«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 the evaluation for compliance the educational programs with the requirements of the standards for specialized accreditation

6B06101 Software Engineering (5B070400 Computer engineering and software)
6B07104 Heat power engineering of industrial enterprises and housing and communal services (5B071700 Heat power engineering)
6B07105 Power supply for industrial facilities (5B071800 Power industry)
6B07106 Automation systems engineering (5B071800 Automation and control)

of the KARAGANDA INDUSTRIAL UNIVERSITY
in the period from 12 to 14 October 2020

Unofficial Translation

INDEPENDENT AGENCY FOR ACCREDITATION AND RATING
External expert commission

Addressed to
the Accreditation
IAAR Council

АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТІҢ ТӘУЕЛСІЗ АГЕНТТІГІ
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in the period from 12 to 14 October 2020

Temirtau, 2020 y.

CONTENT

(I) LIST OF SYMBOLS AND ABBREVIATIONS

JSC – joint-stock company
″AMT″ JSC – Arcelor Mittal Temirtau Joint-Stock Company
AIS – automated information system
AaC– Automation and control
BD – basic disciplines
PRS – point rating system
EAAA – external assessment of academic achievement
CEaS - Computer Engineering and Software
SER - secondary energy resources
SAC – state attestation commission
SE– state exam
SCES RK –state compulsory education standard of the Republic of Kazakhstan
DAP – Department of Academic Policy
DEWYP - Department of Educational Work and Youth Policy
DSI- Department of Science and Innovation
DIC - Department of International Cooperation
GPA – student's transfer score from course to course
DLT – distance learning technology
UNT – Unified National Testing
UHEMS– Unified Higher Education Management System
ECTAS – European credit transfer and accumulation system
HaU– Housing and utilities
IaCT – information and communication technology
FC – Final control
ASE – Automation Systems Engineering
IC – individual curriculum
KIU, KarIU - Karaganda Industrial University
KSIU – Karaganda State Industrial University
YC – Youth Committee
CTT – credit technology training
CT – comprehensive testing
CED – catalog of elective disciplines
SRM – sheet-rolling shop
MESRK – Ministry of Education and Science of the Republic of Kazakhstan
MEP – modular educational programs
IAQAE – Independent Agency for Quality Assurance in Education
IAAR – Independent Agency For Accreditation And Rating
RW –research work
SR – students research
SaMC - Scientific and Methodological Council
LA – legal act
NQF– National Qualifications Framework
SaTC – scientific and technical council
GD – general disciplins
EP – educational programs
PD – profiling disciplins
SE – Software engineering
TS – teaching staff
RK – The Republic of Kazakhstan
WC – work curriculum

CADS– computer aided design systems
QMS – quality management system
IWS – independent work of students
IWSuGT - independent work of students under the guidance of a teacher
TAC - Theory of automatic control
CC – Current control
LP– limited partnership
TPIIEaHaCS - Thermal power industry of industrial enterprises and housing and communal services
TaPE - technical and professional education
SC – sample curriculum
SLP–sample learning program
HPE- Heat power engineering
TSS– teaching support staff
ECD – educational complex of discipline
ECS – educational complex of the specialty
EMC – educational-methodical council
PhD – Doctor / Doctorate in Philosophy
FETaMS – Faculty of "Energetics, Transport and Management Systems"
SSC– Student Service Center
CITaT – Center for Information Technology and Telecommunications
EAaCT – Energy, automation and computer technology («Energetics», «Artificial intelligence technologies»)
ESIF - Energy supply of industrial facilities
PI – Power industry

(II) INTRODUCTION

In accordance with Order No. 79-20-OD dated 09.24.2020 of the Independent Agency for Accreditation and Rating, from 12 to 14 October 2020, an external expert commission assessed the compliance of educational programs 6B06101 Software Engineering (5B070400 Computer engineering and software), 6B07104 Heat power engineering of industrial enterprises and housing and communal services (5B071700 Heat power engineering), 6B07105 Power supply for industrial facilities (5B071800 Power industry), 6B07106 Automation systems engineering (5B071800 Automation and control) of the Karaganda Industrial University (KarIU) (Temirtau) according to the standards of specialized accreditation of the IAAR (No. 10-17-OD dated February 24, 2017, fifth edition).

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

EEC team:

1. IAAR Commission Chair – Smirnov Mikhail Borisovich, candidate of technical sciences, professor, «University named after Shakarim of Semey City» (Semey);

2. IAAR foreign expert– Vorontsov Alexander Sergeevich, candidate of technical sciences, docent, dean of the faculty "Innovative mechanical engineering technologies", Grodno State University named after Yanka Kupala (Grodno, Belarus);

3. IAAR foreign expert – Narkevich Mikhail Yurievich, candidate of technical sciences, docent, Magnitogorsk State Technical University (MSTU) named after G.I. Nosov (Magnitogorsk, RF);

4. IAAR expert – Abilmazhinov Ermek Tolegenovich, doctor of technical sciences, associate professor (docent), HAO "University named after Shakarim of Semey City" (Semey);

5. IAAR expert – Tashatov Nurlan Narkenovich, candidate of physical and mathematical sciences, associate professor, Eurasian National University named after L.N. Gumilyov (Nur-Sultan);

6. IAAR expert – Akaev Aibek Muratbekovich, docent, PhD, East Kazakhstan Technical University named after D. Serikbayev (Ust-Kamenogorsk);

7. IAAR expert – Markovsky Vadim Pavlovich, candidate of technical sciences, docent, Toraigyrov University (Pavlodar);

8. IAAR expert – Torlanova Botagoz Ongarovna, candidate of pharmaceutical sciences, associate professor, South Kazakhstan Medical Academy (Shymkent);

9. IAAR expert – Kartbaev Timur Saatdinovich, PhD, academician of IAI, Almaty University of Energy and Communications (Almaty);

10. IAAR expert – Aldungarova Aliya Kairatovna, PhD, associate professor, Toraigyrov University (Pavlodar);

11. IAAR employer – Kutlin Sergey Yurievich, director of the training center "Logic-Soft", nominated by the Chamber of Entrepreneurs of the Karaganda region (Karaganda);

12. IAAR student – Asanov Alikhan Altinbekuly, master student of 2 course of EP «Constructing», Karaganda Technical University, leader of the Alliance of Students of Kazakhstan in the Karaganda region (Karaganda);

13. IAAR student – Kuishybaeva Roza Maratkizi, master student of 2 course of EP «Automation and control», Kazakh National Technical University named after K.I. Satpayev (Almaty);

14. IAAR student - Kozhanova Adema Tlekkyzy, student of 3 course of EP «Pharmaceutical production technology», Kazakh National Medical University named after S.D. Asfendiyarov (Almaty);

15. Observer from the Agency – Kanapyanov Timur Erbolatovich, PhD, Head of

International Projects and Public Relations of the IAAR (Nur-Sultan).

(III) EDUCATION ORGANIZATION REPRESENTATION

The non-profit joint-stock company "Karaganda Industrial University" (hereinafter referred to as KarIU, university, high school) was established in September 2006 on the basis of JSC "Karaganda Metallurgical Institute" in accordance with Decree of the Government of the Republic of Kazakhstan No. 705 dated July 25, 2006. Karaganda Metallurgical Institute was transformed by the Decree of the Cabinet of Ministers of the Republic of Kazakhstan dated 03.19.1993 from the Plant-VTUZ on the basis of Karaganda Metallurgical Plant, created, in turn, on the basis of the branch of the Karaganda Polytechnic Institute in 1963 by the Decree of the Central Committee of the CPSU and the Council of Ministers of the USSR No. 533 dated May 9, 1963 and the Decree of the Central Committee of the Communist Party of China and the Council of Ministers of the Kazakh SSR No. 615 of August 1, 1963. In October 2001, in accordance with the Resolution of the Government of the Republic of Kazakhstan dated May 11, 2001, Order No. 623, the Karaganda Metallurgical Institute becomes a closed joint stock company. On May 3, 2005 it was re-registered as JSC "Karaganda Metallurgical Institute".

The structure of the Karaganda Metallurgical Institute included three full-time faculties, extramural faculty, a Kazakh department, which trained in metallurgy, machine-building, construction, chemical and economic branches. There was a military department that trained reserve communications officers. To carry out pre-university training at the institute, the Lyceum "Koktem" and the college were organized. Postgraduate training of specialists was carried out according to postgraduate and graduate programs. In 2004, the Karaganda Metallurgical Institute began to apply credit technology for teaching students and training engineering and technical personnel in accordance with a three-level system: bachelor - master - doctor of philosophy (PhD).

In 2006, the Karaganda State Industrial University was established on the basis of the Karaganda Metallurgical Institute. (Decree of the Government of the Republic of Kazakhstan dated July 25, 2006, No. 705). This permits to expand the range of the university specialties for engineering and technical personnel education.

In June 2020, KGIU was changed to a non-profit joint-stock company and was renamed into Karaganda Industrial University (KarIU).

Training at KarIU is carried out according to 57 educational programs of bachelor's, master's and doctoral studies.

For more than 50 years, about 24 thousand people have become graduates of the university. More than 14,000 of them have received engineering education during the years of independence. In general, on average 93.3% of graduates were employed for the period from 2015-2020.

Today in the structure of the university there are 3 faculties: "Metallurgy and mechanical engineering", "Energy, transport and management systems", "Economics and construction", which include 12 departments. There is also technical-economic college. The university has 59 specialized laboratories, a metallurgy center with 12 professional laboratories. On the basis of the university, the Karaganda regional center of the Cisco Networking Academy was opened.

Library resources. The university has a modern library and a reading room, the fund of library consist of more than 260 thousand copies of educational, educational-methodical, scientific literature in Kazakh, Russian and foreign languages. More than 30 titles of newspapers and magazines are subscribed annually. The university library is located in the main academic building of the university. In the periodicals room, which is located inside the subscription, there are 12 computerized seats, with the ability to access the Internet and access the library's electronic resources. The reading room is designed for 42 reading places. The fund of the reading room is arranged in 2 tiers(floors) in a systematic manner, which ensures the completeness of the disclosure of funds and their accessibility to readers. For the convenience of readers, there is access to Wi-Fi by subscription and in the reading room. As of 01.01.2020, the fund of the Scientific Library of the University is 274,556 storage copies. Of these, 102,999 copies in the

state language, 1163 copies in English. Including electronic media - 55,975 copies. The library area is 1219 m^2. The library has a specialized library program IRBIS-64, which is regularly updated.

Contingent of students. The contingent of full-time students as of October 1, 2020 is 2257 people, of which: on the basis of state educational grant - 811; distance education - 659, evening education - 117, part-time education - 440, undergraduates – 53(34 are in accordance with the state order) and 18 for doctoral students (18 of them are in accordance with the state order).

The staff of the university. Currently, as of 01.10.2020, the total number of full-time teachers at the university is 111 people, including 7 doctors of sciences, professors, 37 candidates of sciences, associate professors, doctors PhD - 12, undergraduates - 39. The average age of teaching staff at the university is 49 years.

The university has the following positive indicators:

- According to the Webometrics Ranking, the university is ranked 66 (out of 122 universities).

- UMO RUMS is functioning in KarIU in the"Metallurgy" direction.

- The university has a unique educational, research and production laboratory base with semi-industrial installations for metallurgy and mechanical engineering. The factory-laboratory of 3D engineering (the department of "Technological machines and transport") has been opened. The Regional center of the Cisco Networking Academy and an information and communication center SOTSBY have been opened.

- Since 2018, the university has been awarding Grants of the Academic Council of the University to graduates of schools - the winners of the essay and multimedia projects competition.

- 5 joint educational programs have been developed (FSBEI VO "AlSU", SRI TSU, FSBEI HE "MSTU named in honor of G.I.Nosov", KSTU named in honor of T.F. Gorbachev, Astrakhan State University).

- 5 students of the university are the winners of the Republican competition "Best student" and "Best Master student".

- Participation of KarIU in the 30th and 31st International KVN festivals in Sochi by invitation of the President of the International KVN Union A.V. Maslyakov.

- For three years, active and successful students of the Karaganda Industrial University, by invitation of the head of the Office of the First President of the Republic of Kazakhstan - Elbasy, participate in the Republican seminar - training in the Library of the First President of the Republic of Kazakhstan - Elbasy N.A. Nazarbayev.

- The university has a regional office "Ruhani zhagyru", which is a dialogue platform for all ethnic and cultural associations of the city.

Personnel training at KarIU is carried out in accordance with the State license for engaging in educational activities in the field of higher and postgraduate professional education No. AB 0137432 dated 02/03/2010, annexes to the license for educational activities 04/02/2019, Astana.

Information about "Energetics" and "Artificial Intelligence Technologies" departments

The department began its existence in 1972 as "General electrical engineering" section of the "Physics" department of the Plant-VTUZ based on KMK. In 1998 the department was renamed into the "Electric drive and automation of technological processes" department. In 2008, department was renamed as the Department of Power Engineering and Automation of Technical Systems. Since 2017, the department was called "Energy, automation and computer technology Energy, automation and computer technology ". In 2020, the department was divided into two departments:

- "Energetics" department on the basis of two sections "Power industry" and "Heat Power Engineering". Now the department is training bachelors in educational bachelor's programs: 6B07105 - Energy supply of industrial facilities 6B07104 - Thermal power industry of industrial

enterprises and housing and communal services, 6B07111 - Thermal power industry of industrial enterprises and housing and communal services.

- "Artificial Intelligence Technologies" department on the basis of two sections "Computer Engineering and Software" and "Automation and control". The department trains bachelors in educational programs: B057- Information Technology (6B06101-Software Engineering), B063-Electrical Engineering and Automation (6B07106- Automation Systems Engineering), B057- Information Technology (6B06102-Artificial Intelligence Technologies).

The education of bachelors leads in the state and Russian languages. The term of study on the basis of general secondary education is 4 years, on the basis of technical and professional education is 2.5 years.

Qualitative and quantitative composition of teachers at the Energetics Department:

Currently, the teaching staff of the department is 11 teachers. Of these, they have academic degrees: professors - 1 doctor of technical sciences, 1 candidate of technical sciences, associate professor - 1 candidate of technical sciences, academic degrees of PhD - 1 and master - 7. The degree of the department is 36%.

Qualitative and quantitative composition of teachers at the Department of Artificial Intelligence Technologies:

Currently, the faculty of the department is 14 teachers, of which 2 are part-time. Of these, they have academic degrees: professors - 1 doctor of technical sciences, 2 candidates of technical sciences, associate professor - 1 candidate of technical sciences, assistant professor - 1 candidate of technical sciences, academic degree of philosophy doctor (PhD) - 2 and Master's degree - 7. The degree of the department is 50%.

Employment of graduates in accredited EP of the cluster:

The average employment rate of graduates for the last three years (2016-2019) is:

- for bachelors EP 6B07105 Energy supply of industrial facilities (5B071800 - Power industry) 2016-2017 - 90%, 2017-2018 - 92%, 2018-2019 - 92%;
- for bachelors 6B07104 - Thermal power industry of industrial enterprises and housing and communal services 2016-2017 - 100%, 2017-2018 - 100%, 2018-2019 - 100%;
- for bachelors 6B06101-Software Engineering (5B070400 - Computer Engineering and Software) 2016-2017 - 100%, 2017-2018 - 100%, 2018-2019 - 93%;
- for bachelors of following EP 6B07106 Automation Systems Engineering (5B070200 - Automation and control) 2016-2017 - 50%, 2017-2018 - 100%, 2018-2019 - 95%;

The academic mobility of students of accredited EP of the cluster for the period 2016-2019 is: 6B07106 Energy supply of industrial facilities (5B071800- Power industry) - **0** for incoming and **36** for outgoing; for EP 6B07104 - Thermal power industry of industrial enterprises and housing and communal services (5B071700- Heat power engineering) - **0** for incoming and **4** for outgoing; according to EP 6B06101-Software Engineering (5B070400- Computer Engineering and Software) - **14** for incoming and **11** outgoing, according to EP 6B07106 Automation Systems Engineering (5B070200 - Automation and Control) - **85** for incoming and **24** for outgoing.

(IV) DESCRIPTION OF THE PREVIOUS ACCREDITATION PROCEDURE

Educational programs 6B06101 Software engineering (5B070400 Computer Engineering and Software), 6B07104 Thermal power industry of industrial enterprises and housing and communal services, 6B07111 Thermal power industry of industrial enterprises and housing and communal services - on the basis of TaPE (5B071700 Heat power engineering), 6B07105 Energy supply of industrial facilities (5B071800 Power industry), 6B07106 Automation systems Engineering (5B071800 Automation and control) are being accredited in the IAAR for the first time.

(V) DESCRIPTION OF THE EEC VISIT

The work of the EEC was carried out on the basis of the approved Program of the visit of the expert commission for specialized accreditation of educational programs at KarIU during the period from 12 to 14 October 2020.

In order to coordinate the work of the EEC, on October 11, 2020, an opening meeting was held, during which powers were distributed among the members of the commission, the schedule of the visit was clarified, and choice of examination methods was agreed.

To obtain objective information about the quality of educational programs and the entire infrastructure of the university, to clarify the content of self-assessment reports, online meetings were held with the rector, vice-rectors of the university along the lines of activity, heads of structural divisions, department directors, deputy deans of faculties, heads of departments, teachers, students, graduates, employers. A total of 82 representatives took part in the meetings (Table 1).

