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

5B071900 «Radio engineering, electronics and telecommunications»
5B042000 «Architecture»
5B042100 «Design»
5B074500 «Transport Construction»

KARAGANDA STATE TECHNICAL UNIVERSITY

Site Visit Dates: the period from 20 to 23 May 2019

INDEPENDENT AGENCY FOR ACCREDITATION AND RATING

External expert commission

Addressed to Accreditation Council IAAR

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Karagandy 2019

CONTENT

(I) LIST OF DESIGNATIONS AND ABBREVIATIONS

AC – Academic council
AD – Department of "Architecture and design"
AIS – Automated information system
AS – Administrative staff
BD – Basic disciplines
CTT – Credit technology training
CED – Catalog of elective disciplines
CYS – Council of young scientists
DE – Distance education
DLT – Distance learning technology
ED – Elective disciplines
EMCD – Educational-methodical complex of disciplines
EMW – Educational and methodological work
EP – Educational program
GS – General subjects
IC – Individual curriculum
ICT – Information and communication technology
IIT – Interactive information terminal
IWST – Independent work of the student with the teacher
KSTU – Karaganda State Technical University
LS – Logistical support
MD – Majors disciplines
MES of the RK – Ministry of Education and Science of the Republic of Kazakhstan
MTB – Material And technical base
MTIR – Material, technical and information resources
MTP – Model of training program
PRS – Point rating system
PhD – Doctor / Doctorate in Philosophy
QMS – Quality management system
RA – Research activities
RK – The Republic of Kazakhstan
SC – Sample curriculum
SCC – State certification commission
SCES – State compulsory education standard
SIW – Student's independent work
SRCDW – Science research and construction development work
SRW – Science research work
SRWS – Science research work of students
SSS – Student scientific society
Syll – Syllabus
TP – Training program
TS – Teaching stuff
WC – Work curriculum
YC – Youth committee

(II) INTRODUCTION

In accordance with Order No. 53-19-OD of 05/02/2019, the Independent Agency for Accreditation and Rating, from May 20 to 23, 2019, an external expert commission assessed the conformity of educational programs EP 5B071900 «Radio engineering, electronics and telecommunications», 5B042000 «Architecture», 5B042100 «Design», 5B074500 «Transport Construction» of Karagandy State Technical University for specialized accreditation standards IAAR (No. 10-17-OD of February 24, 2017, fifth edition).

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

The composition of the EEC is listed below:

1. Gita Revalde is the **chairman of commission**. She is PhD in Physics, corresponding member of the Latvian Academy of Sciences, member of the Latvian Science Association, president of the Almaty University of Energy and Communications (Almaty);

2. Mikhail Narkevich Yuryevich is the **foreign expert**. He is the candidate of Technical Sciences, Associate Professor of Magnitogorsk State Technical University (MSTU), expert of the Federal Accreditation Agency (Magnitogorsk, RF);

3. Bekzhan Torobekov Torobekovich is the **foreign expert**. He is the candidate of Technical Sciences, Professor, Vice-Rector of development and the state language of Kyrgyz State Technical University (Kyrgyzstan, Bishkek);

4. Gulnar Ibraishina Kenzhegazievna is the **expert**. She is the candidate of philosophy, Associate Professor of International Educational Corporation (KazGASA) (Almaty);

5. Elmira Kalshabekova Nurlybaevna is the **expert**. She is the candidate of technical sciences, Associate Professor of South Kazakhstan State University (Shymkent);

6. Askar Kasimov Bagdatovich is the **expert**. He is PhD of Shakarim State University (Semey);

7. Zhubanyshbay Abdimuratov Suinullaevich is the **expert**. He is the candidate of technical sciences, associate professor of Almaty University of Energy and Communications (Almaty);

8. Vadim Markovsky Pavlovich is the **expert**. He is the candidate of technical sciences, Associate Professor of Pavlodar State University (Pavlodar);

9. Berdibek Bulashev Kabkenovich is the **expert**. He is the candidate of agricultural sciences, associate professor of Kazakh Agro-Technical University (Astana);

10. Lyudmila Polyakova Vladimirovna is the **expert**. She is the deputy, chairman of UMCU, Kazakhstan Engineering and Technology University (Almaty);

11. Aliya Aldungarova Kairatovna is the **expert**. She is the PhD, associate professor of Pavlodar State University (Pavlodar);

12. Sergey Kutlin Yuryevich is **the employer**. He is the director of the training center “Logic-Soft” (Karaganda);

13. Naylya Kairbekova Kamalovna is **the employer**. She is the director of OIPiUL of the Association of Developers of the Karaganda Region (Karaganda);

14. Murotkhon Pozilbekov Mukhtorugli is **the student**. He is the member of the Alliance of Students of Kazakhstan, 1st year student of the EP “5B071800-Electric Power Engineering”, Karaganda State Industrial University (Temirtau);

15. Aizhan Omirzakova Amangeldyevna is **the student**. She is the member of the Alliance of Students of Kazakhstan, 2nd year student of EP “5B071600-Instrument Making”, Karaganda State University (Karaganda city);

16. Ayman Tlegenova Askhatkyzy is **the student**. She is the member of the Students' Alliance of Kazakhstan, 1st year student of the EP “5B071900 - Radio Engineering, Electronics and Telecommunications”, Karaganda State University (Karaganda city);

17. Alikhan Asanov Altinbekuly is **the student**. He is the leader of the Alliance of Students of Kazakhstan in the Karaganda region (Karaganda);

18. Timur Yerbolatovich Kanapyanov is **the observer from the Agency**. He is PhD, head of International Projects and Public Relations of the IAAR (Nur-Sultan).

