of students, employers and society, making decisions aimed at continuous improvement of the EP.		+		
7	7.	EP management should involve representatives of stakeholder groups, including employers, students and teaching staff, in the formation of the EP development plan.		+		
8	8.	The EP's management should demonstrate the individuality and uniqueness of the EP development plan, its consistency with national development priorities and the development strategy of the educational organization.		+		
9	9.	The university should demonstrate a clear definition of those responsible for business processes within the EP, an unambiguous distribution of staff duties, and the delineation of the functions of collegial bodies.		+		
10	10.	The EP's management should provide evidence of the transparency of the educational program management system.		+		
11	11.	The EP's management should demonstrate the successful functioning of the internal quality assurance system of the EP, including its design, management and monitoring, their improvement, decision-making based on facts.		+		
12	12.	The EP's management should carry out risk management.			+	
13	13.	The EP management should ensure the participation of representatives of interested parties (employers, teaching staff, and students) in the collegial management bodies of the educational program, as well as their representativeness in making decisions on the management of the educational program.		+		
14	14.	The university should demonstrate innovation management within		+		

		the EP, including the analysis and implementation of innovative proposals.				
15	15.	EP management should demonstrate evidence of openness and accessibility for students, teaching staff, employers and other interested parties.	+			
16	16.	The EP's management should be trained in educational management programs.		+		
17	17.	The EP's management should strive to ensure that the progress achieved since the last external quality assurance procedure is taken into account when preparing for the next procedure.		+		
		Total by standard	**2**	**12**	**3**	
«Information management and reporting» standard						
18	1.	The university should ensure the functioning of the system for collecting, analyzing and managing information based on the use of modern information and communication technologies and software.			+	
19	2.	EP management should demonstrate the 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 that reflects all levels of the structure, including an assessment of the effectiveness and efficiency of the activities of departments and departments, scientific research.		+		
21	4.	The university should establish the frequency, forms and methods of assessing EP management, the activities of collegial bodies and structural units, top management, and the implementation of scientific projects.		+		
22	5.	The university should demonstrate the determination of the order and ensuring the protection of information, including the identification of persons responsible 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 processes of collecting and analyzing information, as well as making decisions based on them.		+		
24	7.	EP management should demonstrate the existence of a communication mechanism with students, employees and other stakeholders, including the availability of mechanisms for resolving conflicts.	+			
25	8.	The university should ensure the measurement of the degree of satisfaction of the needs of teaching staff, staff and students within the EP and demonstrate evidence of elimination of the identified deficiencies.		+		
26	9.	The university should evaluate the effectiveness and efficiency of activities, including in the context of EP.		+		
		The information collected and analyzed by the university should take into account:				
27	10.	key performance indicators;		+		
28	11.	the dynamics of the contingent of students in the context of forms and types;	+			
29	12.	the level of academic achievement, student achievement and expulsion;		+		
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 should document their consent to the processing of personal data.	+			

34	17.	The EP's management should help to provide all the necessary information in the relevant fields of science.			+	
		Total by standard	**6**	**9**	**2**	
«Development and approval of the educational program» standard						
35	1.	The university should define and document procedures for the development of EP and their approval at the institutional level.		+		
36	2.	The EP's management should ensure that the developed EP meets the established goals, including the expected learning outcomes.		+		
37	3.	The EP's management should ensure the availability of developed models of the EP graduate, describing the learning outcomes and personal qualities.		+		
38	4.	The EP's management should demonstrate the conduct of external examinations of the EP.		+		
39	5.	The qualifications obtained upon completion of the EP should be clearly defined, explained and correspond to a certain level of the NQF.		+		
40	6.	EP management should determine the impact of disciplines and professional practices on the formation of learning outcomes.		+		
41	7.	An important factor is the ability to prepare students for professional certification.		+		
42	8.	EP management should provide evidence of the participation of students, teaching staff and other stakeholders in the development of EP, ensuring their quality.		+		
43	9.	The complexity of the EP should be clearly defined in Kazakhstani loans and ECTS.		+		
44	10.	The EP's management should provide the content of academic disciplines and learning outcomes to the level of education (bachelor's, master's, doctoral studies).		+		