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

Participant category	Number
Rector	1
Vice-rectors	2
Department Directors	7
Heads of structural divisions	10
Deputy Deans of Faculties	3
Heads of departments	6
Teachers	13
Students	15
Graduates	13
Employers	12
Total	**82**

During the online excursion, the EEC members have seen the condition of the material and technical base of KarIU, visited new building:

- auditorium No. 221 "Information and communication center" SOTSBI ", No. 101 "Automation technical facilities Laboratory", No. 100 "Laboratory of thermodynamics and heat transfer", No. 103 "Auditorium of automated electric drive", No. 104" Laboratory of heat and mass transfer installations", No. 107" Specialized Auditorium of Traditional and Alternative Energy", No. 005 "Laboratory of Blowers and Heat Engines".

visited the main building:

- Auditorium No. 116 "Laboratory of electrical circuits and machines", No. 118 "Laboratory of electrical circuits", No. 127 "Specialized audience of technical measurements", No. 222 "Computer class", No. 311 "Specialized audience of computer architecture and data processing".

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

For the period of accreditation, distance classes were attended according to the schedule: "Energy saving at industrial enterprises and in housing and communal services", Assistant professor Onishchenko O.N.; N-104, practical lesson "Construction of LACT and LPFC of the circuit time response applying MATLAB software" of the discipline "Electric drive control systems" in gr. PI-17k, assistant professor Siverskaya T.I.; N-101, on the discipline "Internet technologies" lecture on the topic "Organization of the Internet" in gr. CE&S-17k-1 and CE&S-17k-2, PhD Kunaev V.A.

During the work, EEC members made online visits to the following practice bases: JSC "ArcelorMittalTemirtau", "Metallurgy" experimental-industrial site" (building A), Laboratory building B – Rolling mills section, "KazPromAvtomatika" LLP, "Gordorservice" LLP , "Dat-TS" LLP, IE Kotenko "STO Drive".

In accordance with the accreditation procedure, an online questionnaire was conducted for 46 teachers, 89 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, the experts studied the Internet positioning of the university the official website of the university https://kgiu.kz/.

As part of the planned program, recommendations for improving the accredited educational programs of KarIU, developed by the EEC based on the results of the examination, were presented at an online meeting with the management on October 14, 2020.

(VI) COMPLIANCE WITH SPECIALIZED ACCREDITATION STANDARDS

6.1. Standard «Educational program Management»

- ✓ *The institution must have a published quality assurance policy.*
- ✓ *The quality assurance policy should reflect the link between research, teaching and learning.*
- ✓ *The university must demonstrate the development of a quality assurance culture, including in the context of EP.*
- ✓ *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.*
- ✓ *EP management ensures the transparency 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, interested parties and students.*
- ✓ *EP management demonstrates the functioning of 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 EP.*
- ✓ *EP management should involve representatives of interested parties, including employers, students and teaching staff in the formation of the EP development plan.*
- ✓ *EP management must demonstrate the individuality and uniqueness of the EP development plan, its consistency with national development priorities and the development strategy of the educational organization.*
- ✓ *The university must demonstrate a clear definition of responsible persons for business processes within the EP, an unambiguous distribution of personnel job responsibilities, and functions delineation of collegial boards.*
- ✓ *EP management must provide evidence of the transparency of the educational program management system.*
- ✓ *EP management must 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.*
- ✓ *EP management should carry out risk management.*
- ✓ *EP management must ensure the participation of representatives of interested parties (employers, teaching staff, students) in the collegial management boards of the educational program, as well as their representativeness in making decisions on the educational program management.*
- ✓ *The university must demonstrate innovation management within the EP, including the analysis and implementation of innovative proposals.*
- ✓ *EP management must demonstrate evidence of openness and accessibility for students, teaching staff, employers and other interested parties.*
- ✓ *EP management must be trained of educational management programs.*
- ✓ *EP 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.*

Proof part

The university has a published quality assurance policy, which is reflected in the following documents: "Quality Policy" (https://kgiu.kz/qms/politics/), "Quality Objectives" (https://kgiu.kz/qms/aims/), "University development strategy for 2017-2021" (https://kgiu.kz/abuniv/devplans/), “Comprehensive University Development Plan for the Academic Year” and is in line with standards and guidelines for quality assurance in the European Higher Education Area (ESG).

KarIU pursues a policy of quality assurance in all parameters of its activities, namely: the formation of the structure of the university with a certain degree of autonomy, strategic and operational planning, the implementation of internal personnel (human resources) policy, the development of local regulatory documents of a regulatory nature, the implementation of the educational process with its educational, scientific and educational components.

Quality assurance policy of EP 6B06101 - SE (5B070400 – CEaS), 6B07105 - ESIF (5B071800 - PI), 6B07104 – TPIIEaHaCS, 6B07111 – TPIIEaHaCS - based on TaPE (5B071700 – HPE), 6B07106 - ASE (5B070200 – A&C) determined by the documented quality purposes in the field of quality of the graduating departments " Energetics" and "Artificial intelligence technologies" (QMS CK 15-58-16.04.01-2017), developed for each academic year.

The quality assurance policy is available to teaching staff, employees and students. It is applied by department meetings, orientation meetings and workshops, by the website, information stands and by curatorial hours.

Also, the quality assurance policy is known and available to employers and other interested parties. The quality assurance policy and the changes made to it are systematically communicated to employers as part of annual meetings with them to adjust the content of the EP. In addition, the university uses other communication channels with employers and other interested parties to ensure the quality assurance policies availability like: media appearances,

thematic round tables, seminars, conferences, meetings, exhibitions, fairs, etc. In order to promote the brand of the university, the press center of KarIU cooperates with both traditional mass media and media relations on the Internet.

The EP quality assurance culture is ensured by the implementation of the strategic directions of the EP development plan, namely: ensuring the organization and content of the educational process, introducing innovations and scientific achievements into production and other spheres of public life, developing academic relations with partners for the implementation of joint innovative programs, ensuring sustainable financial-economic development, education of a multicultural, harmoniously developed personality of a student, creation of conditions for the formation of professional competence and competitiveness of future specialists.

One of the important changes in the development of a culture of quality assurance is the creation of the KarIU Supervisory Board (https://kgiu.kz/abuniv/nablyudatelniy-sovet/). In recent years, the university has reorganized its structure through the creation of new divisions, such as the "Career" Center (2018), the School of Integrity (2019), the Student Service Center (2017), which contribute to the further development of a quality assurance culture.

Management and development of the educational activities of the university are implemented through the activities of faculties and departments. The department is the main educational and scientific unit of the university. The main goal of the department is to prepare students for one or several educational programs.

When implementing the EP, the teaching staff is given the task of actively participating in scientific research and applying their results in teaching. For example, in 2018-2019 staff took part in a competition for grant financing of scientific research of the Ministry of Defense of the Republic of Kazakhstan on the topic "Telecommunication system for notification and information support of operational activities". Work was carried out on four unfunded state budget topics. 3 R&D under an agreement with enterprises (with "Bezopasnost Plus KZ" LLP, with "TemirtauElektroMontazh" LLP, "Karcement" JSC).

According to the results of scientific research for 2018-2019, more than 70 scientific articles and reports were published in periodicals and collections of works. For the fall semester 2019-2020, 11 articles were published in scientific journals and 11 articles in collections of proceedings of Republican and International conferences. There are 2 projects being implemented within the framework of the European Union Framework Program "Horizont 2020" ("Increasing the energy efficiency of heat consumption systems of public sector objects and housing stock of municipal services on the basis of web technologies for monitoring their temperature regimes and remote control" and "Research of additive technologies for the purpose of introduction of a new educational program "3D-engineering" and the creation of a competence center for additive technologies "). An initiative theme is underway: Development of an automated power supply control system for office buildings of "TemirtauElectroMontazh" LLP in order to improve energy efficiency. Applications for projects under the ERASMUS+ program are submitted annually.

The development plan and goals of the EP are drawn up with the involvement of representatives of employers, students, teachers and interested parties. Therefore, all interested parties are involved in the formation of the EP development plan: teaching staff, representatives from employers (for example, director of Power plant No.2 of "ArcelorMittal Temirtau" JSC – Paramonov A.V.; specialist of the 1st category of the boiler development department of "KazEnergoMash Corporation" LLP – Meshkov A.S.; IT-projects manager of ArcelorMittal Temirtau JSC – Sergeeva O.G.; Chief electrician of Hot Rolling shop of ArcelorMittal Temirtau JSC – Shipilov V.E.) and students.

The departments have Plans for the development of educational programs 6B06101 SE (5B070400 CEaS), 6B07105 ESIF (5B071800 PI), 6B07104 TPIIEaHaCS, 6B07111 - TPIIEaHaCS - on the basis of TaPE (5B071700 HPE), 6B07106 ASE (5B070200 A&C).

Based on the results of interviews with teaching staff, students, employers and graduates, it can be concluded that the management of the accredited EP is open and accessible. The

university website contains all the contact details of the management (personal e-mail, contact numbers, addresses).

Analytical part

The analysis of the fundamental documents showed that the Karaganda Industrial University manage educational programs, in accordance with the current legislation of the Republic of Kazakhstan in the field of education and science, the focus of the mission, strategy and vision to meet the needs of the state, society, branches of the real economy, potential stakeholders.

EEC notes that interested persons (students, teachers and employers) are informed of the existence of the University Development Strategy, the Policy and goals in the field of quality, internal regulatory documents. The EP management has sufficiently demonstrated the efficiency of the internal quality management system. The transparency of the processes of forming the EP development plan is confirmed by the participation of interested parties in it. This is evidenced by the activities of the Academic Council, the university administration, the educational and methodological council, academic committees, and the project office that ensure the management of the major EP. Development plans of accredited EPs are coordinated with the Development Strategy of the University.

The EEC confirms that the institution has a published quality assurance policy that reflects the link between research, teaching and learning.

During the visual inspection and analysis of documents, the EEC made sure that those responsible for the processes within which the implementation of the EP is regulated, the duties of the personnel are distributed, the functions of collegial boards are delimited. The university demonstrates the development of a culture of quality assurance in the context of EP. The quality of the educational process includes not only the quality of syllabuses and technologies, the quality of the material and technical base, etc., but also the quality of the scientific potential of the university, the quality of new knowledge transmitted by the teachers.

The EP management ensures the participation of representatives of employers in the management of the educational program and its development, which was revealed as a result of interviews with teachers and employers.

The university uses innovative teaching methods to improve the quality of the educational process. The introduction of innovations in the educational process is considered at the methodological week of the faculty, during which the teaching staff make innovative proposals, exchange experiences and demonstrate personal implementation of innovative proposals in the educational process. **At the same time**, the methodology for the analysis and implementation of innovative proposals within the accredited EP was not presented.

The management of the EP and the teaching staff undergo advanced training courses, have certificates of participation in various seminars, conferences and scientific internships. **However**, not all EP managers were trained in educational management programs.

Strengths / best practices for the accredited EP were not identified.

Recommendations for EP "6B06101-Software Engineering (5B070400- Computer Engineering and Software", "6B07104- Thermal power industry of industrial enterprises and housing and communal services", "6B07111- Thermal power industry of industrial enterprises and housing and communal services based on TaPE (5B071700 Heat power engineering) ", 6B07105- Energy supply of industrial facilities (5B071800- Power industry)", 6B07106- Automation Systems Engineering (5B071800-Automation and control):

1. The management of the university to develop a methodology for the analysis and implementation of innovative proposals and innovation management within the accredited EP.

2. The management of the university to organize the passage of refresher courses for all heads of EP in the field of education management in the current academic year.

EEC conclusions on the criteria:

According to the standard "Educational program Management" 17 criteria are disclosed, of which the accredited EP *have: 0 - strong, 16 satisfactory positions. 1 - suggests improvement.*

6.2. Standard «Information Management and Reporting»

- ✓ *The university must ensure the functioning of the system for collecting, analyzing and managing information based on the use of modern information and communication technologies and software.*
- ✓ *EP management must demonstrate the systematic use of processed, adequate information to improve the internal quality assurance system.*
- ✓ *Within the EP, there 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.*
- ✓ *The university must establish the frequency, forms and methods of assessing EP management, activities of collegial boards and structural units, top management, implementation of scientific projects.*
- ✓ *The university must 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 data provision.*
- ✓ *An important factor is the involvement of students, employees and teaching staff in the processes of collecting and analyzing information, as well as making decisions based on them.*
- ✓ *EP management must demonstrate the existence of a communication mechanism with students, employees and other interested parties, including the availability of conflict resolution mechanisms.*
- ✓ *The university must provide the measurement of the satisfaction of the needs degree of teaching staff, staff and students within the EP and demonstrate evidence of elimination of the identified deficiencies.*
- ✓ *The university must evaluate the effectiveness and efficiency of activities, including in the context of EP.*
- ✓ *The information collected and analyzed by the university within the EP should take into account:*
- ✓ *key performance indicators;*
- ✓ *dynamics of the contingent of students in the context of forms and types;*
- ✓ *academic performance, student achievement and expulsion;*
- ✓ *satisfaction of students with the implementation of EP and the quality of education at the university;*
- ✓ *availability of educational resources and support systems for students;*
- ✓ *employment and career growth of graduates.*
- ✓ *Students, employees and teaching staff must document their consent to the processing of personal data.*
- ✓ *EP management should help to provide all the necessary information in the relevant fields of science.*

Proof part

To automate the process of collecting, analyzing and managing information, KarIU has introduced and operates systems for collecting, analyzing and managing information based on the use of modern information communication technologies and software. The university successfully operates information systems based on the corporate network of KarIU.

The official website of Karaganda Industrial University is the main source of information about the University, located at http://kgiu.kz. The site is regularly updated and has versions in three languages: Kazakh, Russian and English. The purpose of the site is informational (dissemination of information about the university and its services), communication (establishing feedback with target audiences, ensuring effective interaction between employees), image (providing a certain image for the target audiences). On the main page of the site, any user can get acquainted with the directions of the university's activities, read the news from the life of the university, get the necessary current information about the events at the university. The site navigation is structured in such a way that by opening the next tab, the user receives more and more detailed information - about educational programs, about teachers, about achievements, etc. For example: "Applicant" https://kgiu.kz/abiturient/ - full information characterizing the field of study, documents required for admission. "Faculties" http://kgiu.kz/faculty/ etc.

The university also has accounts on social networks https://instagram.com/kgiu_kz?!igshid=1apzuylsxx433, https://ok.ru/profile/579438130734/statuses/151079088888622.

The university uses an IS, which is based on the use of an intra-university corporate information network, including 447 computers, with access to the global Internet. Physical medium: fiber-optic line of the company TTK LLP, with a dedicated IP address at speeds: 40 Mb/s incoming and 40 Mb/s outgoing.

Currently, central server room has 4 servers, applied to ensure the operation of the educational portals "DALES" and "Platonus", Internet traffic control and replicate valuable data.

The university uses corporate e-mail in the kgiu.kz domain (info@kgiu.kz) to promptly inform the public. Each university employee has the opportunity to use a corporate email address.

There is also a single AIS Dales, where complete information about the learning process of each student for the entire period of study provides. It keeps track of progress in all disciplines, GPA (GradePointAverage). An important factor is that university has an automated information system "Platonus" (www.platonus.kgiu.kz). At the stage of the selection committee's work, on the basis of AIS "Platonus", an electronic database of personal files of applicants is formed. On the basis of the admission order, applicants who have scored a liminal UNT score (CT) are enrolled in the 1st year, and appropriate records are made in the AIS "Platonus" card index and electronic personal files of students are formed. At the stage of planning the educational process, the AIS "Platonus" is configured for the academic year. Registrars enter information from working syllabuses and academic calendar into the database. The applicant, having transferred to the status the university student, gets access to the AIS "Platonus", where he gets access to the academic calendar, to the syllabuses of his specialty, to information resources and databases of the institute's library, to the teaching materials provided by teachers in the disciplines studied.

An important factor for the university 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.

All work curricula must be agreed with potential employers. To do this, representatives and heads of departments of the university, deans and vice-rectors regularly hold meetings with heads and representatives of enterprises interested in graduates of KarIU (http://kgiu.kz/2018/12/v-kgiu-proshla-vstrecha-vipusknikov-s-potencialnimi-rabotodatelyami-po-voprosam-trudoustroystva/).

The EP management has mechanisms for communication with students, employees and other interested parties, including mechanisms for conflicts resolving.

The EP management adheres to the normative documents for resolving conflicts, communicating with students, employees and other interested parties.

The regulatory documents of the university set out the procedure for submitting applications with the expression of requests and complaints on various issues of academic discipline and progress (QMS P 4.18-2018 On dealing with student complaints).

The University pays special attention to the policy of managing conflicts of interest and relationships. An active anti-corruption policy is being pursued (http://kgiu.kz/abuniv/korrupciey/). For legal education and combating manifestations of corruption offenses the elective discipline "Fundamentals of anti-corruption culture" has been included in working syllabuses. Over the past three years, a competition for videos, posters, essays "I am against corruption" has been held, as well as a large number of events dedicated to the prevention of corruption violations: curatorial hours, "united hours", debates, meetings, seminars, trainings, etc.

The KarIU scientific library has access to such international information resources as Scopus, Web of Science (https://www.scopus.com/affil/profile.uri?id=60113222&origin=AuthorResultsList), which significantly expands the range of using electronic resources.

The library is closely related to the scientific libraries of the Karaganda State Technical University, Karaganda State University, the regional scientific library named after Gogol.

The library contains articles, books, author's textbooks, monographs and scientific and technical journals in a structured form, devoted to various aspects of the university's educational programs, which is a means of providing access to information resources for a wide range of remote users. The section is constantly updated with new materials.