(III) REPRESENTATION OF EDUCATION ORGANIZATION

The Republican State Enterprise Karaganda State Technical University (KSTU) is a subject of higher professional education of the Republic of Kazakhstan and acts on the basis of the Charter registered in the Karaganda Regional Department of Justice on April 14, 2004 No. 3-8 / 139, certificate of state re-registration of legal entity No. 8488-1930-GP 02.24.2000

RSTE "Karaganda State Technical University" was transformed into the Republican State Enterprise on the right of economic management "Karaganda State Technical University" in 2012. The Charter of the university was approved by order of the Chairman of the State Property and Privatization Committee of the Ministry of Finance of the Republic of Kazakhstan No. 922 of 09/17/2012.

KSTU is one of the largest higher education institutions in Kazakhstan. It provides training of highly qualified specialists for industrial enterprises of Kazakhstan, the implementation of scientific research and training on their basis of highly qualified personnel. Personnel training in KSTU is carried out in accordance with the State license for educational activities in the field of higher and postgraduate education No. 12014940 of 10.22.2012, appendices to the license of the order of the chairman of the Committee for control in the field of education and science of the Ministry of Education and Science of the Republic of Kazakhstan No. 547 of 05/31/2016. There are 82 specialties, including 40 undergraduate specialties, 27 master specialties, 8 doctoral majors, 7 military specialties, and appendices to the license dated 04/02/2019. in 12 areas of undergraduate, 9 areas of magistracy and 3 areas of doctoral studies.

The university passed institutional accreditation in 2014. KSTU also passed specialized accreditation of 27 educational programs at IQAA and international specialized accreditation of 15 educational programs at ASIIN in 2014-2015. 10 educational programs of KSTU passed international specialized accreditation at ACQUIN in 2016,

KSTU passed international reaccreditation in the IAAR for a period of 7 years in 2018. In 2018, KSTU took 3rd place in the national rating of the best technical universities in Kazakhstan, conducted by IQAA.

According to the results of the national rating conducted by the Independent Agency for Accreditation and Rating (IAAR) in 2015, 36 educational programs of university take prizes out of 68 participating; in 2016 - 37 of the 38; in 2017 - 41 of 50; in 2018 - 35 of 50; in 2019 - 41 of 50, respectively.

In international ratings in 2018, the university take the following positions: QS World University Rankings 751+ place; QS University Rankings EECA - 171 place (Top - 300); UNIRANK World University Rankings 2765 – place; UNIRANK Country University Rankings 2- place; RANKPRO Worldwide Proffessional University Rankings 577- place; RANKPRO Country University Rankings 2- place; UI Green Metric World University Rankings 482 – place; UI Green Metric Country University Rankings 5- place; WEBOMETRICS World University Rankings 5574 – place; WEBOMETRICS Country University Rankings 6- place; ARES World Universities-European Standard ARES - BBB+.

The total area of buildings owned by the University is 91,268.6 sq.m. The structure of the university includes 8 faculties (architectural and construction; mining; engineering, transport and road; engineering economics and management; innovative technologies; energy, automation and telecommunications; extramural and distance learning), 30 departments, 8 boards, center "Trinity of Languages", which is named Shakarim

Kudaiberdiev, center for career guidance, center for working professions, center for Engineering Education, the educational center “Serpyn - 2050”, IT competence center, career growth center, Upgrade center, International center for materials science, science Research Institute "Kazakhstan Multidisciplinary Institute for Reconstruction and Development", Kazakhstan Institute of Welding, College.

To receive working professions at the first stage of student training at KSTU there are 6 Centers: mechanical engineering, mining, construction, welding, energy and telecommunications.

In order to improve the organizational structure, centrally managing the implementation and promotion of innovative projects on the market, a university innovative scientific and technical complex has been created at KSTU, including:

- 6 research institutes;
- 4 scientific and educational complexes (Industry 4.0, Digital Engineering, Nanotechnology in Metallurgy and Bioengineering);
- 16 innovation centers;
- testing laboratory of engineering profile "Integrated development of mineral resources."

The university has a catering complex, including a «Polytechnic» cafe with an area of 2345.9 square meters, 9 buffets, 3 student dormitories, a «Polytechnic» sports and recreation camp and the «Zhastar Alemi» Youth Palace.

Training sessions are taught by 67 (of which 60 are full-time) doctors of science, including 46 with the academic title of professor, 236 candidates of science (of which 218 are full-time), including 109 with the academic title of associate professor - 109 pers., 26 PhD doctors, 278 masters.

The contingent at the university is 11,402 students, including 1394 undergraduates and 128 doctoral students.

The university, as part of its professional activities, uses a number of licensed software products that provide rational support for the educational, scientific, organizational and control functions.

The educational process uses 72 interactive kits, 3186 modern computers with internet access. The library is located in 3 educational buildings. The area of the library is 2311.06 sq.m., number of seats in reading rooms is 290. In open access on an area of 72.1 sq.m. presented 2140 copies of literature. The general fund of the library is 1 898 611 storage units, it contains all the materials necessary for training: educational, technical, reference, non-fiction, various periodicals. The current fund is 1 185 771 copies, including 337045 copies in the state language.

In recent years, a positive trend in the growth of total research funding has been achieved.

In 2018, 98 scientific and technical projects were completed for the amount of 980.1 million tenge. Of these, 237 million tenge were fulfilled under the state budget, 743 million tenge were fulfilled under economic contracts, which exceeded this figure for 2017 by 90.9 million tenge. The main customers of contractual work are ArcelorMittal Temirtau JSC, Kazakhmys Corporation LLP, SSGPO JSC, Bogatyr Komir LLP, Zhairemsky GOK JSC, Shubarkol Komir JSC, etc.