45	11.	The EP structure should provide for various types of activities corresponding to the learning outcomes.		+		
46	12.	An important factor is the presence of joint EP with foreign educational organizations.			+	
		Total by standard	**0**	**11**	**1**	
«Continuous monitoring and periodic evaluation of educational programs» standard						
47	1.	The university should monitor and periodically evaluate the EP in order to ensure the achievement of the goal and meet the needs of students and society. The results of these processes are aimed at continuous improvement of the EP.		+		
		Monitoring and periodic evaluation of the EP should consider:				
48	2.	the content of the programs 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.	workload, academic performance and graduation of students;	+			
51	5.	the 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 relevance to the goals of the EP.		+		
54	8.	The university and EP management should provide evidence of the participation of students, employers and other stakeholders in the revision of the EP.	+			
55	9.	All stakeholders should be informed of any planned or taken actions in relation to the EP. All changes made to the OP must be published.		+		
56	10.	The EP management should ensure the revision of the content and structure of the EP, taking into account changes in the labor market, the requirements of employers and the social demand of society.		+		
		Total by standard	**2**	**7**	**1**	
«Student-centered learning, teaching and performance assessment» standard						
57	1.	The EP's management should ensure respect and attention to various groups of students and their needs, providing them with flexible learning paths.		+		
58	2.	EP management should ensure the use of various forms and methods of teaching and learning.		+		
59	3.	An important factor is the presence of their own research in the field of teaching methods of educational disciplines EP.			+	
60	4.	The EP's management should demonstrate the existence of a feedback system on the use of various teaching methods and assessment of learning outcomes.			+	
61	5.	The EP's management should demonstrate support for the autonomy of students while providing guidance and assistance from the teacher.		+		
62	6.	The EP's management should demonstrate the existence of a procedure for responding to student complaints.	+			
63	7.	The university should ensure consistency, transparency and objectivity of the mechanism for assessing learning outcomes for each EP, including appeal.	+			
64	8.	The university should ensure that the procedures for assessing the learning outcomes of EP students are consistent with the planned learning outcomes and the objectives of the program. Criteria and methods of assessment within the framework of the EP must be published in advance.		+		
65	9.	The university should determine the mechanisms for ensuring the development of learning outcomes by each EP graduate and ensure the completeness of their formation.		+		
66	10.	Evaluators should be familiar with modern methods of assessing learning outcomes and regularly improve their qualifications in this area.		+		
		Total by standard	**2**	**6**	**2**	
«Students» standard						
67	1.	The university should demonstrate the policy of forming the 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's management should demonstrate the implementation of special adaptation and support programs for newly admitted and foreign students.			+	
69	3.	The university should 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 Recognition Information Centers" ENIC / NARIC in order to ensure comparable recognition of qualifications.				
71	5.	The EP's management should demonstrate the existence and application of a mechanism for recognizing the results of academic mobility of students, as well as the results of additional, formal and non-formal education.		+		
72	6.	The university should provide an opportunity for external and internal mobility of EP students, as well as assist them in obtaining external grants for training.			+	
73	7.	The EP's management should make the maximum amount of effort to provide students with places of practice, promote the employment of graduates, and maintain communication with them.	+			
74	8.	The university should provide EP graduates with documents confirming the acquired qualifications, including the achieved learning outcomes, as well as the context, content and status of the education received and evidence of its completion.		+		
75	9.	An important factor is monitoring the employment and professional activities of EP graduates.	+			
76	10.	EP management should actively stimulate students to self-education and development outside the main program (extracurricular activities).	+			
77	11.	An important factor is the existence of an active alumni association.			+	
78	12.	An important factor is the availability of a support mechanism for gifted students.	+			
		Total by standard	**5**	**4**	**3**	
«Teaching staff» standard						
79	1.	The university should have an objective and transparent personnel policy, including recruitment, professional growth and development of personnel, ensuring the professional competence of the entire staff.		+		
80	2.	The university should demonstrate the compliance of the staff potential of the teaching staff with the development strategy of the university and the specifics of the EP.			+	
81	3.	EP management should demonstrate awareness of responsibility for their employees and providing them with favorable working conditions.	+			