There is a library page on the KarIU website, through which students can familiarize themselves with newsletters of new products, a book catalog, an overview of scientific and technical journals (http://kgiu.kz/abuniv/mtbase/library-2/).

According to the questionnaire results, the question about assessing the involvement of teaching staff in the process of making management decisions has following rate: 37% answered “very good”, “good” - 58.7%, “relatively bad” - 4.3%.

Analytical part

The EEC Commission notes that the structure and volume of collected information, sources, frequency, time interval, persons responsible for the reliability and timeliness are determined by the internal regulatory documentation of the university, employment position instructions of department heads.

The EEC Commission notes the proper use of distance learning technologies and e-learning in the educational process of the university, which was widely demonstrated during the quarantine in connection with the spread of the COVID-19 virus. The effectiveness of using distance learning at the university is confirmed by positive feedback from graduates during conversations.

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 distance learning use at the university is confirmed by positive feedback from employers and graduates during the conversations.

Experts note that the structure and volume of information collected, sources, frequency, time interval, persons responsible for the accuracy and timeliness are determined by the internal regulatory documentation of the university, employment position instructions of department heads. To automate the process of collecting, analyzing and managing information, KarIU has introduced and operates systems for collecting, analyzing and managing information based on the use of modern information communication technologies and software. ***However***, during interview, the students did not confirm their participation in the processes of collecting and analyzing information and making decisions based on them.

On the basis of the Law of the Republic of Kazakhstan on personal data and their protection of May 21, 2013 N 94-V (with amendments and additions), an agreement on the processing of personal data was concluded with all employees of the university, aimed to protecting the rights and freedoms of those persons whose personal data is processed. Students, employees and teaching staff must document their consent to the processing of personal data. ***However***, during interviewing students did not confirm the existence and signing of such documents.

Strengths / best practices for the accredited EP were not identified.

Recommendations for EP "6B06101- Software Engineering (5B070400- Computer Engineering and Software", "6B07104- Thermal power industry of industrial enterprises and housing and communal services", "6B07111- Thermal power industry of industrial enterprises and housing and communal services based on TaPE (5B071700 Heat power engineering) ", 6B07105- Energy supply of industrial facilities (5B071800- Power industry)", 6B07106- Automation Systems Engineering (5B071800-Automation and control):

1. In order to improve the EP, regularly analyze the effectiveness of changes with the involvement of students in the processes of collecting and analyzing information, as well as making decisions based on them.

2. The management of the accredited EP to ensure the student's documentary consent to personal data processing.

EEC conclusions on the criteria:

***According to the standard "Management of the educational program" 17 criteria are disclosed, of which the accredited EP** have: 0 - strong, 17 satisfactory positions, 0 - suggests improvement.*

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

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

Proof part

The development and approval of accredited educational programs at the University is carried out in accordance with the provisions of regulatory legal acts in the field of higher and postgraduate education, the Regulation on the development of modular educational programs of the QMS program P 4-25-1-2018 (https://drive.google.com/file/d/1dXnO_Pof2hGWfQrz87-pYK4tUs8obPnl/view), which includes procedures for administration, implementation, evaluation and monitoring of the EP quality, as well as determining the order of interaction between structural units and their responsibility fields.

The draft EP is discussed at a meeting of the department, then sent for discussion and consideration to employers. After consideration, employers send comments and suggestions to the EP developers. The working group makes adjustments to the draft EP.

Further, the EP is considered at a meeting of the department and submitted for consideration by the Faculty Council. Based on the results of the discussion, a protocol is drawn up, which indicates all considered proposals and comments, recommendations of employers, the level of compliance of the content of educational programs with the requirements of external and internal regulatory documents. The Faculty Council (the presence of the head of the EP is mandatory), considers the content of the program, its compliance with regulatory requirements, compliance with the principle of continuity and continuance in the formation of the educational program course and gives an opinion on the EP for the EMC. With a positive recommendation from the Faculty Council, the EP undergoes an external assessment and examination with a response to the EP. For example, the reviewer for EP 5B070200 - A&U was the chief specialist in automation of the blast furnace shop of "AMT" JSC, A.V. Varshavsky; EP 5B071800 - PI was an power engineer of Major Engineer dept. of JSC "Karcement" V.M. Sirenko, EP 6B06101 - SE was an IT projects manager of JSC "AMT" Sergeeva O.G.

The ongoing changes in the labor market and requirements for learning outcomes of the EP are reflected in the specific proposals of employers through adjustments to the content of the studied disciplines and industrial practices, reviewing the EP, which were discussed at the meetings of the department and were introduced into the EP.

For example, the meeting of the department "E&ATS", MOM No. 43 dt. 12.06.2017, was held with the participation of employers (chief specialist in automation of blast-furnace production of AMT JSC Varshavsky A.V., head of the automation section of Rolling shop No.2 of AMT JSC Petrov A.V.), where EP was discussed and the introduction of the following disciplines was proposed:

1) 5B070200 - A&C: "Optimization Methods", "Mathematical Foundations of Automation", "Mathematical Modeling", "Simulation Software";

2) 5B071800 - PI: "Energy audit and energy management", "IT monitoring and control systems", "Simulation software ".

Employers from large and medium-sized enterprises where graduates of the considered EP can work or working are involved in the design, reviewing and implementation of the EP.

The main employers for EP 6B07106 - ASE (5B070200 – A&C), EP 6B07105 - ESIF (5B071800 - PI), EP 6B06101 - SE (5B070400 - CEaS), EP 6B07104 - TPIIEaHaCS (5B071700 - HPE) are "ArcelorMittal Temirtau" JSC, "Kazakhmys Corporation" LLP, "Central Asia Cement" JSC, "KAZPROM ENGINEERING" LLP, "Tekeli Mining and Processing Complex" LLP, "Techno automatica" LLP, "QazTechEnergy" LLP, "Temirtau Electromechanical Plant" JSC, "Temirtau Electro Montazh" LLP, "Bassel Group LLS" LLP, "Alfa Group-2010" LLP.

When designing EP, reference and information resources are used to analyze the demand of the labor market, an analysis of similar EP, implemented by universities of the near and far abroad, is carried out. All EPs are designed on the basis of professional standards and NQF (http://www.enbek.gov.kz/sites/default/files/nrk_16.03.16.pdf).

For example, vacancies and requirements for its in the main organizations and enterprises of the Karaganda region and the country as a whole are considered, as well as disciplines proposed by other universities in the corresponding EP or related to it.

Access to reference and information resources is carried out via the Internet on the relevant websites of organizations or universities, in direct meetings with partners, when organizing Graduates fairs, when participating in seminars and trainings, webinars, etc.

EP management (6B07106 - ASE (5B070200 – A&C), 6B07105 - ESIF (5B071800 - PI), 6B06101 - SE (5B070400 - CEaS), 6B07104 - TPIIEaHaCS (5B071700 - HPE)) ensures compliance with the developed learning objectives, including proposed education results (learning outcomes).

Learning outcomes correlate with learning levels and qualifications frameworks since developed on their basis. The level of qualification assigned to a graduate of a bachelor's degree educational program corresponds to the sixth level of the National Qualification Framework (6NQF), and a master's degree - the seventh level (7NQF).

All EPs in this cluster require professional practice, because they are directly related to production. KarIU and employers are interested in the acquisition of practical skills by students at future jobs.

Number places for students to undergo industrial practice is determined by the graduating department. The application is forwarded to the internship manager at the Career center, which works out this issue with representatives of industrial enterprises. Places of practice are selected based on the direction of the EP.

Industrial enterprises, design bureaus, research institutions with a modern organizational and technical base are used to conduct industrial practices.

Also, students can be trained according to the dual system. For example, Konstantin Borisovich Zakhvatov of CEaS-17s group underwent practical training under a dual training agreement at AMT JSC, Karatai Bauyrzhan Serikuly of CEaS-16k group undergoes dual training under a contract at “PINE Holding” LLP.

The topic of thesis (graduation) work is agreed with representatives of employers and, depending on the topic of the diploma project, students in the graduation course are sent to undergo pre-diploma practice at the relevant enterprises and their divisions. The implementation of research projects by graduates consists in the development of stands and educational models that help to form the material and technical base of the department. So, in the 2018-2019 academic year, the following topics of diploma projects were approved:

1) Kyrkyzbay A.A. EE-15k group, Development of a laboratory stand "Research of electric drive control systems", Development of a laboratory workshop;

2) Osmolkin I.O. group EE-15, Development of the research complex "Research of the

main parameters of AC and DC electric drives", Development of an electromechanical system.

To obtain practical skills, laboratory and practical classes are used, for which laboratory workshops and methodological instructions for conducting practical work have been developed; for theoretical - lecture notes; for skills calculations - guidelines for tests and coursework.

For example, in the discipline "Theory of automatic control", studied according to EP 6B07106 - ASE and 6B07105 - ESIF, in the practical work "Determination of transfer functions of open and closed systems" the following learning outcomes are realized: PO12 "Applies methods of mathematical analysis and modeling for theoretical and experimental research" and PO25 "Explores the fundamental mathematical foundations of the analysis of processes in linear and nonlinear systems"

The personal characteristics of students are taken into account in the educational process by:

1) the possibility of individualization of training;
2) staffing of KarIU with qualified personnel;
3) working out the legal framework;
4) availability of the necessary material base;
5) aesthetically consistent climate of relationships in the teaching staff and the study group.

For the development of joint educational programs, work is being carried out with the Mikhail Ostrogradsky Kremenchug National University (Kremenchug city, Ukraine, KrNU) on joint training of specialists in EP 6B07106 - ASE. It is planned to invite Professor, Doctor of Technical Sciences Cherny A.P. of this university for reading distance lectures on the discipline "Management of electromechanical systems" and the discipline of choice "Renewable energy management systems". Also, the issue of practical training by students of KrNU on the basis of AMT JSC is being considered.

Analytical part

Analyzing the standard "Development and approval of educational programs", members of the EEC came to the conclusion that the consideration and approval of EP takes place at the departments, are recommended by the decision of the Academic and Methodological Council of the University and approved at a meeting of the Academic Council of the University.

The EEC members note that the accredited are provided with WC, syllabuses, ECD, which are drawn up in accordance with regulatory documents and meet the specifics of the accredited EP. A set of CED disciplines, the choice of enterprises for passing industrial practices contributes to the formation of professional competencies of students. IWS tasks are included in the ECD. 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.

Analyzing the standard "Development and approval of an educational program", 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 acquiring 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.

As a result of studying the standard "Development and approval of an educational program", the commission came to the conclusion that the content and logic of building educational programs was disclosed in accredited areas, the process of professional training of students within the EP was described. **However**, to date, the process of professional certification of students of accredited EP ***has not been launched***, but the departments "Energetics" and "Artificial Intelligence Technologies" are conducting purposeful work to organize the

preparation of students for professional certification.

Experts note that in order to organize joint and double-diploma education within the framework of accredited EP, it is necessary to expand the policy of cooperation with universities of the near and far abroad, public educational organizations and research centers.

In the absence of implementation of joint EP *with foreign universities, the EEC commission notes the existence of conditions for the development and implementation of joint educational programs with foreign educational organizations in the areas of accredited EP*. For the development of joint educational programs, work is currently being carried out with the Kremenchug National University named after Mikhail Ostrogradsky (Kremenchug, Ukraine, KrNU). However, no specific indicators were provided for the accreditation period.

Strengths / best practice according to EP "6B06101-Software Engineering (5B070400-Computer Engineering and Software", "6B07104-Heat Thermal power industry of industrial enterprises and housing and communal services", "6B07111- Thermal power industry of industrial enterprises and housing and communal services Based on TaPE (5B071700- HPE-Heat power engineering) ", 6B07105- Energy supply of industrial facilities (5B071800- Power industry)", 6B07106- Automation systems Engineering (5B071800-Automation and control):

1. The management of the accredited EP clearly defines and explains the qualifications of students obtained upon completion of the EP, which corresponds to a certain level of the NQF.

2. The management of the accredited EP clearly defines the influence of special disciplines and professional and pre-diploma practices on the formation of student learning outcomes.

Recommendations for EP "6B06101-Software Engineering (5B070400- Computer Engineering and Software", "6B07104- Thermal power industry of industrial enterprises and housing and communal services", "6B07111- Thermal power industry of industrial enterprises and housing and communal services based on TaPE (5B071700 Heat power engineering) ", 6B07105- Energy supply of industrial facilities (5B071800- Power industry)", 6B07106- Automation systems Engineering (5B071800-Automation and control):

1. EP management to develop a plan and start organizing the preparation of students for professional certification.

2. By the beginning of the 2021/22 academic year, the EP management should give proposals for the opening of joint educational programs with foreign universities.

EEC conclusions:

According to the standard "Development and approval of educational programs" 12 criteria are disclosed, of which the accredited EP have: 2 - strong positions, 9 - satisfactory, 1 - suggests improvement.

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

✓*The university must 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:*

✓*The content of the programs in the light of the latest scientific achievements in a specific discipline to ensure the relevance of the taught discipline;*

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

✓*Workload, academic performance and graduation of students;*

✓*Efficiency of student assessment procedures;*

✓*Students' expectations, needs and satisfaction;*

✓*The educational environment and support services and their relevance to the goals of the EP.*

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

✓*All stakeholders should be informed of any planned or taken action in relation to the EP. All changes made to the EP must be published.*

✓*EP management must 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.*

Proof part

The university defines the mechanisms for monitoring and periodically evaluating the implementation of the EP in order to ensure the achievement of the goal and meet the needs of students and society. The criteria for the effectiveness of the EP are: recruitment of students, academic performance and employment.

During the academic year, the University monitors and periodically evaluates 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.

This process is based on the following principles:

1) the complexity of work on the study of market needs and the training of specialists with the necessary competencies;

2) coordination and mutual adaptation of curricula and programs;

3) completeness of education at each stage;

4) meeting the educational needs of students, depending on their abilities and capabilities.

The procedure for monitoring and periodic evaluation of EP at the university is carried out on the basis of internal documents of the QMS (https://kgiu.kz/qms/)

To assess the success of the EP implementation plan, external and internal audits, examination of methodological support, performance evaluation and consideration of issues at collegial boards (Supervisory Board, Academic Council, EMC, NTS, department meetings) are used. Within the framework of these mechanisms, the effectiveness and efficiency of achieving goals, deviations from the set goals are determined. If necessary, decisions are made or plans are developed to improve the quality of education and improve educational activities.

The student's progress is tracked from the 1st course to the completion of the training. At the end of each year of study, all the marks received are summarized in one sheet - a transcript, where you can see the marks for each course of study. Information about the progress of students is stored in the information system AIS "Platonus" and "Dales".

Monitoring student progress is carried out in accordance with the internal documents of the QMS (https://drive.google.com/file/d/16K_pL03kZpPO-Ay4QtGJBY6jLVKqP3qX/view)

AIS "Dales" and "Platonus" are used to store and process information about the progress of students.

Each graduate masters all stages of training by obtaining marks in each discipline. At the same time, the student annually increases the GPA indicator, which is provided by the university. The procedure for establishing the GPA is established by the decision of the Academic Council of KarIU in accordance with the QMS StE II.9-01.01-2018 "Control process (preparation and conduct of the examination session)".

According to the general rating of the best universities in Kazakhstan, IAforQAinE (https://iqaa-ranking.kz/rejting-vuzov/rejting-vuzov-kazakhstana-2018/natsionalnyj-rejting-luchshikh-tekhnicheskikh-vuzov-kazakhstana-2) in 2018 university took 11th place among technical and agrotechnical universities of the Republic of Kazakhstan. At the same time, specialties 5B070200 - Automation and control, 5B071800 - Power industry took 5th place. According to the rating of educational programs of universities in the specialty Computer Engineering and Software in 2018, the university takes the 6th place, and in 2019 it is not subject to ranking in the Rating. In 2019, in the specialty "Automation and Control", the university did not participate in the ranking, due to the lack of graduation in 2018.

In accordance with the State Program for the Development of Education and the Law of the Republic of Kazakhstan "On Education", an external assessment of academic achievement (EAAA) has been introduced as one of the types of monitoring of the quality of education independent of educational organizations. Objectives of the EAAA:

1) monitoring the educational achievements of students;

2) assessment of the effectiveness of the organization of the educational process;

3) a comparative analysis of the quality of educational services provided by educational organizations.

The quality of education is confirmed by the results of the EAAA, which are presented in Figure 6.1.

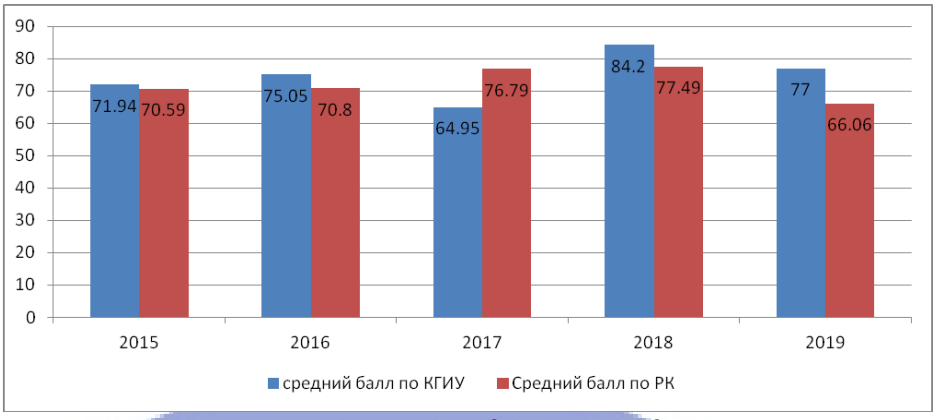

Figure 6.1 - The results of the EAAA for KarIU

As can be seen from the data presented, there is a positive trend in the average grade of the EAAA by KarIU students (with the exception of 2017). So in 2019, KarIU exceeded the average score in the Republic of Kazakhstan by 10.94 points. At the same time, for all years (except for 2017), the results of the EAAA of KarIU students exceed the national average. The high average score was received by the students of the department's specialties: 5B070400 CEaS (96 points); 5B071800 PI (84 points). The results of the EAAA, shown by students, confirm the quality of the accredited EP.