In 2018, the university passed a recertification audit for compliance with the requirements of the ISO 9001: 2015 standard.

The educational program 5B071900 - “Radio engineering, electronics and telecommunications” is supervised by the department “Technologies and communication systems”.

The educational programs 5B042000 - “Architecture”, 5B042100 - “Design”, 5B074500 - “Transport construction” are supervised by the department “Architecture and Design”.

For the reporting years 2015/16, 2016/17, 2017/18, 112/114/114 students, respectively, study at the Radio Engineering, Electronics and Telecommunications EP. The number at the EP "Architecture" is 197/218/211; at the EP "Design" is 43/40/47; at the EP "Transport construction" is 157/159/196.

Implementation of accredited educational programs (EP) is carried out on the basis of state license No. 12014940 of 10.22.2012 and annexes to the license OP 5B071900 - “Radio engineering, electronics and telecommunications”, 5B042000 - “Architecture”, 5B042100 - “Design”, 5B074500 - “Transport construction »No. 033 dated 04/12/2019 in accordance with the regulatory legal acts of the Republic of Kazakhstan.

(IV) DESCRIPTION OF THE PREVIOUS ACCREDITATION PROCEDURE

The educational programs 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" are accredited by the IAAR for the first time.

In accordance with the order of the Independent Agency for Accreditation and Rating No. 26-14-OD of 10.10.2014, from October 14 to 17, 2014, an external expert commission at KSTU assessed the compliance of educational program 5B071900 - "Radio Engineering, Electronics and Telecommunications" with standards for specialized accreditation IAAR (dated April 26, 2012 No. 08-OD, second edition).

The report of the previous external expert commission (EEC) contains an assessment of the educational programs presented by the organization of education to the criteria of IAAR, recommendations of the EEC on further improvement of educational programs and profile parameters of educational programs of KSTU.

The composition of the previous EEC in KSTU is presented below:

1. The chairman of the commission is Shunkeev Kuanyshbek Shunkeevich. He is Doctor of Physical and Mathematical Sciences, Professor, First Vice-Rector of Aktobe State Regional University;
2. Svetlana Kolesova Borisovna is the foreign expert. She is Ph.D., Deputy Director for Academic Affairs of the Oil and Gas Institute (Izhevsk, Udmurt Republic);
3. Kapar Aryngazin Shakimovich is the expert. He is Ph.D., professor, head of the department "Professional training and environmental protection" of Pavlodar State University;
4. Akylbek Zhunusov Asyrarkulovich is the expert. He is Ph.D., professor, head of the department, geological survey, search and exploration of mineral deposits of the Kazakh National Technical University (Almaty);
5. Haini-Kamal Kasymkanova Mikhailovna is the expert. She is Doctor of Technical Sciences, Associate Professor, Head of the Department of Cartography and Geoinformatics of Al-Farabi Kazakh National University;
6. Mikhail Smirnov Borisovich is the expert. He is Ph.D., professor, head of the methodological department of the Shakarim State University of Semey;
7. Amangeldy Kanaev Tokeshovich is the expert. He is Doctor of Technical Sciences, professor of the Kazakh Agrotechnical University (Astana);
8. Zhanar Sagalieva Kaukerbekovna is the expert. She is Ph.D., Senior Lecturer of the Department of Professional Education of Kazakh Agro Technical University;
9. Pulat Sagitov Ismailovich is the expert. He is Doctor of Technical Sciences, Professor, Head of the Department of Electric Drive and Automation of Industrial Installations, Almaty University of Energy and Communications;
10. Alexander Baklanov Evgenievich is the expert. He is Ph.D., Head of the Department of Instrument Engineering and Automation of Technological Processes of East Kazakhstan State Technical University (Ust-Kamenogorsk);
11. Serikkazy Akhmetov Intybekovich is the employer. He is the director of the branch of the state-owned enterprise "Kazgeodegia Ortalykmarkshaderiya" (Karaganda);
12. Sulushash Tusupbekova Eleusizovna is the 3rd year student of the specialty "Finance" of Karaganda State University;
13. The observer from the Agency is Aiman Nurakhmetova Bekbolatovna. She is the head of the information and analytical project of the Agency.

RECOMMENDATIONS FOR UNIVERSITY WITHIN THE PREVIOUS ACCREDITATION PROCEDURE

In 2014, the EEC for specialized accreditation of the educational program 5B071900 - "Radio engineering, electronics and telecommunications" recommended:

According to the standard "Management of the educational program"

- to bring the number of graduates per head into line with the requirements of the Ministry of Education and Science of the Republic of Kazakhstan; - intensify work to increase the level of organization of the main activities of the department (educational process, educational work);

- to strengthen the work in the direction of continuity of the content of EP at various levels (there are no master's and doctoral programs)

- to bring in accordance with the requirements of the Ministry of Education and Science of the Republic of Kazakhstan the number of graduates per head, use the opportunities to attract specialists from the enterprise.

According to the standard "Specificity of the educational program"

- to organize work on the implementation of joint educational programs with domestic and foreign universities;

- to intensify the work of attracting doctors of sciences in the analyzed specialty;

- to increase the level of stimulation of students to participate in various olympiads;

- to insufficiently high level of general education of applicants entering a commercial form of study.