82	4.	EP management should demonstrate the 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 the teaching staff of the EP to the implementation of the development strategy of the university, and other strategic documents.		+		
84	6.	The university should provide opportunities for career growth and professional development of the teaching staff of the EP.		+		
85	7.	The EP's management should involve practitioners of the relevant industries in teaching.		+		
86	8.	The EP's management should ensure targeted actions for the development of young teachers.		+		
87	9.	The university should demonstrate the motivation for the professional and personal development of EP teachers, including the encouragement of both the integration of scientific activity and education, and the use of innovative teaching methods.	+			
88	10.	An important factor is the active use of information and communication technologies by the teaching staff 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 EP, attracting the best foreign and domestic teachers.			+	
90	12.	An important factor is the involvement of the teaching staff of the EP in the life of society (the role of the teaching staff in the education system, in the development of science, the region, the creation of a cultural environment, participation in exhibitions, creative competitions, charity programs, etc.).		+		
		Total by standard	**2**	**8**	**2**	
«Educational resources and student support systems» standard						
91	1.	EP management should demonstrate the sufficiency of material and technical resources and infrastructure.		+		
92	2.	The EP's management should demonstrate the existence of support procedures for various groups of students, including information and counseling.		+		
		The EP's management should demonstrate the compliance of information resources with the specifics of the EP, including compliance with:				
93	3.	technological support for students and teaching staff in accordance with educational programs (for example, online training, modeling, databases, data analysis programs);		+		
94	4.	library resources, including the fund of educational, methodological and scientific literature on general education, basic and major disciplines on paper and electronic media, periodicals, access to scientific databases;			+	
95	5.	examination of research results, graduation works, dissertations for plagiarism;			+	
96	6.	access to educational Internet resources;		+		
97	7.	functioning of WI-FI on the territory of the educational organization.		+		
98	8.	The university should strive to ensure that the educational equipment and software used for mastering EP are similar to those used in the relevant 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, working people, foreign students, as well as students with disabilities).		+		
		Total by standard	**1**	**6**	**3**	
According to the «Public informing» standard						
		The information published by the university in the framework of the EP must be accurate, objective, relevant and must include:				
101	1.	programs being implemented, with an indication of the expected learning outcomes;		+		
102	2.	information on the possibility of qualifying at the end of the EP;		+		
103	3.	information on teaching, learning, assessment procedures;		+		
104	4.	information about passing scores and learning opportunities provided to students;		+		
105	5.	information about the employment opportunities of graduates.		+		
106	6.	The EP's management 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 include support and explanation of the country's national development programs 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 reflection on the web resource of information characterizing 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 EP, in the context of personalities.			+	
111	11.	An important factor is informing the public about cooperation and interaction with partners within the 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 based on the results of external evaluation procedures.		+		
113	13.	An important factor is the participation of the university and implemented EP in a variety of external assessment procedures.	+			
		Total by standard	**2**	**8**	**3**	
Standards in the context of individual specialties						
TECHNICAL SCIENCES AND TECHNOLOGIES						
		*Educational programs in the areas of "Engineering Science and Technology", such as **"5B071700 - Thermal Engineering"**, etc., must meet the following requirements:*				
114	1.	In order to familiarize students with the professional environment and topical issues in the field of specialization, as well as to acquire skills based on theoretical training, the educational program should include disciplines and activities aimed at gaining practical experience and skills in the specialty in general and major disciplines in particular, including h .: - excursions to enterprises in the field of specialization (factories, workshops, research institutes, laboratories, educational and experimental 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 faculty involved in the education program should include full-time teachers with long-term experience as full-time employees in enterprises in the area of specialization of the education program.		+		
116	3.	The content of all EP disciplines should be based in one way or another and include a clear relationship with the content of fundamental natural sciences, such as mathematics, chemistry, physics.			+	
117	4.	EP management should provide measures to strengthen practical training in the field of specialization.		+		
118	5.	The EP's management must provide training for students in the use of modern information technologies.		+		
		Total by standard	**1**	**3**	**1**	
		TOTAL	**23**	**74**	**21**	