The university effectively operates a system of internal monitoring of the quality of knowledge, or learning outcomes, carried out by structural units of various levels. The system includes a mandatory discussion of analytical reports and reports at meetings of the Academic Council (at least 2 times a year, based on the results of the winter and summer sessions) and meetings of heads of structural divisions (based on the results of midterm control and midterm certification). The efficiency and reliability of information for managing the quality of educational activities is achieved through the use of interested subdivisions (DAP, deans, by an electronic portal) of information on educational achievements through certain levels and access modules of the computer program of the Registrar's Office.

Analytical part

EEC notes that the content of the EP is developed in accordance in the view of cuttent achievements of science, which meets the expectations and needs of students. In the course of regular monitoring and periodic assessment of the EP, the management of the EP takes into account changes in the labor market, the requirements of employers and the social demand of society.

To obtain an objective assessment in the teaching process, teaching staff use various methods of monitoring the knowledge of teachers.

The university has created and operates academic support services for students: the office of the registrar (OR), the service of advisers. Systematic work is being carried out to create the most favorable conditions for the high-quality provision of educational services, social support for students, the necessary conditions are created for their personal development and education.

The management of KarIU pays special attention to the use of various methods of disseminating information - briefings held by the Career Center, open days, job fairs, meetings with outstanding alumni, employers, exhibitions of achievements, demonstration of new technologies and equipment introduced, career guidance months and weeks The openness of informing the public is highlighted on the KarIU website. The updated contents of the EP are published by posting them on the official website of KarIU. ***However***, when interviewing graduates and employers, many did not have this information.

EEC notes that it is necessary to ensure constant and timely informing of students,

teaching staff, employers through various communication channels about all changes made in the EP. Ensure the availability of all interested parties to all materials related to the development of the EP.

Strengths / best practices for the accredited EP were not identified.

Recommendations of the EEC for EP "6B06101-Software Engineering (5B070400-Computer Engineering and Software", "6B07104- Thermal power industry of industrial enterprises and housing and communal services", «6B07111- Thermal power industry of industrial enterprises and housing and communal services based on TaPE (5B071700- Heat power engineering)", 6B07105- Energy supply of industrial facilities (5B071800- Power industry)", 6B07106- Automation Systems Engineering (5B071800-Automation and control):

1. The university management should develop a mechanism to improve information of the public, employers, students and teaching staff about all changes made to the accredited EP and ensure publication for all interested persons in external sources of information about all the changes and actions taken in relation to the EP.

EEC conclusions:

According to the standard "Continuous monitoring and periodic evaluation of educational programs" 10 criteria are disclosed, of which the accredited EP have: *0 - strong positions 9 - satisfactory positions, 1 - suggests improvement.*

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

✓*EP management must ensure respect and attention to various groups of students and their needs, providing them with flexible learning paths.*

✓*EP management must ensure the use of various forms and methods of teaching and learning.*

✓*An important factor is the availability of own research in the field of teaching methods of academic disciplines EP.*

✓*EP management must demonstrate the existence of a feedback system on the use of various teaching methods and assessment of learning outcomes.*

✓*EP management must demonstrate support for the autonomy of students while providing guidance and assistance from the teacher.*

✓*EP management must demonstrate the existence of a procedure for responding to student complaints.*

✓*The university must ensure consistency, transparency and objectivity of the mechanism for assessing learning outcomes for each EP, including appeal.*

✓*The university must ensure that the procedures for assessing the learning outcomes of EP students are in line with the planned learning outcomes and the objectives of the program. Criteria and methods of assessment within the EP should be published in advance.*

✓*The university should determine the mechanisms for ensuring the development of learning outcomes by each EP graduate and ensure the completeness of their formation.*

✓*Evaluators should be familiar with modern methods of assessing learning outcomes and regularly improve their qualifications in this area.*

Proof part

Karaganda Industrial University creates conditions for the implementation of the principles of student-centered learning, ensuring respect and attention to various groups of students and their needs: providing flexible learning paths; the use of various forms of teaching; regular feedback on the techniques and methods used to assess and adjust pedagogical methods; supporting learner autonomy while providing adequate guidance and assistance from the teacher; strengthening mutual respect between teacher and student; availability of appropriate procedures for responding to student complaints.

Students enrolled in educational programs 6B06101 - SE (5B070400 - CEaS), 6B07105 - ESIF (5B071800 - PI), 6B07104 - TPIIEaHaCS (5B071700 - HPE), 6B07106 - ASE (5B070200 – A&C) are the main consumers When implementing the educational process, the needs of various groups of students are taken into account: foreign citizens, people with disabilities and socially unprotected students. The system of social support for university students is able to promptly respond to the dangers of the external environment associated with a worsening economic situation and a decrease in the population's ability to pay. The identification of needs is

carried out when students contact the curator, the head of the department, the dean's office, during meetings, conversations with students, for example: providing a place in university dormitories, the possibility of monthly payment. The university provides discounts for teaching employees' children.

To master additional competencies in related or specialized educational programs, the student has the right to choose disciplines according to his main educational program (Major), disciplines according to an additional educational program (Minor).

So, students on the educational program 6B06101 - SE (5B070400 - CEaS) can acquire additional skills and competencies in management by choosing Minor "Project Management" for study.

The development plan of educational programs is formed taking into account the use of various teaching methods and knowledge control, an individual educational program, including regardless of the language. A combination of various forms of education and training is allowed. Taking into account the needs of different groups of students is reflected in the academic calendar, which is formed at the beginning of each academic year (https://kgiu.kz/student/akademicheskiy-kalendar/). Students of different forms have differences in the timing of the academic process. Thus, the student of the group A&C-17k Omarov Aslan Səbituly was educated according to an individual schedule as a student with special educational needs.

Management EP 6B06101 - SE (5B070400 - CEaS), 6B07105 - ESIF (5B071800 - PI), 6B07104 - TPIIEaHaCS (5B071700 - HPE), 6B07106 - ASE (5B070200 – A&C) provides the use of various forms and methods of teaching. For these EPs in KarIU there are the following forms of study: full-time full-time study; full-time with a reduced period of study on the basis of technical and vocational education; full-time form with the use of distance learning technologies with a shortened training period on the basis of higher education; full-time form using distance learning technologies with a shortened training period on the basis of technical and vocational education; evening form with a shortened training period based on technical and vocational education; extramural form with a shortened training period based on technical and vocational education; extramural form with a shortened period of study based on higher education (https://kgiu.kz/abiturient/priem-na-bakalavriat/).

Modern software products and IT technologies are actively used in the training of future specialists. So, when conducting training sessions in the disciplines of educational programs of specialties 6B06101 - SE (5B070400 - CEaS), 6B07105 - ESIF (5B071800 - PI), 6B07106 - ASE (5B070200 – A&C), software and hardware complexes are used that allow you to simultaneously use for laboratory work hardware and software. There are methodological developments with the use of modern software products MathCAD, WinCC, MatLab, MPLAB, EWB, LOGO Soft, etc. for all major disciplines of the specialties of the departments "Energetics" and " Artificial Intelligence Technologies".

Analytical part

Analysis of the standard "Student-centered learning, teaching and assessment of progress" showed that the accredited EP uses modern information and pedagogical learning technologies.

The assessment of knowledge, skills and professional competencies of students using credit training technology is carried out on a 100-point scale with the transformation of the final result into an alphabetic and digital equivalent. When scoring, attendance, the level of activity in the lesson, the timely and independent completion of all types of tasks, the ability to correctly formulate the problem, find answers are taken into account.

Experts confirm that the main direction of the university's academic policy is to meet the needs of various categories of students. The university creates the necessary learning conditions for each student, contributes to the self-realization of each student, as well as the professional growth of the teacher.

Equal opportunities for students are provided regardless of the language of instruction in the formation of an individual educational program aimed at the formation of professional competence.

The catalog of elective disciplines, regardless of the language of instruction, is identical and is created taking into account the interests and needs of students, expert opinions of employers and other interested parties. The formation of an individual trajectory of education is carried out by students independently based on the choice of disciplines and recommendations of advisers.

EEC states that to determine the needs of various categories of students, data from monitoring and analyzing progress in the context of educational programs and courses are used; information received from students is used in the course of students' appeals to the dean's office and other structural divisions.

At KarIU, methodological weeks of departments are held, during which the teaching staff make innovative proposals, exchange experiences and demonstrate personal implementation of innovative proposals in the educational process. An important factor is the presence at the university of its own research in the field of teaching methods of academic disciplines. ***However***, during the distance attendance of classes, the use of their own research and forms of innovative teaching methods of teaching staff in the field of teaching academic disciplines accredited by EP was not traced.

Strengths / best practices for the accredited EP were not identified.

Recommendations of the EEC for EP "6B06101-Software Engineering (5B070400-Computer Engineering and Software", "6B07104- Thermal power industry of industrial enterprises and housing and communal services", "6B07111- Thermal power industry of industrial enterprises and housing and communal services based on TaPE (5B071700 - Heat power engineering)", 6B07105-Power supply of industrial facilities (5B071800-Electricity)", 6B07106- Automation Systems Engineering (5B071800-Automation and control):

1. The EP management should annually monitor and analyze the effectiveness of the applied teaching methods of specialized disciplines in order to improve the quality of teaching. Proposals for the introduction of new teaching methods should be reflected in the minutes of the departments' meetings, as well as to ensure the dissemination of information about the positive results of their own research on the university's web resource.

EEC conclusions:

According to the standard "Student-centered learning, teaching and assessment of progress" 10 criteria are disclosed, of which the accredited EP have: *0 - strong positions 10 - satisfactory positions, 0 - suggests improvement.*

6.6. Standard " Students"

✓***The university must demonstrate the policy of forming the contingent of students in the context of EP 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.***

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

✓***The university must demonstrate the compliance of its actions with the Lisbon Recognition Convention.***

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

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

✓***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.***

✓***The EP's management should make the maximum amount of effort to provide students with places of practice, promote employment of graduates, maintain communication with them.***

✓ ***The university must provide EP graduates 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.***

✓ ***An important factor is monitoring the employment and professional activity of EP graduates.***

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

✓ ***An important factor is the existence of an active graduates association / association.***

✓ ***An important factor is the existence of a support mechanism for gifted students.***

Proof part

The University has a published policy for the formation of the contingent of students in the context of EP from admission to graduation and ensures the transparency of its procedures.

Policy for the formation of a contingent of students EP 6B06101 Software engineering (5B070400 Computer Engineering and Software), 6B07104 Thermal power industry of industrial enterprises and housing and communal services, 6B07111 Thermal power industry of industrial enterprises and housing and communal services - based on TaPE (5B071700 Heat power engineering), 6B07105 Energy supply of industrial facilities (5B071800 Power industry), 6B07106 Automation Systems Engineering (5B071800 Automation and control) consists in admitting persons to the number of students who are most prepared for studying at the university, who consciously chose the specialty of these educational programs.

The formation of a contingent of students is carried out by placing a state educational order for the training of specialists with higher and postgraduate education, as well as paying for training at the expense of citizens' own funds and other sources.

The number of university students is increasing every year. The student enrollment contingent for 2015-2020 is presented in Table 6.1. Analysis of data from 2015 to 2020 shows that student enrollment has increased in 2.8 times.

Table 6.1 - Information about the admission of bachelors by cluster for 2015-2020.

No	Educational program	Total	Kazakh language	Rusian language	Study on a grant in the context of language departments	
					Kazakh language	Rusian language
1	6B07104 Thermal power industry of industrial enterprises and housing and communal services, 6B07111 Thermal power industry of industrial enterprises and housing and communal services – based on TaPE (5B071700 Heat power engineering)	**100**	**1**	**99**	**1**	**17**
2	6B07105 Energy supply of industrial facilities (5B071800 Power industry)	**232**	**53**	**179**	**42**	**13**
3	6B06101 Software engineering (5B070400 Computer Engineering and Software)	**163**	**92**	**71**	**86**	**9**
4	6B07106 Automation Systems Engineering (5B071800 Automation and control)	**175**	**62**	**113**	**57**	**17**

Since 2015, a lot of work has been carried out within the framework of the state program "Mangilik el zhastary-industriyaga!" - "Serpin". The work is carried out with schools of South Kazakhstan, Almaty, Zhambyl, Kyzylorda, Mangystau, Turkestan regions (http://kgiu.kz/abiturient/serpin-2050/).

Under this program, 204 applicants were enrolled in the university during the reporting period.

Informing students about the requirements of the EP and the specifics of its implementation is provided through vocational guidance work. The University annually organizes an Open Day. The management of the EP conducts active vocational guidance work with schools in Temirtau, the Aktau village and schools in the nearby districts of the Karaganda region, with students of which they conduct study tours around the university, attend parent meetings. All employees and teaching staff take part in career guidance work. In order to promote the brand of the university, the press center of KarIU cooperates with both traditional mass media (media) and media relations on the Internet.

The university website (https://kgiu.kz/abiturient/priem-na-bakalavriat/) has all the necessary information for applicants for a bachelor's degree. On the page there is a list of bachelor's degree EP, in the section of admission rules there is information on the deadlines for submitting documents and a list of them, information on the number of grants in the context of groups of educational programs of KarIU is given.

At the departments, individual learning paths are formed, presented in the individual curriculum (IC). Individual curricula determine the educational course of each student and formes in accordance with the curriculum and catalog of elective disciplines for each academic year, on the basis of which the working curriculum is formed.

In order to prevent possible problems related to the progress and behavior of students, intensive work of advisers and curators with student groups is carried out. At the beginning of the academic year, curatorial hours are held with groups of students, current issues are considered, the internal regulations of KarIU, the GPA transfer score from course to course, etc.

Transfer and restoration is carried out in accordance with the Rules for the transfer and restoration of students by type of educational organization (Order of the Minister of Education and Science of the Republic of Kazakhstan dated January 20, 2015 No. 19 as amended, including the Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 31, 2018 No. 601), taking into account the academic difference of disciplines, the intra-university position (QMS P 4-33-2019 Rules for the transfer and restoration of students) and the academic policy of the university. On all these issues, students receive advice at the Student Service Center (SSC), in the dean's office and the Call Center of KarIU.

The criterion for transferring from one course to another is the GPA established by the decision of the Academic Council of the University.

The management of the university and the accredited EPs implement special adaptation and support programs for newly admitted and foreign students.

In order to organize assistance in the adaptation of first-year students to the educational process at the university at the beginning of each academic year, a Freshman Week is held (https://kgiu.kz/2019/09/nedelya-pervokursnika/), during which curators, deans, heads of departments give an explanation of the rules for organizing the educational process at the university, the requirements of the internal regulations, the mode of operation of various services, contact information about the administration, dean's offices and other structural divisions, teaching staff, information about the placement of educational buildings, about the KarIU website, etc. KarIU student's guide (https://kgiu.kz/student/putevoditel-studenta-kgiu/).

The university is constantly working to attract foreign students. In 2017, under an educational grant, students from Tajikistan came to study on educational program "6B06101 Software Engineering": Ashurov S., Zabirov A. In addition to citizens of Tajikistan, citizens of Russia and Uzbekistan are studying at the accredited EP.

KarIU has a practice of recognizing higher education qualifications, periods of study and prior learning, including the recognition of non-formal and informal learning, which is based on ensuring that it acts in accordance with the Lisbon Convention on the Recognition of Qualifications Relating to Higher Education in the European Region.

KarIU, as a member of the Bologna Process, cooperates with 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, that is, with the Center for the Bologna Process of the Republic of Kazakhstan.

Within the framework of the Bologna process, great importance is attached to the academic mobility of university students. The mechanism for recognizing learning outcomes mastered in the course of academic mobility is spelled out in the Regulations on Academic mobility (QMS P 4-24-2018).

The University provides an opportunity for external and internal mobility of EP students, and also assists them in obtaining external grants for training.

Information about programs for external and internal mobility, students and teaching staff can be found on the KarIU website (http://kgiu.kz/scintactivity/mezhdunarodnoe-sotrudnichestvo-i-akademicheskaya-mobilnost-international-cooperation-and-academic-mobility/). Academic mobility programs at the university are coordinated by the Department of Academic Policy (DAP) and the Department of International Cooperation (DIC).

Informing EP students about the possibilities of academic mobility is carried out with the help of announcements that are posted on information boards at the entrance to the university, deans post information on faculty bulletin boards, and announcements are also issued in the form of a running line on an electronic information board

DAP and DIC specialists, advisers at departments help students choose a learning path for participation in mobility programs. Assistance is also provided in the preparation of the necessary documents and visas for students leaving for study at a foreign university.

Under the program of external academic mobility, students of KarIU went to study for 1 semester at the Lublin State Technical University (Lublin, Republic of Poland), Technological University in Ostrava (Czech Republic). In 2019, students of the LNM Institute of Information Technology (India) were trained at KarIU.