According to the standard "Teaching staff and the effectiveness of teaching"

- to increase the number of employees entering postgraduate studies of Russian universities in this specialty;

- to search for opportunities to attract sponsors to finance the participation of the faculty in international seminars, conferences, continuing education courses, etc .;

- to find an opportunity to reduce the workload of teachers in the educational process involved in science research and development

According to the standard "Learners"

- to intensify joint research with leading foreign scientists and teachers in the implementation of the EP;

- to prepare a strategy to reduce competition in the educational services market from universities with related specialties.

According to the standard "Resources available to educational programs"

- The continuous introduction of new equipment and technology at the department is recommended in connection with the rapidly developing scientific and technological progress.

November 29, 2014 by the decision of the Accreditation Council of the IAAR educational program 5B071900 - "Radio engineering, electronics and telecommunications implemented by KSTU was accredited for 5 years.

Post-monitoring control to assess the implementation of the recommendations of the EEC IAAR, formed according to the results of specialized accreditation of the educational program 5B071900 - “Radio engineering, electronics and telecommunications” by the IAAR expert group was held in KSTU on May 26-27, 2016.

Post-accreditation monitoring of KSTU activities showed that the recommendations of EECs are being implemented. The measures and actions taken have contributed to improving the quality of the educational process and the implementation of the educational programs of the university, positive trends in attracting students to research, creating conditions for expanding the geography of partner universities and developing conditions that contribute to the formation of the student’s personality.

At the same time, members of the EEC who conducted re-accreditation from May 20 to May 23, 2019 established that the following work was carried out according to the recommendations of the previous EEC:

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

- no more than 5 graduates are assigned to one full-time teacher;
- trained personnel for the development of EP at various levels;
- as a graduate managers involved experts from enterprises.

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

- organized work with domestic and foreign universities on the implementation of joint educational programs;
- scientists are invited to give lectures in the framework of international cooperation;
- students are invited for a paid internship with high rates according to the results of the olympiads;
- increased average passing score in the commercial group.

3. According to the recommendations of the standard "The teaching staff and teaching effectiveness":

- increased the number of employees entering graduate school of Russian universities;
- a fund has been created from extrabudgetary funds for sponsorship to finance the participation of faculty staff in continuing education courses, etc .;
- reduced classroom hours the teachers involved in the research and science research with studients.

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

- manuals, textbooks and monographs in collaboration with foreign scientists of the Russian Federation are written;

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

- modernized laboratory and technical base.

(V) DESCRIPTION OF EEC VISIT

The work of the EEC was carried out on the basis of the approved Program of the visit of the expert commission on specialized accreditation of educational programs at KSTU in the period from May 20 to 23, 2019.

In order to coordinate the work of the EEC on May 19, 2019, an assembly meeting was held, during which the powers were distributed among the members of the commission, the schedule of the visit was clarified, agreement was reached on the choice of examination methods.

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, meetings were held with the rector, vice-rectors of the university in areas of activity, heads of structural divisions, deans of faculties, heads of departments, teachers, students, graduates, employers. In total, 120 representatives took part in the meetings (table 1).

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

Category of participants	Quantity
Rector	1
Vice-rectors and chief of staff of the rector	6
Heads of structural divisions	36

Deans of faculties	2
Department Heads	6
Teachers	25
Students	26
Alumnus	9
Employers	9
Total	**120**

During the tour, members of the EEC acquainted with the state of material and technical base, visited the Faculty of Architecture and Construction, Energy Department, the Department of Architecture and Design, Automation and Telecommunications Department, Department of Communications Systems Technologies, educational laboratories - 410, 420, 422, 415 (building 4), educational laboratories - 410, 420, 422 (building 4), 403, 117, 237, 114, 166, 168, 170, 174 ; training studios of drawing and painting (117aud, 150 aud); an exhibition of creative works of students of the department in the exhibition hall.

At the meeting of the Higher Attestation Commission of the IAAR with the target groups of KSTU, the mechanisms for implementing the policy of the university were refined and the specifics presented in the self-assessment report of the university were specified.

For the accreditation period, classes at the university were no longer scheduled. EEC members attended exams:

- according to the educational program 5B071900 - "Radio engineering, electronics and telecommunications":

- exam in the discipline "Labor protection and the basics of life safety", group RET-17-1 (9 people), teacher is Z. Amanzholov ;

- exam in the discipline "Mathematics 2", a group of RET-18-1 (8 people), teacher is S. Kazhekenova.

- according to the educational program 5B042000 - "Architecture" at the time of attending exams, members of the EEC were not in accordance with the exam schedule.

- according to the educational program EP 5B042100 - "Design": Creative exam (clause) in the discipline "Modern engineering technologies and equipment in the design of the environment." Group Diz-16-2 (5 people), teacher is S. Lebedev. The examination task was discussed and approved at a meeting of the Department of A&D, protocol No. 15 of April 10, 2019. The composition of the commission for the examination was approved. There are criteria for evaluating exam papers and a decoder of the discipline.

- according to the educational program 5B074500 - "Transport construction": Exam in the discipline "Calculation of engineering structures." Group TC-16-2 (14 people), teacher is E. Orazaly. The examination task is discussed and approved at a meeting of the Department of A&D prot. No. 15 dated April 10, 2019. The composition of the examination commission is approved. There are criteria for evaluating the examination papers.

During operation EEC members were visited the following bases of practice:

- according to EP 5B071900 - "Radio engineering, electronics and telecommunications": MTU Quartz LLP, AV LLP, UD Arcelor Mittal Temirtau JSC; according to EP 5B042000 - "Architecture": "Institute Karaganda Promstroyproekt" LLP; according to EP 5B042100 - "Design" of ZigZag Group LLP; according to EP 5B074500 - "Transport construction" of the State Institution "KaragandyZholLaboratory", Sine-Midas Stroy LLP.

All conditions were created for the work of the EEC, access to all necessary information resources was organized. On the part of the KSTU staff, the presence of all the persons indicated in the visit program was fully ensured, the established time schedule did not break.

In accordance with the accreditation procedure, was conducted survey of 104 teachers, 127 students, including junior and senior students. In order to confirm the information presented in the Self-Assessment Report by external experts, the university's

working documentation was requested and analyzed. In particular, the work plans of departments and faculties, the development plans of academic programs, WPs, IWPs, catalogs of elective disciplines, etc. Along with this, experts studied the Internet positioning of the university through the official website of the university www.kstu.kz. As part of the planned program of recommendations for improving the accredited educational programs KSTU developed EEC according to the results of examination, it was presented at the meeting with the leadership of 05.23.2019.

(VI) COMPLIANCE WITH SPECIALIZED ACCREDITATION STANDARDS

6.1. Standard "Management of the educational program"

- *The university must have a published quality assurance policy.*
- *Quality assurance policies should reflect the link between research, teaching and learning.*
- *The university should demonstrate the development of a culture of quality assurance, including in the context of the EP.*
- *A commitment to quality assurance should apply to any activity carried out by contractors and partners (outsourcing), including the implementation of joint / double degree education and academic mobility.*
- *The EP management ensures transparency in the development of the EP development plan based on an analysis of its functioning, the actual positioning of the university and its focus on meeting the needs of the state, employers, interested persons and students.*
- *EP management demonstrates the functioning of mechanisms*
- *The formation and regular review of the development plan of the EP and monitoring its implementation, assessing the achievement of learning objectives, meeting the needs of students, employers and society, making decisions aimed at continuous improvement of the EP.*
- *EP management should involve representatives of stakeholder groups, including employers, students and faculty members, 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 should demonstrate a clear definition of those responsible for business processes within the framework of the EP, an unambiguous distribution of the duties of the staff, and the delimitation of the functions of collegial bodies.*
- *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 must manage risk.*
- *EP management should ensure the participation of representatives of interested parties (employers, teaching staff and students) in the collegial bodies of the educational program management, as well as their representativeness in making decisions on educational program management.*
- *EP management must demonstrate innovation management in the framework of EP, including analysis and implementation of innovative proposals.*
- *EP management must demonstrate evidence of openness and accessibility for students, faculty, employers and other interested parties.*
- *EP management must be trained in education management programs.*
- *EP management should strive to ensure that progress made since the last external quality assurance procedure was taken into account in preparation for the next procedure.*

Evidence part

The university has defined and documented procedures for assessing the quality of educational programs. The formation and management of an accredited educational program is carried out on the basis of science-based approaches to planning, methodological support, and training technologies. The implementation of the EP complies with the legislation of the Republic of Kazakhstan in the field of education, including the State Social Protection Standards of the Republic of Kazakhstan. EP is implemented in accordance with the mission, vision and Strategic Plan for the University. A quality

assurance policy reflects the link between research, teaching and learning. The mechanisms for the formation, review, monitoring and implementation of the development plan of the EP are identified; transparency and awareness of the processes of formation of public relations with the involvement of employers; Measurement of the degree of satisfaction of the needs of faculty, staff and students. Faculty teaching staff are systematically trained in education management programs.

The activity of KSTU is regulated by the Charter of the university, approved by order No. 922 by the Chairman of the State Property and Privatization Committee of the Ministry of Finance of the Republic of Kazakhstan dated September 17, 2012, the Quality Policy of KSTU (order No. 106 of 02.14.13), and the Strategic Development Plan of the Karaganda State Technical University for 2014-2023 (protocol of the meeting of CSS No. 1 dated 09.09.2016) and a series of documents that determine the academic policy of the university.

There are no development plans for the educational program in the following specialties: 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction".

The mission of the university is the formation in Central Kazakhstan of a technical university of innovative and entrepreneurial type, providing comprehensive training for competitive specialists with higher and postgraduate education, meeting the modern requirements of the socio-economic environment, based on the integration of education, science, innovation, production and business.

The Commission notes that the Strategic Development Plan defines a long-term vision, which indicates that the educational activities of the university are aimed at realizing the goals and objectives of the national education system based on spiritual and moral values and determine the following strategic directions of the University:

1. Higher and postgraduate education.
2. The development of science.
3. Increasing the contribution of science to the diversification of the economy and sustainable development of the country.

For each strategic direction, goals and target indicators are defined:

1. Providing industries with competitive personnel with higher and postgraduate education:

- the proportion of university graduates who studied under the state order, employed in the first year after graduation;
- the implementation of the Roadmap for cooperation with AEO “Nazarbayev University”;
- place in the QS-WUR ranking.

2. Increasing the contribution of science to the diversification of the economy and sustainable development of the country:

-the share of commercialized projects in the total number of applied research;
- the increase in national patents from the total number of national patents in 2014.

3. Creating conditions for the development of youth and its involvement in the socio-economic development of the country:

- Level of satisfaction of the population aged 14-29 years with the implementation of state youth policy.

KSTU regularly monitors the satisfaction of employers university graduates. To take into account the opinions of employers about the professional suitability of KSTU graduates the regulation was developed.

The leadership of KSTU is actively implementing the design technology of training at the university, is considering the issue at an expanded meeting of the Academic Council with the participation of teaching stuff. The mission, strategic goals and objectives of the university correspond to the state policy in the field of education are consistent with

national priorities and development programs in the field of education and science of the Republic of Kazakhstan.