Table 6.2 - Academic mobility (incoming and outgoing) of students by cluster

Name of the educational program	Internal academic mobility (outgoing)						Internal academic mobility (incoming)					
	Academic year						Academic year					
	2017-2018		2018-2019		2019-2020		2017-2018		2018-2019		2019-2020	
	Kaz. lang	Rus. lang	Kaz. lang	Rus. lang	Kaz. lang	Rus. lang	Kaz. lang	Rus. lang	Kaz. lang	Rus. lang	Kaz. lang	Rus. lang
6B07105 – ESIF (5B071800 – PI)	**20**	**9**	**2**						**9**			
6B07106 – ASE (5B070200 – A&C)	**5**	**10**	**6**				**22**		**22**			
6B06101 – SE (5B070400 – CEaS)	**10**					**1**	**14**					
Total:	**35**	**19**	**8**			**1**	**35**		**31**			

One of the main activities of the university leadership and the EP leadership is to provide students with places of practice, facilitate the employment of graduates and maintain communication with them.

To analyze the assessment of students' satisfaction with the places and the organization of the internship, a survey of students is carried out annually, when protecting the reports on the passage of industrial practice, the commission for receiving reports conducts a survey of students for satisfaction with the place of practice, the task. Based on the monitoring results, new contracts for internship are concluded, including individual ones, the conditions of internship are discussed with the heads of enterprises (the number of days of internship, jobs, etc.).

For successful employment of graduates of educational programs, conditions are provided for students to undergo industrial practice, both in methodological support and in moral support.

At the moment, there are 24 agreements on the organization of professional practice for educational programs (https://kgiu.kz/centr-kareracenter-careerkarera-ortali%D2%93i/centr-kareracenter-careerkarera-ortali%D2%93i/praktikapracticepraktika/polozhenie-o-praktike/).

Coordination and general guidance on the organization and conduct of professional practices is carried out by the Department and Center "Career". Professional practice programs are developed by the graduating department and are reflected in the educational and methodological complex of professional practices.

The procedure and order of organizing and conducting professional practices is regulated by the "Regulations on the procedure for organizing and conducting professional practices" (QMS P 4-28-2019), "Guidelines for organizing and conducting professional practices".

The "Career" Center along with the departments are engaged in monitoring the labor market, employing graduates, maintaining contact with enterprises and graduates, annually organizing "Graduate Fairs", preparing collections with resumes of graduates and distributing them to enterprises.

Employment of graduates in the cluster for the reporting period is 92.61%. The department, together with the "Career" Center, maintains close contact with graduates of educational programs, monitors their career growth, and, if necessary, provides assistance in finding a job. Feedback from graduates is supported by questionnaires, meetings, e-mails, as well as inviting them to participate in the educational process (conducting classes, working in the SAC, participating in the Working Group on the development of EP, etc.).

Graduates of our university according to these educational programs in comparison with other universities have a huge competitive advantage in employment at AMT JSC and other enterprises of the region. In addition, the employment of our graduates is also provided during the annual job fairs.

The "Career" Center together with the departments help in finding a job, send resumes of graduates to organizations, organize meetings with employers. Already in this academic year, meetings were held with the company "EPAM systems", LLP "KAZPROMENGINEERING". EP graduates take part in a career week at AMT JSC (https://kgiu.kz/2019/10/karernaya-nedelya/).

Students of educational programs during their studies can receive certificates of completion of various courses. Since the 2017 academic year, with the successful study of IT Essentials Cisco courses, more than 50 students have received certificates, and in 2019, 3rd year students were trained in the basics of entrepreneurship as part of elective hours and received certificates

An important factor is monitoring the employment and professional activity of EP graduates. Monitoring of the professional activity and career growth of graduates is carried out by the department in conjunction with the "Career" center.

The university and EP leadership actively stimulates students to self-education and development outside the main program (extracurricular activities). In KarIU there is a Committee on Youth Affairs (YA), which includes the Student Parliament (the structure of the YA is in the Appendix Structure for Youth Affairs). The Student Parliament is the board of student self-government of the Karaganda Industrial University (Regulation on the Student Parliament (https://kgiu.kz/studencheskiy-parlament/). According to the accredited EP, the student parliament includes Tashpulatov Akramkhan, Yeshenkulov Shyrat.

To develop and meet the creative, intellectual needs of students, there are student creative associations and collectives: choreographic ensemble "Altair"; Kazakh and Russian leagues of the debate club; press center "KMIU studentterinin khabarshysy"; discussion club "Abadan"; intellectual club "What? Where? When?"; Kazakh and Russian leagues of KVN; volunteer club "Kamkor"; poetry club "Parasat", etc.

Students of educational programs take an active part in research work, for which the department organizes student research bureau "Sistema", "Electron" workshop (https://kgiu.kz/scintactivity/nauka-i-innovacii/nauchno-issledovatelskaya-deyatelnost-studentov/nauchno-issledovatelskie-kruzhki/)

Students take an active part in scientific and practical conferences (https://kgiu.kz/2019/04/v-kgiu-proshla-xlix-respublikanskaya-nauchno-prakticheskaya-konferenciya/), innovative marathons "Hackathon", competitions of scientific research works.

The number of graduates who graduated from the university with a diploma "with honors" for the reporting period was 40 students.

Analytical part

Experts note that the university provides graduates with documents confirming the acquired qualifications, taking into account the achieved learning outcomes, the status and content of the education received.

The EP management has demonstrated the implementation of special programs for adaptation and support of foreign students, actively encourages students to self-education.

The University cooperates with other educational organizations on academic mobility, provides students with internship places, promotes the employment of graduates.

The commission in the course of analyzing the contingent of students accredited EP 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 the course of their work, the members of the EEC confirm that the university has created conditions for supporting gifted students by providing discounts, grants for training, stimulating creative activity, etc.

The University has the Graduates Association, which is a self-governing, voluntary public association of university graduates. The association was created to maintain the university spirit, a sense of unity and corporatism, to support and help the university from the side of graduates. **However**, during interview with graduates of accredited programs, they did not confirm their participation in the Association and did not have information about its activities.

Strengths / best practices for the accredited EP were not identified.

Recommendations for EP 6B06101 Software engineering (5B070400 Computer Engineering and Software), 6B07104 Thermal power industry of industrial enterprises and housing and communal services, 6B07111 Thermal power industry of industrial enterprises and housing and communal services - based on TaPE (5B071700 Heat power engineering), 6B07105 - Energy supply of industrial facilities (5B071800 Power industry), 6B07106 Automation Systems Engineering (5B071800 Automation and control):

1. Organize the activities of the Association with broad public awareness and involvement of graduates in its work

EEC conclusions on the criteria:

According to the "Students" standard, 12 criteria are disclosed according to which the accredited EP have: *0 - strong positions 11 - satisfactory positions, 1 - suggests improvement.*

6.7. Standard «Teaching staff»

✓ *University must have an objective and transparent personnel policy, including in the context of EP, including*

recruitment, professional growth and development of personnel, ensuring the professional competence of the entire staff.

✓ *University must demonstrate the compliance of the staff potential of the TS with the development strategy of the university and the specifics of the EP.*

✓ *Management of EP must demonstrate awareness of responsibility for its employees and providing them with favorable working conditions.*

✓ *Management of EP must demonstrate the change in the role of the teacher in connection with the transition to student-centered learning.*

✓ *University must determine the contribution of the TS of the EP to the implementation of the development strategy of the university, and other strategic documents.*

✓ *University should provide opportunities for career growth and professional development of the TS of the EP.*

✓ *Management of EP should involve practitioners of relevant industries in teaching.*

✓ *Management of EP must ensure targeted actions for the development of young teachers.*

✓ *University must 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.*

✓ *An important factor is the active use of the TS of the EP of information and communication technologies in the educational process (for example, on-line training, e-portfolio, MEP, etc.).*

✓ *An important factor is the development of academic mobility within the EP, attracting the best foreign and domestic teachers.*

✓ *An important factor is the involvement of the TS of the EP in the life of society (the role of the TS 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.).*

Proof part

KarIU has an objective and transparent personnel policy, including in the context of EP, including recruitment, professional growth and development of personnel, ensuring the professional competence of the entire staff of the university.

The TS of the EP meets the qualification requirements and indicators of personnel policy, has the necessary professional education, and also has the appropriate qualifications in order to take a certain official position. The university has developed job descriptions that establish the level of knowledge, skills, professional skills and work experience, responsibility and authority, functions, job responsibilities, rights *(**https://kgiu.kz/qms/polozheniyaprovisions-erezheler/**)*.

The main provisions of the university's personnel policy are:

1) Regulations on the qualification characteristics of the positions of scientific and pedagogical workers of KIU, QMS П 4-20-2018

2) Regulations on the internal regulations for TS and employees of KIU, QMS П 4-21-2018; (***http://kgiu.kz/qms/polozheniyaprovisions-erezheler/*).**

In order to comply with the principle of accessibility and transparency of all personnel procedures of the university management, and in order to get acquainted with the degree of satisfaction with the management system, meetings of the rector and vice-rectors with the university staff are periodically held.

On the basis of the *regulation on the qualification characteristics of the positions of scientific and pedagogical workers of the Karaganda Industrial University, the* criteria for hiring a *teaching staff* are highlighted (***https://kgiu.kz/qms/polozheniyaprovisions-erezheler/***).

Hiring is formalized by concluding an employment contract developed in accordance with the current labor legislation. The job descriptions establish the rights and responsibilities of the TS in accordance with the requirements of the KIU quality management system.

In its activities on hiring employees, appointing to a position, dismissing, dismissing from teaching, KIU is guided by the Law of the Republic of Kazakhstan "On Education" dated July 27, 2007 No. 319-III (with amendments and additions as of January 11, 2020), The Law of the Republic of Kazakhstan "On Science" No. 407-IV of 18.02.2011 (as amended as of 28.10.2019), the Law of the Republic of Kazakhstan "On Combating Corruption" No. 410-V of 18.11.2015 (from amendments and additions as of 01/01/2020), the Labor Code of the Republic of Kazakhstan No. 414-V of 11/23/2015, the Charter of the RSE at RKV "Karaganda State Industrial University", the Regulation on the qualification characteristics of the positions of scientific and pedagogical workers of KIU (QMS П4-20-2018), the Rule of competitive replacement of positions of the TS and researchers of KIU (QMS П 4-19-2018).

The competition for filling positions of the TS of KIU is held in accordance with the

Regulations "Rules for the competitive filling of positions of the TS and scientific workers of the Karaganda State Industrial University" (***http://kgiu.kz/qms/polozheniyaprovisions-erezheler/***). The announcement of competitive filling of vacant positions is published in periodicals distributed throughout the territory of the Republic of Kazakhstan, on Internet resources, at least thirty calendar days before the date of completion of the acceptance of documents and on the university website kgiu.kz.

Personnel transfers (admission, transfer, dismissal, etc.) are carried out in accordance with the Labor Code of the RK and other regulatory legal acts. All possible reasons for dismissal are spelled out in the regulation of the QMS П 4-21-2018 (***http://kgiu.kz/qms/polozheniyaprovisions-erezheler/***). Termination and termination of the employment contract is formalized by the order of the rector.

EP Software Engineering (5B070400 Computer Engineering and Software) and 6B07106 Automation Systems Engineering (5B071800 Automation and control) belong to the Department of Artificial Intelligence Technologies, the staff of the TS at the department is 12, part-time workers - 2 (doctors of science - 1, candidates of science - 4, PhD - 2, masters - 7).

EP 6B07104 Thermal Heat power engineering of industrial enterprises and housing and communal services, 6B07111 Thermal Heat power engineering of industrial enterprises and housing and communal services - on the basis of TaPE (5B071700 Heat power engineering), 6B07105 Energy supply of industrial facilities (5B071800 Heat power engineering) belong to the department "Heat power engineering" department - 10, part-time workers - 1 (doctors of science - 1, candidates of science - 2, PhD - 1, masters - 7).

The quantitative and qualitative composition of teachers serving EP in basic and major disciplines is presented in tables 7.1 and 7.2.

Table 7.1 - The quantitative and qualitative composition of the TS in the field of training 6B061-IaCT (EP 6B06101-Software engineering (5B070400-Computer Engineering and Software))

Academic years	**2015/2016**	**2016/2017**	**2017/2018**	**2018/2019**	**2019/2020**
Total staff, people	20	22	24	25	20
With a degree	10	10	11	12	9
% degree of degree	50	45,5	45,8	48	45

Table 7.2 - The quantitative and qualitative composition of the TS in the field of training 6B072 Engineering and engineering (EP 6B07105 Energy supply of industrial facilities (5B071800 Heat power engineering); EP 6B07104-Heat power engineering of industrial enterprises and housing and communal services; 6B07111-Heat power engineering of industrial enterprises and facilities farms, based on TaPE (5B071700-Heat power engineering); EP 6B07106 Automation systems engineering (5B070200 Automation and control).

Academic years	**2015/2016**	**2016/2017**	**2017/2018**	**2018/2019**	**2019/2020**
Total staff, people	20	24	25	23	20
With a degree	9	11	11	11	10
% degree of degree	45	45,8	44	47,8	50

The competence model of the TS of the university is represented by the regulation on the qualification characteristics of the positions of scientific and pedagogical workers of KIU, QMS П 4-20-2018, which also reflects the differences between the requirements for TS holding positions of different skill levels (https://drive.google.com/file/d/1TsBykn MJo7U7Id9evkMlTizf9K_8CsCv/view).

The competence model of the TS is formed taking into account the requirements of the

standard qualification characteristics of the positions of TS and persons equated to them, the sectoral qualification framework, the National qualification framework, the National qualification system. Special attention is paid to improving the language training of TS in order to introduce educational programs in the format of multilingual education.

Transparency and impartiality of personnel procedures at the university is ensured with the help of the rules of the recruitment process and professional growth and development of the TS approved and published on the KIU website (https://kgiu.kz/qms/polozheniyaprovisions-erezheler/).

Personnel policy is carried out in accordance with the main priorities of the university strategy. The selection and placement of personnel in KIU is carried out on the basis of an analysis of the needs of the EP in accordance with the QMS П4-20-2018 (https://drive.google.com/file/d/1TsByknMJo7U7Id9evkMlTizf9K_8CsCv/view).

All TS implementing the accredited EP have the necessary basic education corresponding to the disciplines taught. They hold positions corresponding to the results of the competition for filling vacancies.

Qualification requirements for TS of educational programs are based on the following regulatory legal acts and other regulatory documents:

Law of the RK "On Education" dated July 27, 2007 N 319-III with amendments and additions dated January 11, 2020; Order of the Minister of Education and Science of the Republic of Kazakhstan dated July 13, 2009 No. 338 On approval of the Standard qualification characteristics of the positions of TS and persons equated to them (with amendments and additions as of 12.07.2019); Model rules for the activities of educational organizations implementing educational programs of higher education (with amendments and additions dated 07.04.2017); Qualification handbook of positions of managers, specialists and other employees. Order of the Minister of Labor and Social Protection of the Population of the Republic of Kazakhstan dated May 21, 2012 N 201st. (as amended on April 17, 2013); Of the University Charter.

The qualification of the TS is ensured by a systematic assessment of the competence of teachers by the administration of the university.

To improve the quality of educational services for higher and postgraduate education that meet the needs of the labor market, the tasks of industrial and innovative development of the country and ensure a close relationship with production, part-time teachers with academic degrees and titles, as well as specialists from production are invited to the university. The recruitment and assessment of practicing teachers is carried out in accordance with the regulation "Rules for the competitive replacement of positions of the TS and scientific workers of the Karaganda State Industrial University" (http://kgiu.kz/qms/polozheniyaprovisions-erezheler/) and the compliance of the economic sector with educational programs.

All TS of educational programs meet the specific requirements of the EP. For example, senior teacher Druzhinin V.M. conducts such disciplines as "Information and Measuring Technology", "Electric Drive Control Systems", "Power Conversion Installations", "Heat power engineering", which fully corresponds to his academic degree of Master of Technical Sciences in the specialty "Heat power engineering".

The EP management is aware of the responsibility for its employees and provides them with favorable working conditions. The understanding of responsibility for employees is enshrined in the regulation of the QMS П4-21-2018, which defines the concept of responsibility for employees and sets out the functions of the EP management. (https://kgiu.kz/qms/polozheniyaprovisions-erezheler/).

At the university, within the framework of educational programs for TS and employees, favorable conditions for work are created.

Within the framework of educational programs, periodic inspection of equipment, monitoring of laboratories is carried out in order to create safe working conditions for teachers and employees.

A set of social support measures contributes to the creation of conditions for the personal development of teachers. The trade union committee of the university provides material assistance in accordance with the clauses of the Collective Agreement of KIU to employees for anniversaries, for treatment, surgery, sanatorium treatment, etc. For the TS and employees, a hostel is provided if there are free places in it.

In order to ensure high-quality conduct of classes at the University, a system of advanced training and professional development of the TS and personnel of the University functions. For the teaching staff, plans are being developed to improve their qualifications for each year. The professional development plan includes all types of internships, refresher courses, sabbaticals, master's, doctoral studies, etc. Upon completion of the advanced training in the DHR, documents confirming the training (certificates) are provided, and their report is heard at the department.

The TS of accredited EP improves their qualifications in universities of the RK, leading foreign universities and organizations. The management of KIU finances professional development of TS in whole or in part. The teachers of the department annually undergo various advanced training courses according to the plan approved by the leadership of the university.