Prospective and strategic development issues EP solved taking into account the views of students, teachers, university workers and employers. Field meetings on working with a corporate university are held monthly (minutes).

During the reporting period, the Department of A&D worked closely with employers of the city of Karaganda in the framework of the innovative educational consortium - Corporate University. In the specialties 5B042000 "Architecture" and 5B042100 "Design" includes 3 branches: LLP Institute Karaganda Promstroyproekt, LLP Institute Grazhdanproekt, LLP 3-Line. In the specialty “Transport construction” it includes 4 branches: GU KaragandaZholLaboratoriya, Aksu-T LLP, Stroytekhnologiya LLP, KaragandaTekhnoService LLP.

According to EP 5B071900 - “Radio engineering, electronics and telecommunications”, the employers are Transtelecom JSC, Kazcentrelectroprovod LLP, SAPA Projekt LLP, Constructor 2014 LLP, Novator 2014 LLP.

Evaluation of the effectiveness of the mission, goals and objectives of the university, as well as the implementation of accredited educational programs, is carried out on the basis of monitoring the main performance indicators and the timing of the planned activities, the results of which are discussed at meetings of departments, the Academic Council and the administration. Decisions made at meetings of the above collegial bodies are brought to the attention of interested parties, questions on the implementation of decisions are regularly heard.

KSTU regularly reviews the strategic objectives of the university, taking into account changes in external factors, new key areas of public policy. The website of the university presents the Strategic Development Plan of KSTU for 2014-2023. September 5, 2016

The members of the EEC were convinced that the university has developed a policy in the field of quality assurance, aimed at constantly improving the educational process, research activities, and the implementation of innovative projects. This policy is based on the mission, vision and values of the university.

The university conducts an internal audit through monitoring the implementation of work plans of structural units, sociological surveys, monitoring studies of the quality of students' knowledge.

Risk management programs and development plans for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" are not presented.

The system of monitoring and external assessment of the quality of bachelor's training in 5B074500 "Transport construction", consisting of 4 levels, needs to be adjusted:

- start with determining the quality of student training and conducting an external assessment of educational achievements, and only then determine the effectiveness of the organization, planning and management of educational activities in general
- develop a detailed plan for the development of the EP based on forecasting its demand in the near and long term.

The University provides enough information to stakeholders and transparency of the content of the main strategic documents, conducts public discussions with representatives of all interested parties, and discussions at collegial agencies.

Accredited EPs are designed in accordance with SCES specialties, are consistent with the mission of the university and the relevant requests of employers. The planning of the educational process is represented by the structure of interrelated documents (standard curricula, CED, basic working curricula, individual curricula of students, working curricula of specialties) and a complex of various types of educational documentation. For the implementation of the EP, catalogs of elective disciplines are developed, which describe the disciplines of the optional component with an indication of the summary, pre- and post

requisites.

Analytical part

The strategic plan for the development of KSTU for 2018-2021 dated 05.09.2016 complies with the current legislation of the Republic of Kazakhstan in the field of education and science, strategic and program documents adopted at the national level. Experts note that teachers, staff and students are aware of the content of the University's Strategic Development Plan and are aware of their contribution to the implementation of the Strategy.

There is a Strategic Development Plan for the Department of Architecture and Design for the period 2018-2023, approved on September 3, 2018. However, there are no development plans for educational programs, which does not allow for the simultaneous development of various educational programs in the context of the strategic development plan of the university.

The university does not implement joint / double degree education.

Based on interviews with target groups, it can be concluded that the development of a development plan for accredited EPs is transparent.

The uniqueness, peculiarity, advantages of accredited EPs in comparison with other programs implemented in the region and the republic are not defined. The university did not demonstrate the individuality and uniqueness of accredited EPs, but confirmed their consistency with the university's strategy and national development priorities.

The EEC notes the need for concretization of strategic planning indicators in the context of directions and time intervals.

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

The formation and management of an accredited educational program is carried out on the basis of science-based approaches to planning, methodological support, and training technologies. The implementation of the EP complies with the legislation of the Republic of Kazakhstan in the field of education, including the State Compulsory Education Standard of the Republic of Kazakhstan. EP is implemented in accordance with the mission, vision and Strategic Plan for the University. A quality assurance policy reflects the link between research, teaching and learning. The mechanisms for the formation, review, monitoring and implementation of the development plan of the EP are identified; transparency and awareness of the processes of formation of the OP of employers; Measurement of the degree of satisfaction of the needs of faculty, staff and students.

The leaders of the university and the EP recognize that the level of certified QMS is not sufficient; this is identified as an important risk factor in the framework of the EP. The university has not developed corrective and preventive measures to manage this risk.

Within the framework of accredited EPs, a mechanism (or procedure) for the selection of stakeholders to participate in the formation of an educational program development plan is defined.

Analysis of the documentation of the department and the university, interviews with employers and graduates demonstrated:

- the lack of a long-term development plan for accredited EPs (there are plans for the development of departments or a development plan for EPs in the whole university.

According to EP 5B071900 - "Radio engineering, electronics and telecommunications" there are the following comments:

- the content of syllabuses does not meet the design requirements (there are no criteria for assessing students' knowledge in the final control).

According to EP 5B042000 - "Architecture" and EP 5B042100 - "Design" there are the following comments:

- Implementation of the EP to attract famous artists and designers carried out spontaneously.