Currently, the degree of satisfaction of the TS is determined by conducting a sociological survey (questioning on the KIU website) 2 times a year. (https://www.survio.com/survey/w/F5N3Y3H9K4Z9C3N3Y).

The university determines the contribution of the TS of the EP to the implementation of the development strategy of the university and other strategic documents within the framework of the current rating system, where it also establishes the personal contribution of the TS of the EP to the implementation of the indicative tasks of strategic documents.

A scientific and technical conference "Scientific creativity of young people - innovative development of Kazakhstan" is held annually at the university. The conference is attended by teaching staff, students, undergraduates, doctoral students of universities of the Republic of Kazakhstan and the CIS countries; online conferences are held with the TS of the Kremenchug National University named after Mikhail Ostrogradsky (Kremenchug, Ukraine). The International Scientific and Practical Conference "Scientific and Technical Progress in Metallurgy" and the Republican Conference "Modern Problems of Forming a Healthy Lifestyle among Youth" are held every two years.

EP teachers take an active part in international, republican and regional scientific and practical conferences, projects, seminars, internships, and also participate in RW in fundamental and applied research.

For the period 2015-2020, the TS of the department took part in research work (RW) in the following areas:

Research work on orders of enterprises;

Initiative themes.

The results of the research work of the EP are introduced into the educational process as part of the writing of graduate papers, the development of elective courses, teaching aids and instructions. They are carried out on the basis of the act of introducing RW into the educational process of KIU. For example, prof. Yavorskiy V.V. in 2017 introduced the results of 2 RW into the educational process.

The university provides opportunities for career growth and professional development of the TS of the EP. The systematic assessment of the competence of the TS by the administration of the university is carried out by conducting open training sessions, mutual visits to classes, as well as conducting a questionnaire "Teacher through the eyes of a student". The results of these events serve as the basis for the extension of labor contracts of TS, promotion, participation in the annual republican competition "The best teacher of the university."

For teaching, leaders and practitioners of the city's enterprises in the relevant industries are involved.

In the 2019-2020 academic year. according to EP 6B07106 Automation Systems Engineering (5B070200 Automation and control) as a part-time teacher taught: discipline

"Industrial controllers" employee of the automation section of JSC ArsellorMittall Temirtau Dolya A.V., discipline "Automation Systems Engineering" practices Silivonenko Yu.A.

The feasibility of attracting teachers of practitioners is determined by the needs of the EP and the needs of students in improving the understanding of production processes and in diploma design.

The EP management provides targeted actions for the development of young teachers. The university constantly works on training young specialists. Active work is underway both within KIU and with the departments of postgraduate education of other universities of the Republic of Kazakhstan at the invitation of graduates - specialists from higher educational institutions and masters of science.

There is a constant renewal of the TS with young cadres from among the masters of science, which makes it possible to stop the pace of aging of the TS of the EP. So, the composition of the accredited EP was replenished by masters Asabina N.N. and Tontaeva M.

All young teachers of accredited EPs annually undergo training in teaching skills, there are certificates. In 2019, teachers Unguryan R.V., Akulbekova B.T., Sergazykyzy A. successfully completed training at the courses of pedagogical skills on the basis of KIU.

The graduating department is constantly replenishing the staff of teachers with its own highly qualified personnel. For the target places in the magistracy, the teacher Ayavkhan K. successfully completed the training, for the target places in the doctoral program - the senior teacher Bayasilova Z.A. at the moment she defended her doctoral dissertation, 3 people are studying in doctoral studies.

At KIU, motivation is carried out for the professional and personal development of EP teachers, including the promotion of both the integration of scientific activity and education, and the use of innovative teaching methods.

The educational process at the accredited EP is carried out on the basis of innovative teaching technologies. The results of practical understanding of innovative forms of education are discussed at the meeting of the department, methodological seminars, scientific and practical conferences.

The effectiveness of the financial motivation of teachers and staff is determined by the quality of the TS and staff and is ensured by saving the university's own funds.

By the decision of the Academic Council, the costs of the TS when filing applications for an invention, the university fully covers the financial costs.

The regulation on the rector's grant provides for a discount on the education of children and family members of the university employees, and also supports the training in the magistracy of the university employee himself.

An important factor for the quality of education is the active use of the TS of the EP of information and communication technologies in the educational process. As part of the overall digitalization and improvement of teaching methods, the requirements for the IT competence of TS are increasing.

Thanks to the opening of the information and communication center «Certified Telecommunication Network Equipment. Information bank» (CTNEIB) in 2018, the library gained access to such international information resources as Thomson Reuters (USA), Scopus, which expanded the range of using electronic research resources for TS and students.

Also, the training program for the Cisco Networking Academy, opened in 2017, allows students to master all the necessary knowledge in the field of modern network technologies. The natural result of studying at the network academy was an increase in the level of computer literacy.

For example, in the context of the IaCT discipline, students of the EP 6B06101-Software Engineering (5B070400-Computer Engineering and Software), as additional training, took programming courses at the OpenU educational resource.

An important factor is the development of academic mobility within the EP, attracting the best foreign and domestic teachers.

Within the framework of the international activities of the university, the academic mobility program is successfully functioning. Rules and recommendations for organizing academic mobility of teachers and students are given in the Regulations on Academic Mobility (http://kgiu.kz/scintactivity/mezhdunarodnoe-sotrudnichestvo-i-akademicheskaya-mobilnost-international-cooperation-and-academic-mobility/akademicheskaya-mobilnost/).

The organization and implementation of international academic activities of the TS is aimed at improving the quality of educational training of TS and making a certain contribution to the positive image and rating of the university in Kazakhstan and abroad. Academic mobility of the TS is mainly provided through the exchange programs Erasmus + KA1 and memorandums with universities of Kazakhstan.

Karaganda Industrial University is actively working to expand international contacts. Stable ties have been established to conduct scientific and educational work with the leading universities of the CIS, a list of which is presented on the site. Including there are consortium agreements on mutually beneficial cooperation with universities that have engineering laboratories on their basis: (https://kgiu.kz/scintactivity/mezhdunarodnoe-sotrudnichestvo-i-akademicheskaya-mobilnost-international-cooperation-and-academic-mobility / parcontracts/).

The basis for the implementation of academic mobility of foreign teachers is interuniversity cooperation.

Within the framework of the EP, foreign teachers were invited to teach for two years.

Table 7.3 - List of foreign teachers involved in the educational process

№	FULL NAME	Position, academic degree	Courses taught	Arrival country	Place of main work	Terms of teaching
1	Marek milosz	PhD, professor	"Human-Computer Interaction", Preparation of Scientific Publications	Poland	Lublin University of Technology	19.11.2018-15.12.2018
2	Jordi Casademont	Ph.D., Professor	"Computer networks"	Spain	Universitat Politecnica de Catalunya Barcelona Tech	07.05.2018-05.11.2018
3	Riad Taha Mutleq Al-Kasasbeh	Ph.D., Professor	"Digital Electronics "	Jordan	Al-Balqa Applied University - BAU	03.09.2018-2 8.09.2018

During the reporting period, the TS of the EP published 36 articles in the journals Scopus and Web of Science, patented 15 works.

The TS of the department takes an active part in city events (Meetings with potential employers; Job fairs; Subbotniks; Seminars - forums organized by educational institutions and enterprises of the city; Cultural events dedicated to various significant dates), university events (problem-specific meetings of the rector and management, the dean of the faculty with the staff of the university.

Analytical part

According to the results of the analysis of the standard "Teaching staff", the EEC notes the existence of an objective personnel policy, staffing of the implemented educational programs with qualified specialists, the compliance of the personnel potential of the TS with the university

strategy and the specifics of the EP.

All procedures of the university's personnel policy are transparent and accessible, strictly documented and meet the requirements of the current legislation.

Experts state that the TS meets the qualification requirements for licensing educational activities. All teachers serving accredited EPs in major disciplines have advanced training and sufficient work experience. The quantitative and qualitative composition of the TS of the graduating departments for the reporting period is stable.

In the course of interviewing the teaching staff, it was found that the university provides opportunities for career growth and professional development of the TS of the EP.

The university has a system of staff motivation and encouragement, built on the principle of rating assessment of the achievements of teachers, which allows to stimulate research and other activities of the TS.

Teachers participating in the implementation of the accredited EP take an active part in various public, scientific and methodological and research, cultural and other events in the region and the Republic.

Members of the EEC note that the University cooperates with the leading universities of the CIS, and also actively works to establish relations with foreign scientists, inviting them to lecture on the disciplines accredited by the EP. However, the TS is not actively involved in the program "External and internal academic mobility".

During the visit, the EEC members visited the graduating departments, and also took part in interviewing the TS and students, studied the internal documentation of the graduating departments, which allowed the experts to determine the level of quality of the educational services provided for the accredited EP.

During a visit to the lesson of PhD, Kunaev V.A. in gr. CEaS-17k-1 and CEaS-17k-2 on the subject "Internet Technologies" (Lecture topic - Networking Internet) of the Department "Technology of artificial intelligence," the experts found **that the lecture is conducted in Russian, in groups ah with the state language of instruction**.

Over the past three years, the direction of EP 6B06101 Software Engineering (5B070400 Computer Engineering and Software), 6B07106 Engineering Automation Systems (5B071800 Automation and Control) and the TS **has received little attention own Development am and producing educational materials.**

In connection with the division of the Department of Heat power engineering, Automation and Computer Engineering at the Department of Heat power engineering, the degree of degree has decreased to 36%, which may negatively affect the quality of educational services in the core disciplines of the accredited EP.

Strengths / best practices for the accredited EP were not identified.

Recommendations for EP 6B06101 Software engineering (5B070400 Computer Engineering and Software), 6B07104 Heat power engineering of industrial enterprises and housing and communal services, 6B07111 Heat power engineering of industrial enterprises and housing and communal services - based on TaPE (5B071700 Heat power engineering), 6B07105 Energy supply of industrial facilities (5B071800 Power industry), 6B07106 Automation Systems Engineering (5B071800 Automation and control):

1. In accordance with the university development strategy for 2017-2021. for the EP management to include indicative indicators in the plans for the development of educational programs and in the work plans of the departments and to implement the item: “participation of TS in the program“ external and internal academic mobility ”.

Additional recommendations for EP 6B06101 Software engineering (5B070400 Computer Engineering and Software), 6B07106 Automation systems engineering (5B071800 Automation and control):

1. Conduct the discipline "Internet technologies" in Kazakh for students of gr. CEaS-17k-1 and CEaS-17k-2, who are studied in the state language.

2. The management of EP and teaching staff should pay more attention to their own developments and the release of educational and methodological literature.

Additional recommendations for EP 6B07104 Heat power engineering of industrial enterprises and housing and communal services, 6B07111 Heat power engineering of industrial enterprises and housing and communal services - on the basis of TaPE (5B071700 Heat power engineering), 6B07105 Energy supply of industrial facilities (5B071800 Heat power engineering),

1. In terms of the development of accredited EP, provide indicators for increasing the number of graduated TS in the profile of accredited EP.

EEC conclusions on the criteria:

***According to the "Teaching staff" standard, 12 criteria are disclosed, according to which the accredited EP** have: 0 - strong, 12 - satisfactory positions, 0 - implies improvement.*

6.8. Standard «Educational resources and student support systems»

✓*EP management must demonstrate the sufficiency of material and technical resources and infrastructure.*

✓*EP management must demonstrate the existence of procedures for supporting various groups of students, including information and counseling.*

✓ *EP management must demonstrate the compliance of information resources with the EP specifics, including compliance with:*

✓*technological support for students and TS 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 RW results, graduation theses, dissertations for plagiarism;*

✓*access to educational Internet resources;*

✓*functioning of WI-FI on the territory of the educational organization.*

✓*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.*

✓*university must ensure compliance with safety requirements in the learning process.*

✓ *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).*

Proof part

An important factor in ensuring the quality of education and a guarantee of sustainable development of the Karaganda Industrial University is the constant improvement of the educational, material, technical and social infrastructure that meets the needs of students and the quality requirements of the EP.

The EP management together with the university management on an ongoing basis create conditions to ensure the sufficiency of material resources and infrastructure.

The implementation of the accredited EP is provided with the necessary educational, material, technical and social infrastructure. The material and technical resources of the University correspond to the stated mission, are regularly updated through modernization and the acquisition of new ones. The objectives of the EP are achieved by the optimal use of the available material and technical, information and communication, human resources that meet the requirements of the market.

The needs for information and material and technical resources are determined taking into account the Standard Rules for the Activities of Educational Organizations Implementing Educational Programs of Higher and Postgraduate Education No. 595 dated October 30, 2018. All buildings of the university comply with the Sanitary and Epidemiological Requirements for educational facilities approved by the Order of the Minister of Health of the Republic of Kazakhstan of August 16, 2017 No. 611. Students and TS of the university are provided with hostels in accordance with the Regulation of the QMS "On the student hostel of the Karaganda

State Industrial University".

The university has sufficient material, technical, informational and library resources used to organize the process of teaching and educating students.

The university has 6 educational and laboratory buildings with a total area of 44.01 thousand square meters, where classrooms, specialized classrooms and laboratories, the university museum, the Center for Information Technologies and Telecommunications, 20 computer labs, including the CISCO center and information and communication center "SOTSBI". The sports complex of the university, with a total area of 2300 sq. m., includes 6 playrooms and 2 open areas.

The fleet of modern computers is 447 units. The computer park is being modernized on a regular basis. The annual cost of purchasing computers and other information training tools is growing.

The university has free Internet access for students, teachers and staff, Wi-Fi zones, the university website is available - ***http://kgiu.kz/***.

One of the main advantages of the university is the availability of a modern educational and scientific laboratory base, which includes the only experimental industrial sites in the Republic of Kazakhstan with semi-industrial units and installations that reproduce a closed cycle of metallurgical processes and metal forming processes.

The analysis of the sufficiency and modernity of the resources available to educational programs is carried out according to the following criteria:

1. The classroom fund of departments is more than 750 m^2, which fully meets the design capacity of the cluster of accredited EP.

2. Laboratories. Chairs IME the tons of good stuff no-technical base, providing laboratory practical study disciplines at accredited EP, as well as laboratory research stands as the leading manufacturers of electrical equipment, and manufactured forces academics and students.

3. Computer hardware and software. The departments have their own computer park for 54 cars, in addition, students and teachers of the department can use the computer classes of the University at any time. The modern computers available in the computer rooms are provided with Internet access and the university's local network. Computer classes are also available after school hours. The software includes 10 modern professional software packages and fully meets the objectives of the EP.

4. Access to international databases of research results. Thanks to the creation of the Center for Information Technologies and Telecommunications at the university, the library gained access to such international information resources as Thomson Reuters (USA), Scopus, which expands the range of use of electronic research resources. Students have access to these resources at any time, including after school hours.

Questions about the provision of educational, scientific and educational-methodical literature in the 2019-2020 academic year, including in the state language, as well as about improving the laboratory base of the university, were considered at a meeting of the Academic Council on October 25, 2019 (Minutes of the Academic Council No. 10/25/2019).

The university has mechanisms for monitoring the sufficiency and modernity of the resources used. For the implementation of EP on the territory of KIU, comfortable conditions have been created for learning, extracurricular activities and teaching activities. The corresponding development of the infrastructure used for the implementation of the EP is carried out based on the results of monitoring the satisfaction with the infrastructure by internal stakeholders. Planning the development of material resources for accredited EP begins with the collection of applications.

Consideration of applications is carried out at a meeting of the budget commission. The planning and economic department forms a public procurement plan and calculates financial resources for their purchase.

The development of information resources is also planned at KIU on an ongoing basis. The TS monitors the timely updating of the software in order to update the information

resources.

The university practices the publication of electronic textbooks, which are placed in the library and are freely available. To respect copyright, the authors are issued a certificate for this publication.

At the meetings of the department, the issue of the implementation of a comprehensive plan for the development of EP is raised. The fund of basic educational and scientific literature for each profile of training, taking into account the degree of obsolescence, is updated annually. Literature is collected by purchasing, viewing the "Price-lists" of publishing houses and book-selling organizations, by replenishing textbooks and teaching aids of teachers of KIU, published from the university.

In order to provide more complete access to information resources, students and TS have free access to computers outside of school hours. All computer labs connected to the Internet are available at any time convenient for students. Also in all buildings of the university there are Wi-Fi access points with free connection.

Questions about the provision of educational, scientific and educational-methodical literature, as well as about improving the laboratory base of the university are considered at a meeting of the Academic Council at the beginning of the academic year.

In 2017, the University opened the Cisco Networking Academy, which is a project implemented jointly by educational institutions and Cisco Systems Inc., a world leader in networking solutions. The course includes both practical topics that reveal methods of designing, installing and maintaining computer networks, and theoretical knowledge that allows students to configure networks, troubleshoot, and administer complex information infrastructures.

In 2018, an interactive computer class "Certified Telephone Network Equipment - Information Bank" (SOTSBI) was opened. Distance learning system " SOTSBI-Y" is an interactive training course that allows you to gain knowledge of a large audience of listeners. " SOTSBI-Y" can be used both by educational institutions of various levels (universities, colleges, training centers of companies, etc.), and by individual users who study on the job, as well as people with disabilities.

Access to training courses " SOTSBI-Y" located on the Developer's server is carried out via the Internet, for which the user is provided with an account. The " SOTSBI-Y" class is designed in accordance with modern trends in engineering and technical education and includes a set of interactive electronic courses with feedback.

The University is constantly striving to improve the level of use of information technology in the organization of the educational process. The educational process management system AIS "Platonus" is functioning. Each student is provided with access to information on the disciplines studied.

The university has a modern library and a reading room, in the fund of which there are more than 260 thousand copies of educational, educational - methodical, scientific literature in Kazakh, Russian and foreign languages, 156 titles of newspapers and magazines are subscribed annually. The university library is located in the main academic building of the university. In the periodicals hall, which is located inside the subscription, there are 19 computerized seats, with the ability to access the Internet and access the library's electronic resources. The reading room is designed for 42 reading places. The fund of the reading room is arranged in 2 tiers in a systematic manner, which ensures the completeness of the disclosure of funds and their accessibility to readers.

The KIU Scientific Library has 2 MFDs and 15 computers connected to the Internet; for the convenience of readers, there is Wi - Fi access on the subscription and in the reading room.

As of 01.01.2020, the fund of the Scientific Library of the University is 274 464 copies. storage units. Of these, 102,999 copies in the state language, 1163 copies in English. Including on electronic media - 55,975 copies.

A specialized library program IRBIS-64 is installed on the computers of the library, which is regularly updated. This program provides a search for the necessary literature and

provides access to electronic versions of electronic textbooks of educational and methodological materials.

The library in its work is closely related to the leading libraries in its field. These are the scientific libraries of KSTU, KSU, the regional scientific library named after Gogol.

The library organizes permanent book exhibitions: "Higher education in Kazakhstan", "To help the student", "New literature", "New literature in English", "Works of teachers of KIU" and many others.

Literature is completed by purchasing, viewing the "Price-lists" of publishing houses and book-selling organizations, by replenishing textbooks and teaching aids of teachers of KIU, published from the funds of the university. The National Library fund is partially replenished at the expense of the publishing center of the Association of Higher Education Institutions of the RK. In addition, our university in the 2017-18 academic year received 1485 copies free of charge (17 titles) books from the public fund under the program "100 best textbooks in the world in the Kazakh language" and in the 2018-29 academic year 1260 copies (30 titles).

A digitized library is developing, which includes a large number of electronic resources of electronic copies of statistical publications, scientific research, articles from scientific journals, materials on the study of foreign languages. In Figure 8.1, you can see the number of publications on electronic media in the context of OP:

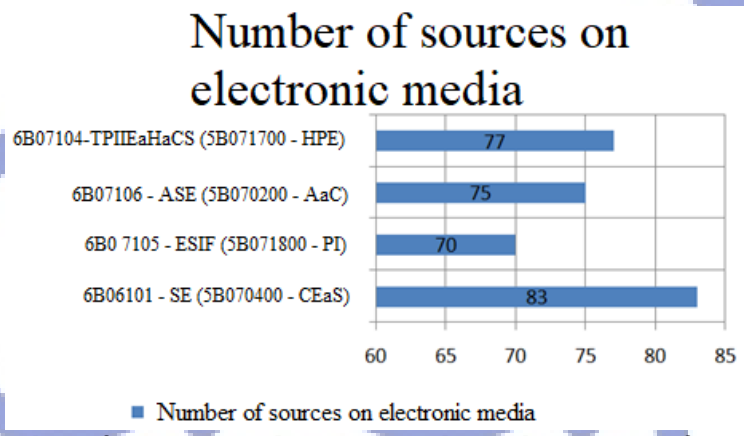

Figure 8.1. - The number of sources on electronic media in the context of EP as of 01.10.2019.

The provision of educational and scientific literature of the departments is 86,062 copies storage units. Of these, in the state language - 30,574 copies.

Examination of RW results, graduation works, dissertations for plagiarism is carried out using the Antiplagiat. VUZ system, created by the Russian company Antiplagiat JSC specifically for higher educational institutions. Based on the results of the examination, a document is issued, a copy of which is kept at the department.

Scientific Library KarIU has access to international information resources, like Scopus, Web of Science, which significantly expands the range of use of electronic resources.

All university buildings have Wi - Fi hotspots with free connection.

Internet access is provided by two points:

1) Fiber-optic line ID NET Megaline with a dedicated IP address at speeds: up to 26 Mbps incoming and 100 Mbps outgoing

2) Receiving and transmitting station of satellite communication PPENT (only for UNT point).

Internet access in hostel №1 is provided by Megaline ADSL2 telephone line. In the educational buildings "Main", "New" and "Building A" there are 8 points of wireless Internet distribution Wi-Fi. There is 1 Wi-Fi Internet distribution point in the hostel No. 1. Currently, there are 3 servers in the central server room, which are used to ensure the operation of AIS Dales and Platonus, control Internet traffic and replicate valuable data.

FESTO training stations are used for laboratory work, as well as SIEMENS and

MITSUBISHI controllers, which are one of the most used automation equipment in Kazakhstan today. The STEP 7 software package is used for programming the controllers, and WinCC for visualization, which are also used in real production.

University students undergo practical training on the basis of such companies as AMT JSC, Imstalkon-Temirtau LLP, YuzhnoKazEnergoremont LLP, etc., where they can apply in practice the knowledge and skills in relation to equipment and software, obtained during laboratory work.

All laboratories of the department are certified and provided with fire extinguishing means.

For EP "6B07105 Energy supply of industrial facilities", there are specific safety requirements for laboratory work, which are reflected in the Safety and Electrical Safety Instructions. This document includes safety requirements before starting work, safety requirements during work, safety requirements in emergencies or emergencies and the provision of first aid to an electric shock.

The modern computers available in the computer classes are provided with Internet access and the university's local network. The computer class is also available after hours. Each student is provided with a personal computer for work.

Training of students, bachelors and doctoral students in safety requirements is carried out in accordance with the normative document Instructions on safety and electrical safety when working with electrical equipment, Instructions on fire safety measures in KIU divisions, Safety instructions when working with computers. Safety requirements in the training process are carried out by conducting briefings before leaving for practice of students, as well as before conducting laboratory classes.

Each educational building of the university has a video surveillance system and an electronic access system with two types of access, using an electronic key and a fingerprint. The movement of students, TS and university staff through the turnstile is recorded in a separate database.

To improve and develop inclusive education, KIU has drawn up a plan for the development of the material and technical base for students with special educational needs for 2020, which provides for a number of measures to re-equip classrooms, sanitary rooms, a library, etc. In addition, advanced training courses for TS on inclusive education are planned. Also, during the development of the MEP, the possibility of its flexible "settings" for students with special educational needs is provided.

Analytical part

The available classroom fund (lecture halls, specialized laboratories, computer labs, laboratories, experimental industrial sites with semi-industrial units and installations) provides the need for students of accredited EP in classrooms.

The university buildings comply with 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.

As a result of the analysis of the activities of the accredited EP according to this standard, it can be concluded that the assessment of the completeness and availability of material, technical and information resources specified by the EP has been carried out. There is a dynamics of resources and learning environment, library provision of the educational process, the activities directed by the EP leadership to improve the resource provision of EP implementation are highlighted.

There is a fairly good level of information support for educational and scientific and educational activities with access to full-text electronic resources of educational and scientific value, which meets the needs of students and teaching staff. Theses and master's theses are checked for plagiarism.

As a result of an online inspection of the facilities of the material base, members of the

EEC note that to ensure the educational process of accredited educational programs, the university has all the necessary educational and material assets. The buildings and structures of the university comply with the current sanitary standards and fire safety requirements. However, there is a need for the staffing of specialized laboratories with modern equipment and information software, the same, and those used in the industries of EP - 6B07104 Heat power engineering and housing and communal services, 6B07111 Heat power engineering and housing and communal services - on the basis of TaPE (5B071700 Heat power engineering), 6B07105 Energy supply of industrial facilities (5B071800 Heat power engineering).

According to the results of the questioning of students, 83.1% are “completely” satisfied with the existing educational resources of the university; classrooms, classrooms for large groups - 86.5%; lounges for students - 62.9%; computer classes and Internet resources - 79.8% and 78.7% ; available scientific laboratories - 79.8%; hostel - 70.8%, the library is well equipped and has a fairly good collection of books - 76.4 %.

Strengths / best practices for the accredited EP were not identified.

Recommendations for EP 6 V07104 Heat power engineering of industrial enterprises and housing and communal services, 6B07111 Heat power engineering of industrial enterprises and housing and communal services - on the basis of TaPE (5B071700 Heat power engineering), 6B07105 Energy supply of industrial facilities (5B071800 Heat power engineering) :

1. The university management should develop a long-term plan for staffing specialized laboratories with modern equipment and information software, similar to those used in industries in the profile of accredited EP.

EEC conclusions on the criteria:

According to the standard "Educational resources and student support systems", 10 criteria are revealed, according to which the accredited EP have: 0 - strong, 10 - satisfactory positions, 0 - suggests improvement.

6.9. Standard «Public Informing»

- ✓ *published by the university within the EP must be accurate, objective, relevant 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 learning 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, information networks to inform the general public and stakeholders.*
- ✓ *Public awareness should include support and explanation of national development programs of the country and the system of higher and postgraduate education.*
- ✓ *university must publish audited financial statements on its own web resource, including in the context of EP.*
- ✓ *university must demonstrate the reflection on the web resource of information characterizing the university as a whole and in the context of educational programs.*
- ✓ *An important factor is the availability of adequate and objective information about the TS of the EP, in the context of personalities.*
- ✓ *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.*
- ✓ *university must 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 EP in various external assessment procedures.*

Proof part

The main priority principle when informing the public is that the information published by the university within the EP is accurate, objective, relevant. KIU carries out its activities on the basis of the principles of transparency, openness, involvement and awareness of all interested

parties in its activities, initiative, continuous development and adaptation to the changing conditions of the education system. D Procedure specific information resource - site KarIU http://kgiu.kz/, developed on three languages (English, Kazakh, Russian) containing the information content of all the structures and processes of the University. On the KIU website http://kgiu.kz/ in the section "Education - http://kgiu.kz/education/" information about the implemented OPs of the cluster is provided https://kgiu.kz/education/modulnie-obrazovatelnie-programmi/mop -bakalavriat-2019/.

The frequency of informing the public is determined by the Regulation on informing the public (http://kgiu.kz/qms/polozheniyaprovisions-erezheler/).

Information tools are: Republican journal "Bulletin of the Karaganda State Industrial University"; newspaper «KMIU studentterinin khabarshysy", KIU website http://kgiu.kz/; social networks “Instagram, Facebook, Odnoklassniki, VKontakte, Twitter”; printed materials (brochures, booklets, newsletters, etc.); reports; posters, stands; letters; thematic articles in the media; press releases in the media; advertising in the media; polls; days of "Open doors"; tours; seminars, conferences; exhibitions, fairs, expositions; interviews in the media, radio or television; presentations; personal contacts with stakeholders, etc.

In order to conduct an effective information policy through the media and social networks (http://ok.ru/profile/579438130734, https://www.facebook.com/ profile.php? Id = 100022651051239, https://vk.com/id378236673) there is a press service that on a daily basis provides information support for events held at KIU, and communicates with the republican, regional and city media.

Annually, the management assesses satisfaction with information about the activities of the university and the specifics and progress of EP implementation, which is reflected in the reports "Analysis of the quality management system by the management of KIU ". During the accredited period, more than 200 articles, interviews and reports were published and aired. For example, information about the activities of KIU was published in such articles as: "Robot - manipulator - from graduates of KIU " - newspaper "Educational country" №26 (135) "Right to education and work" - newspaper "Industrial Karaganda" dated 30.08. 2018, "A mechatronic hand has been given to help us" - the magazine "Mining and metallurgical industry" No. 7 (120), "Teachers with a capital letter" - the newspaper "Industrial Karaganda" dated 06.10.2018, "Stake on the young" - the newspaper "Industrial Karaganda" from 25.10.2018, " Құрыш қала – Елбасы тұғыры " - newspaper "Орталық Қазақстан" from 01.12.2018, "How the character was tempered" - newspaper "Industrial Karaganda" from 01.12.2018, "Shoulder to shoulder "- the newspaper" Kazakhstanskaya Pravda "from 03.12.2018., "Always be in the leaders" – newspaper "Industrial Karaganda"from 12.02.2019.

Informing the public also includes information on the implementation by the university of the provisions of the State program for the development of education and science of the Republic of Kazakhstan, taking into account the profile of KIU. The audited financial statements are published on the KIU website page in the plans and reports section https://drive.google.com/file/d/11BUcN9bm4llWuJFAwVoOLw1fxPwWRAn/view. KIU with the help of various means of informing the public shows in regional and city newspapers "Evening News", "Апталық" ("Mirror"), "Industrial Karaganda", "Kazakhstanskaya Pravda", "Егемен Қазақстан", "Орталық Қазақстан" article about the university from the list of specialties on which is held set at KarIU. Announcements and interviews with the university leadership are systematically broadcast on city and regional television to explain the rules for holding a grant competition, the peculiarities of the formation of the student contingent, etc. An important factor in informing the interested circle of persons is the availability of adequate and objective information about the TS of the EP, in the context of personalities https: // kgiu.kz/faculty/ftmia/chairs/structure/.

To communicate with the administration, administration, faculty of KIU, students, their parents, as well as employers and any other user can use the contact information provided on the site. The news feed of the KIU website is updated regularly, on average 2-5 news are posted per

day. The average number of views per month is 30,000 times, the number of visitors is 5,000 people. During the period of the reception of the company, the site traffic increases. Month search traffic distribution of search engines: Google - 45,8%, Yandex - 12, 25%, Search.Mail.ru - 1,4%, the rest - 1.2%.

The most important factor is to inform the public about cooperation and interaction with partners within the EP, including with scientific/consulting organizations, business partners, social partners and educational organizations.

The KIU scientific library has access to such international information resources as Scopus, Web of Science, which significantly expands the range of using electronic resources. The library in its work is closely connected with the scientific libraries of the Karaganda State Technical University, Karaganda State University, the regional scientific library named after Gogol. An important factor is the participation of KIU and ongoing educational programs in the external assessment procedures. In KarIU operates a certified quality management system https://kgiu.kz/qms/.

On the KIU website in the section "QMS - http://kgiu.kz/qms/ "Information is provided on the key requirements for QMS and its documented procedures to ensure stable quality in the provision of educational services. The QMS system is certified.

Analytical part

EEC notes that in the field of information dissemination policy, KIU demonstrates a policy of transparency, openness, involvement in informing the public of applicants, employers, participants in the educational process and all interested parties, constant development and adaptability to the changing realities of society. The management of the EP uses the mass media and social networks to disseminate information. The website publishes information about the activities of the university, financial statements. University accredited educational programs take part in national and international rankings.

Based on the analysis of the information presented on the website, the EEC notes that it is necessary to provide more complete and objective information about the TS that implements the accredited EP.

Strengths / best practices for the accredited EP were not identified.

Recommendations for EP 6B06101 Software engineering (5B070400 Computer Engineering and Software), 6B07104 Heat power engineering of industrial enterprises and housing and communal services, 6B07111 Heat power engineering of industrial enterprises and housing and communal services - based on TaPE (5B071700 Heat power engineering), 6B0710 5B071800 Power industry), 6B07106 Automation Systems Engineering (5B071800 Automation and control):

1. To the management of the accredited EP, in order to provide complete and objective information about the TS implementing the EP during the entire period of study, include in the description of the TS of the departments references to the serving departments for teaching general and basic disciplines.

EEC conclusions on the criteria:

According to the "Public information" standard, 13 criteria are disclosed, according to which the accredited EP have: 0 - strong, 13 - satisfactory positions, 0 - implies improvement.

6.10. Standard «Standards in the context of individual specialties»

NATURAL SCIENCES, TECHNICAL SCIENCES, AND TECHNOLOGIES

✓ *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 current 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,*

✓ *conducting seminars to solve practical problems relevant for enterprises in the field of specialization, etc.*

✓ *The TS 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.*

Proof part

The accredited EP cover the main topical issues and problems that are of a methodological and practical nature, they are linked to the practice of organizing activities in the field of energy supply and information technology, in the effective development and ensuring production efficiency and competitiveness. The departments, when implementing the EP on training, carry out their activities in accordance with the regulatory legal acts of the Ministry of Education and Science of the Republic of Kazakhstan.

The development plan and objectives of the EP are developed in accordance with the national development priorities defined in the strategy "Kazakhstan - 2050". The objectives of the EP meet the needs of the state, stakeholders and students in quality educational services. The circle of stakeholders includes all participants in the implementation of the EP, as well as employers - large companies and enterprises whose profile corresponds to the areas of training.

When drawing up the EP development plan, the opinions of stakeholders of those companies that, in modern market conditions, ensure the operation of the economy of the RK, for its effective functioning, were taken into account. In order to take into account the interests of employers in the development of EP, potential and current employers took an active part in the formation of CED.

Evaluation of the effectiveness of the specifics of the EP is implemented through the introduction of innovative teaching technologies into the educational process. The development of interactive teaching methods using multimedia equipment is relevant in the teaching and methodological activities of the TS on EP. Practicing presentations of training courses using interactive whiteboards, multimedia projectors, etc.

The forms of conducting lectures are being improved with the use of a complex of modern teaching aids, which makes it possible to increase the intensity of the presentation of the material, enhance the activity of students.

For the successful employment of EP graduates, the EP management provides conditions for the successful passage of industrial practices by students both in methodological support and in moral support. At the present time, monitoring of employment has shown that the demand in the labor market for specialists of this EP from year to year remains quite stable.

At the present stage of development of education in the Republic of Kazakhstan, the issues of teaching the discipline in three languages are relevant. The main goal of the educational program is to implement multilingual education aimed at training competitive specialists by introducing innovative teaching technologies in three languages into the educational process.