According to EP 5B074500 - "Transport construction" there are the following comments:

- a risk management program should be developed during the implementation of the EP with the appointment of those responsible. The developed risk management program should clearly define the list of possible threats in implementing the EP (possible problems with the enrollment of students, changing labor market requirements, etc.) and provide for procedures that impede the onset of threats and manage them;

- a system of monitoring and external evaluation of the quality of bachelor training, consisting of 4 levels, should begin with determining the quality of student preparation and conducting an external assessment of academic achievement, since without this it is impossible to determine the effectiveness of the organization, planning and management of educational activities, as well as work efficiency faculty members;

- develop a detailed plan for the development of EP based on forecasting its relevance in the near and distant future.

The results of the survey of teaching staff during the visit of the EEC NAAR showed that the involvement of teaching staff in the process of making managerial and strategic decisions is very good and good - 31.74% and 55.8%, respectively, answered "Relatively bad" - 9.6%

On the basis of meetings, conversations and interviews with vice-rectors for areas of activity, deans and heads of departments, heads and employees of structural divisions, faculty, students, graduates and employers, EEC IAAR notes the distribution of duties of personnel and the delimitation of the functions of collegial bodies involved in implementation of EP.

According to the results of interviews, familiarization with various documentation, material and technical base and information and methodological resources of the university and departments, questionnaires of students and faculty, EEC IAAR notes the following:

Strengths / Best Practice for EP 5B071900 - "Radio Engineering, Electronics and Telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport Construction":

- On a regular basis, the participation of employers, teaching staff, students and other stakeholders as part of the collegial management bodies of the EP is ensured.

EEC recommendations

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction":

- develop development plans for accredited EPs with concretization of strategic planning indicators in the context of directions and time intervals and conduct an analysis of the conformity of the EP Development Plan with the current KSTU development strategy, based on forecasting its relevance in the near and distant future;

- determine the uniqueness and advantages of accredited EPs in comparison with other EPs implemented in the region and in the Republic;

- continue the introduction of the process of teaching academic disciplines in English in these specialties in order to ensure that educational programs comply with the leading trends in national education policy (multilingual education);

- to identify and analyze the resources (human, material, financial, organizational, etc.) necessary for the implementation of the EP. Use the results of the analysis of resources when updating the development plan of the EP;

- develop a risk management program with the appointment of those responsible, determine the list of possible threats during the implementation of the EP, provide procedures that prevent the onset of threats and manage them;

- continue training programs for the management of educational programs, including the heads of departments and managers of educational programs in educational management;

- develop a plan to attract well-known scientists, public and political figures, practitioners to the implementation of the EP.

Additional recommendation for EP 5B071900 - "Radio engineering, electronics and telecommunications":

- demonstrate changes and recommendations since the last external review in the preparation of documents.

The conclusions of the EEC on the criteria:

According to the standard "Management of the educational program", accredited educational programs 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" have 1 strong position, 11 satisfactory and 5, suggesting improvement

6.2. Standard "Information Management and Reporting"

- *The university should ensure the functioning of a 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 framework of the EP, there should be a system of regular reporting, reflecting all levels of the structure, including an assessment of the effectiveness and efficiency of the departments and departments, scientific research.*
- *The university should establish the frequency, forms and methods of evaluating the management of EP, the activities of collegial bodies and structural units, senior management, and the implementation of scientific projects.*
- *The university must demonstrate the definition of the order and ensuring the protection of information, including the identification of responsible persons for the reliability and timeliness of the analysis of information and the provision of data.*
- *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 mechanism for communication with students, employees and other interested parties, including the existence of conflict resolution mechanisms.*
- *The university should provide a measure of the degree of satisfaction of the needs of faculty, staff and students in the framework of the EP and demonstrate evidence of elimination of discovered deficiencies.*
- *The university should evaluate the effectiveness and efficiency of activities, including in the context of EP.*

Information collected and analyzed by the university in the framework of the EP should take into account:

- key performance indicators;

- the dynamics of the contingent of students in the context of forms and types;

- level of academic achievement, student achievement and expulsion;

- students' satisfaction with the implementation of the academic program and the quality of education at the university;

- The availability of educational resources and support systems for students;

- Employment and career growth of graduates.

- *Students, employees and faculty must document their consent to the processing of personal data.*
- *EP management should facilitate the provision of all necessary information in relevant fields of science.*

Evidentiary part

The system for collecting, analyzing and managing information is based on the use of information and communication technologies and software. This is a corporate computer

network, own domain name kstu.kz, corporate educational process management system "Univer 2.0", automated integrated library information system "Irbis", programs "1C Personnel" and "1C Accounting". All systems are licensed, security measures taken.

There is a Rector's Blog on the website of KSTU (https://blog.kstu.kz/). The management of the university is feedbacking with students, their parents, employees and faculty of the university, employers, and members of the public.

The process of involving students, workers and teaching staff, employers in the processes of collecting and analyzing information, as well as making decisions based on them (questioning on current issues and data monitoring) is reflected. The regulatory documents of the university are freely available and personified access to information on the management, planning and implementation of EP is carried out.

The properties and characteristics of the information collected and processed are determined by the university's mission and are aimed at finding the most effective and efficient methods and ways to improve the quality of educational and related services, as well as improve the social conditions of workers and students. The university has responsible persons responsible for the accuracy of the information, timely informing the structural divisions of the university and faculty.

One of the tools for analyzing the activities of KSTU divisions, evaluating their effectiveness are annual sociological surveys of students, teachers and university staff.

In all departments of the university, paperwork is conducted in accordance with the approved nomenclature of cases, the safety and archiving of documents is ensured, work is underway to switch to electronic document management. Structural departments, halls of electronic resources of the university are connected to the Internet. The university provides free access for teachers and students to the Internet and Wi-Fi throughout the university.