The principles of multilingual education are built in accordance with the basic principles of education and science and are aimed at achieving academic mobility of undergraduates and their successful adaptation in the international labor market

Analytical part

Based on the results of the analysis carried out according to the standard "Standards in the context of individual specialties", EEC members note that the organization of the educational process for accredited EP is carried out on the basis of a combination of education, science and practice.

Online visits to graduating departments, laboratories, special rooms confirm that the EP management provides for the possibility of training students using modern pedagogical and information technologies: interactive teaching methods, software products, multimedia presentation of lectures, consideration of situational tasks, non-standard (creative) problem solving, business games and etc.

The practical and scientific orientation takes place in the content of the planned disciplines, in the programs of practices. The information on practical training in production, on the involvement of practitioners in conducting classes was presented and confirmed.

Strengths / best practices for the accredited EP were not identified.

Recommendations th to accredited EP no.

EEC conclusions on the criteria:

According to the Standard "Natural and Technical Sciences" 13 criteria are disclosed, according to which the accredited EP have: 0 - strong, 5 - satisfactory positions, 0 - implies improvement.

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

Standard «Management of the educational program»
Not observed

Standard «Information Management and Reporting»
Not observed

Standard "Development and approval of educational programs"

For EP 6B06101 Software engineering (5B070400 Computer Engineering and Software), 6B07104 Heat power engineering of industrial enterprises and housing and communal services, 6B07111 Heat power of industrial enterprises and objects of housing and communal services - on the basis of TaPE (5B071700 Heat power engineering), 600V07105 Power industry), 6B07106 Automation Systems Engineering (5B071800 Automation and control):

1. The management of the accredited EP clearly defines and explains the qualifications of students obtained upon completion of the EP, which corresponds to a certain level of the NQF.

2. The management of the accredited EP clearly defines the influence of special disciplines and professional and pre-diploma practices on the formation of student learning outcomes.

Standard "Continuous monitoring and periodic evaluation of educational programs"
Not observed

Standard "Student-centered learning, teaching and assessment of progress"
Not observed

Standard "Students"
Not observed

Standard "Teaching staff"
Not observed

Standard "Educational resources and student support systems"
Not observed

Standard «Public Informing»
Not observed

Standards in the context of individual specialties
Not observed

(VIII) OVERVIEW OF QUALITY IMPROVEMENT RECOMMENDATIONS FOR EACH STANDARD

Standard " Management of the educational program":

Recommendations for EP: 6B06101 Software engineering (5B070400 Computer Engineering and Software); 6B07104 Thermal Heat power engineering of industrial enterprises and housing and communal services, 6B07111 Thermal Heat power engineering of industrial enterprises and housing and communal services on the basis of TaPE (5B071700 Heat power engineering); 6B07105 Energy supply of industrial facilities (5B071800 Heat power engineering); 6B07106 Automation Systems Engineering (5B071800 Automation and control)

1. The management of the university to develop a methodology for the analysis and implementation of innovative proposals and innovation management within the accredited EP.

2. The management of the university to organize the passage of refresher courses for all heads of EP in the field of education management in the current academic year.

Standard «Information Management and Reporting»:

Recommendations for EP " 6B06101- Software Engineering (5B070400-Computing Equipment and Software", "6B07104-Heat power engineering of Industrial Enterprises and Housing and Utilities Facilities", "6B07111-Heat power engineering of Industrial Enterprises and Housing and Utilities Facilities based on TaPE (5B071700- Heat power engineering), 6B07105-Energy supply of industrial facilities (5B071800-Heat power engineering), 6B07106- Automation Systems Engineering (5B071800-Automation and control):

1. In order to improve the EP, regularly analyze the effectiveness of changes with the involvement of students in the processes of collecting and analyzing information, as well as making decisions based on them.

2. The management of the accredited EP to ensure the student's documentary consent to personal data processing.

Standard "Development and approval of educational programs":

Recommendations for EP " 6B06101- Software Engineering (5B070400-Computing Equipment and Software", "6B07104-Heat power engineering of Industrial Enterprises and Housing and Utilities Facilities", "6B07111-Heat power engineering of Industrial Enterprises and Housing and Utilities Facilities based on TaPE (5B071700- Heat power engineering)", "6B07105-Energy supply of industrial facilities (5B071800-Heat power engineering)", 6B07106- Automation Systems Engineering (5B071800-Automation and control):

1. EP management to develop a plan and start organizing the preparation of students for professional certification.

2. By the beginning of the 2021/22 academic year, the EP management should give proposals for the opening of joint educational programs with foreign universities.

Standard "Continuous monitoring and periodic evaluation of educational programs":

Recommendations of the EEC for EP "6B06101- Software Engineering (5B070400-Computing Equipment and Software", "6B07104-Heat power engineering of Industrial Enterprises and Housing and Utilities Facilities", "6B07111-Heat power engineering of Industrial Enterprises and Housing and Utilities Facilities on the basis of TaPE - Heat power

engineering)", v6B07105-Energy supply of industrial facilities (5B071800-Power industry)", "6B07106- Automation Systems Engineering (5B071800-Automation and control) ":

1. The university management should develop a mechanism to improve the awareness of the public, employers, students and TS about all changes made to the accredited EP and ensure publication for all interested persons in external sources of information about all the changes and actions taken in relation to the EP.

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

Recommendations of the EEC for EP " 6B06101- Software Engineering (5B070400- Computing Equipment and Software", "6B07104-Heat power engineering of Industrial Enterprises and Housing and Utilities Facilities", "6B07111-Heat power engineering of Industrial Enterprises and Housing and Utilities Facilities on the basis of TaPE - Heat power engineering)", "6B07105-Energy supply of industrial facilities (5B071800-Power industry)", "6B07106- Automation Systems Engineering (5B071800-Automation and control)":

1. The EP management should annually monitor and analyze the effectiveness of the applied teaching methods of specialized disciplines in order to improve the quality of teaching. Proposals for the introduction of new teaching methods should be reflected in the minutes of the departments' meetings, as well as to ensure the dissemination of information about the positive results of their own research on the university's web resource.

Standart "Students":

Recommendations for EP 6B06101 Software engineering (5B070400 Computer Engineering and Software), 6B07104 Heat power engineering of industrial enterprises and housing and communal services, 6B07111 Heat power engineering of industrial enterprises and housing and communal services - based on TaPE (5B071700 Heat power engineering), 6B0710 5B071800 Power industry), 6B07106 Automation Systems Engineering (5B071800 Automation and control) :

1. Organize the activities of the Association with broad public awareness and involvement of graduates in its work.

Standard "Teaching staff":

Recommendations for the EP 6B06101 Software Engineering (5B070400 Computer Engineering and Software), 6B07104 Heat power engineering and housing and communal services, 6B07111 Heat power engineering and housing and communal services - based TaPE (5B071700 Thermal Engineering), 6B07105 Power supply industrial projects (5B071800 Power industry), 6B07106 Automation Systems Engineering (5B071800 Automation and control):

1. In accordance with the university development strategy for 2017-2021. for the EP management to include indicative indicators in the plans for the development of educational programs and in the work plans of the departments and to implement the item: "participation of the TS in the program" external and internal academic mobility".

Additional recommendations for EP 6B06101 Software engineering (5B070400 Computer Engineering and Software), 6B07106 Automation systems engineering (5B071800 Automation and control):

1. Students gr. CEaS-17k-1 and CEaS-17k-2, students in the state language, conduct the discipline "Internet technologies" in Kazakh.

2. The management of EP and TS to pay more attention to their own development and the release of educational and methodological literature.

Additional recommendations for EP 6B07104 Heat power engineering of industrial enterprises and housing and communal services, 6B07111 Heat power engineering of industrial enterprises and housing and communal services - on the basis of TaPE (5B071700 Heat power engineering), 6B07105 Energy supply of industrial facilities (5B071800 Heat power engineering),

1. In terms of the development of accredited EP, provide indicators for increasing the number of graduated TS in the profile of accredited EP.

Standard "Educational resources and student support systems":

Recommendations for EP 6 V07104 Heat power engineering of industrial enterprises and housing and communal services, 6B07111 Heat power engineering of industrial enterprises and housing and communal services - on the basis of TaPE (5B071700 Heat power engineering), 6B07105 Energy supply of industrial facilities (5B071800 Heat power engineering):

1. The university management should develop a long-term plan for staffing specialized laboratories with modern equipment and information software, similar to those used in industries in the profile of accredited EP.

Standard "Public Informing":

Recommendations for EP 6B06101 Software engineering (5B070400 Computer Engineering and Software), 6B07104 Heat power engineering of industrial enterprises and housing and communal services, 6B07111 Heat power engineering of industrial enterprises and housing and communal services - based on TaPE (5B071700 Heat power engineering), 6B0710 5B071800 Power industry), 6B07106 Automation Systems Engineering (5B071800 Automation and control:

1. To the management of the accredited EP, in order to provide complete and objective information about the TS implementing the EP during the entire period of study, include in the description of the TS of the departments references to the serving departments for teaching general and basic disciplines.

Appendix 1. Evaluation table "Conclusion of the external expert commission"

for EP 6B06101 Software engineering (5B070400 Computer Engineering and Software);
6B07106 Automation Systems Engineering (5B070200 Automation and control);
6B07104 Thermal Heat power engineering of industrial enterprises and housing and communal services (5B071700 Heat power engineering);
6B07111 Thermal Heat power engineering of industrial enterprises and housing and communal services (5B071700 Heat power engineering); (full 4 years)
6B07105 Power supply of industrial objects (5B071800 Heat power engineering)

No	No	Criteria for evaluation	Position of the educational organization			
			Strong	Satisfactory	Suggests improvement	Unsatisfactory
Standard "Management of the educational program"						
1	1.	The institution must have a published quality assurance policy.		+		
2	2.	The quality assurance policy should reflect the link between research, teaching and learning.		+		
3	3.	The university must 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.	Manual EP ensures the transparency of the development plan for the development of EP based on an analysis of its functioning, the real position of the university and the orientation of its activities to meet the needs of the state, employers, stakeholders and students.		+		
6	6.	The EP management demonstrates the functioning of 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 management must demonstrate the individuality and uniqueness of the EP development plan, its consistency with national development priorities and the development strategy of the		+		

		educational organization.				
9	9.	The university must demonstrate a clear definition of those responsible for business processes within the EP, an unambiguous distribution of staff duties, and the delineation of functions of collegial bodies.		+		
10	10.	EP management must provide evidence of the transparency of the educational program management system.		+		
11	11.	The EP management must demonstrate the successful functioning of the internal quality assurance system of the EP, including its design, management and monitoring, their improvement, decision-making based on facts.		+		
12	12.	The EP 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 must demonstrate innovation management within the EP, including the analysis and implementation of innovative proposals.			+	
15	15.	The EP management must demonstrate evidence of openness and accessibility for students, teaching staff, employers and other interested parties.		+		
16	16.	The EP management must be trained in educational management programs.		+		
17	17.	EP 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		**16**	**1**	
Standard "Information management and reporting"						
18	1.	The university must 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 must 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 must 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 must demonstrate the determination of the order and ensuring the protection of information, including the identification of persons responsible for the accuracy and timeliness of information analysis and data provision.		+		
23	6.	An important factor is the involvement of students, employees and TS in the processes of collecting and analyzing information, as well as making decisions based on them.		+		
24	7.	EP management must 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 must 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 its 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.	satisfaction of students with the implementation of 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 TS must document their consent to the processing of personal data.		+		
34	17.	The EP management should help to provide all the necessary information in the relevant fields of science.		+		
		Total by standard		**17**		
Standard "Development and approval of educational programs"						
35	1.	The university must define and document procedures for the development of EP and their approval at the institutional level.		+		
36	2.	The EP management must ensure that the developed EP meets the established goals, including the expected learning outcomes.		+		
37	3.	The EP management must ensure the availability of developed models of the EP graduate, describing the learning outcomes and personal qualities.		+		
38	4.	The EP management must demonstrate the conduct of external examinations of the EP.		+		

39	5.	The qualifications obtained upon completion of the EP must be clearly defined, explained and correspond to a certain level of the NQF.	+			
40	6.	EP management must determine the influence 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 must provide evidence of the participation of students, TS and other stakeholders in the development of the EP, ensuring their quality.		+		
43	9.	The complexity of the EP should be clearly defined in Kazakhstani loans and ECTS.		+		
44	10.	The EP management must ensure the content of academic disciplines and learning outcomes at the level of education (bachelor's, master's, doctoral studies).		+		
45	11.	The structure of the EP should provide for various types of activities corresponding to the learning outcomes.		+		
46	12.	An important factor is the presence of joint EP with foreign educational organizations.			+	
		Total by standard	**2**	**9**	**1**	
Standard " Continuous monitoring and periodic evaluation of educational programs "						
47	1.	The university must 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 specific 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 compliance with the objectives of the EP.		+		
54	8.	The university and EP management must 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 action in relation to the EP. All changes made to the EP must be published.			+	

56	10.	The EP management must 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		**9**	**1**	
Standard " Student-centered learning, teaching and assessment of progress "						
57	1.	EP management should ensure respect and attention to various groups of students and their needs, providing them with flexible learning paths.		+		
58	2.	EP management must 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.	EP management must demonstrate the existence of a feedback system on the use of various teaching methods and assessment of learning outcomes.		+		
61	5.	The EP leadership must demonstrate support for the autonomy of students while providing guidance and assistance from the teacher.		+		
62	6.	EP management must demonstrate the existence of a procedure for responding to student complaints.		+		
63	7.	The university must ensure consistency, transparency and objectivity of the mechanism for assessing learning outcomes for each EP, including appeal.		+		
64	8.	The university must 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 EP should be published in advance.		+		
65	9.	The university must 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 proficient in modern methods of assessing learning outcomes and regularly improve their skills in this area.		+		
		Total by standard		**10**		
Standard "Students"						
67	1.	The university must 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 management must demonstrate the implementation of special adaptation and support programs for newly admitted and foreign students.		+		
69	3.	The university must demonstrate the compliance of its		+		

		actions with the Lisbon Recognition Convention.				
70	4.	The university should cooperate with other educational organizations and national centers of the "European Network of National Information Centers for Academic Recognition and Mobility / National Academic Recognition Information Centers" ENIC / NARIC in order to ensure comparable recognition of qualifications.		+		
71	5.	EP management must demonstrate the existence and application of a mechanism for recognizing the results of academic mobility of students, as well as the results of additional, formal and 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 management should make the maximum amount of effort to provide students with places of practice, promote employment of graduates, and maintain communication with them.		+		
74	8.	The university must provide EP graduates with documents confirming the qualifications received, including the learning outcomes achieved, as well as the context, content and status of the education received and evidence of its completion.		+		
75	9.	An important factor is monitoring the employment and professional activity 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 / association.			+	
78	12.	An important factor is the availability of a support mechanism for gifted students.		+		
		Total by standard		**11**	**1**	
Standard "Teaching staff"						
79	1.	The university must have an objective and transparent personnel policy, including recruitment, professional growth and personnel development, ensuring the professional competence of the entire staff.		+		
80	2.	The university must demonstrate the compliance of the staff potential of the TS with the development strategy of the university and the specifics of the EP.		+		
81	3.	EP management must demonstrate awareness of responsibility for their employees and providing them with favorable working conditions.		+		
82	4.	The EP management must demonstrate the change in the role of the teacher in connection with the transition to student-centered learning.		+		
83	5.	The university must determine the contribution of the TS 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 TS of the EP.		+		
85	7.	The EP management should involve practitioners from relevant industries in teaching.		+		
86	8.	The EP management should provide targeted actions for the development of young teachers.		+		
87	9.	The university must 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 TS in the educational process (for example, on-line training, e-portfolio, massive open online course, 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 TS of the EP in the life of society (the role of the TS 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		**12**		
Standard "Educational resources and student support systems"						
91	1.	EP management must demonstrate the sufficiency of material and technical resources and infrastructure.		+		
92	2.	The EP management must demonstrate the existence of procedures for supporting various groups of students, including information and counseling.		+		
		The EP management must demonstrate the compliance of information resources with the EP specifics, including compliance with:				
93	3.	technological support for students and TS 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.	access to educational Internet resources;		+		
96	6.	examination of RW results, graduation works, dissertations for plagiarism;		+		

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 must 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		**10**		
Standard «Public Informing»						
		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, indicating the expected learning outcomes;		+		
102	2.	information on the possibility of qualifying at the end of the EP;		+		
103	3.	information about 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 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 national development programs for the country and the system of higher and postgraduate education.		+		
108	8.	The university must publish audited financial statements on its own web resource.		+		
109	9.	The university must demonstrate the reflection on the web resource of information characterizing the university as a whole and in the context of EP.		+		
110	10.	An important factor is the availability of adequate and objective information about the TS 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 the implemented EP in various external assessment procedures.		+		
		Total by standard		**13**		
Standards in the context of individual specialties						
NATURAL AND TECHNICAL SCIENCES						
		Educational programs in the areas of "Natural sciences ", "Technical sciences ", for example, such as ***"Software engineering", "Automation Systems Engineering", "Thermal Heat power engineering of industrial enterprises and housing and communal services", "Energy supply of industrial facilities"****, 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 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 in the major disciplines in particular, including h.: *- 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.*		+		
115	2.	The TS 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.	EP management must provide training for students in the use of modern information technologies.		+		
		Total by standard		**5**		
TOTAL			**2**	**112**	**4**	