To assess the organizational structure and management system of the University and implement corrective actions, reports of the heads of structural divisions, questionnaires, audits, and polls are used. Assessment is carried out in all areas of educational, teaching, informational, scientific, educational activities and material and technical support of the educational process. The university carries out systematic work on the collection and analysis of statistical data on the contingent of students and graduates, information on the level of satisfaction by employers with the quality of development of educational programs.

The manual provides communication and exchange of information at the university by: distribution of organizational and administrative documentation, decisions of the Academic Council, administration and other types of documentation, including receptions on personal and official matters; business correspondence (memos and memos, explanatory notes, statements); visual information materials, scientific and methodological publications and articles in the central and local press; posting information on information stands and the university website. Students, employees and interested parties may personally contact the heads of departments, vice-rectors, and rector in a specially allotted time. Suggestions and recommendations can be made during meetings of collegial bodies, which include students and teachers.

The results of a questionnaire conducted by EEC IAAR of students and faculty on this issue indicate that:

- students showed high satisfaction with the usefulness of the website of educational organizations in general and faculties in particular: "Fully satisfied" - 74.8%, "Partially satisfied" - 19.7%, "Not satisfied" - 0.8%.

- The teaching staff is satisfied with the level of feedback with the management: "Very good" - 34.6%, "Good" - 55.8%, "Relatively bad" - 7.7%.

- The teachers praised the level of involvement of teaching staff in the process of making managerial and strategic decisions: "Very Good" - 31.7%, "Good" - 55.8%, "Relatively Bad" - 9.6%.

Analytical part

The system of collecting, analyzing and managing information at KSTU is based on the use of information and communication technologies and software. To manage information, the university's educational portal is used, where the university's regulatory documents are located and personified access to information is provided on the management, planning and implementation of educational programs. The process of involving students, workers and teaching staff in the processes of collecting and analyzing information, as well as making decisions based on them, has been established.

Questioning of teaching staff and employees is carried out annually and includes a study of the level of satisfaction of teaching staff and employees with working conditions, prospects for professional development and administrative management of the university.

Questioning of students about satisfaction with the conditions of study is carried out annually in order to study the opinions of students regarding the quality of educational and administrative services of the university.

Data on career growth of graduates of EP 5B074500 - "Transport construction" are not presented.

There is not enough information on accredited EPs to attract applicants. EEC IAAR having meetings, conversations and interviews with vice-rectors, deans, department heads, heads and employees of structural units, students, faculty, representatives of employers' organizations and graduates, as well as conducting a survey of students and faculty, a detailed familiarization of experts with information and methodological resources, as well as the necessary documents, notes the following:

Strengths / Best Practices

- Strengths and best practices for this Standard have not been identified.

EEC recommendations

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction":

- regularly (at least 2 times a year) collect and analyze data on the career growth of graduates of accredited EPs, use the data to determine the competitive advantages of educational programs;
- determine the criteria and systematize the assessment of the effectiveness and efficiency of the EP;
- supplement the university's website with the necessary information about the educational program (employment of graduates, creative activities of students and faculty, scientific and creative projects, etc.).

The conclusions of the EEC on the criteria:

According to the standard "Information Management and Reporting", accredited educational programs 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" have 0 strong positions, 17 satisfactory and 0, suggesting improvement.

6.3 Standard "Development and approval of the educational program"

- *The university should determine and document the procedures for the development of EPs and their*

approval at the institutional level.

- *EP management must ensure that developed EPs are consistent with established goals, including intended learning outcomes.*
- *EP management should ensure that there are developed models of the EP graduate describing the learning outcomes and personal qualities.*
- *The management of the EP must demonstrate the conduct of external reviews of the EP.*
- *The qualification obtained upon completion of the EP must be clearly defined, explained and consistent with a certain level of NSC.*
- *EP management should 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, faculty and other stakeholders in the development of EP, ensuring their quality.*
- *The complexity of the EP should be clearly defined in Kazakhstan loans and ECTS.*
- *EP management must ensure the content of academic disciplines and learning outcomes for the level of training (bachelor's, master's, doctoral).*
- *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 EPs with foreign educational organizations.*

Evidentiary part

The university has defined and documented a procedure for assessing the quality of educational programs; established periodicity, forms, methods for assessing and monitoring the quality of EP; developed documents that make up the structure of the educational program. The conditions for conducting external examinations of the EP and the conditions for organizing and conducting professional practice are demonstrated.

The development of modular educational programs (MOS) is carried out on the basis of the State Compulsory Standard for Higher and Postgraduate Education (as amended by the Decree of the Government of the Republic of Kazakhstan dated 05/13/2016 No. 292), professional standards, standard curricula for specialties, requirements of the National and European qualifications frameworks and interested parties, KSTU provisions on modular training technology.

The main objectives of the educational program and the goals of the Modular educational program are determined. The EP development plan is presented as a whole for the university. Graduate Models for accredited EPs have been developed.

The university has documented the procedures for the development and evaluation of the quality of the educational program, established the frequency, forms and methods of assessing the quality of the educational program; the procedure for periodically reviewing and monitoring the quality of educational programs has been established; requirements for educational programs are determined depending on their specifics.

The development and management of educational programs 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" are carried out on the basis of the State Education Development Program of the Republic of Kazakhstan for 2011-2020, SCES of RK (Key Points), sample curriculum of specialties 2016. Dublin descriptors, Rules for the organization of the educational process on credit technology training.

Educational programs in accredited specialties operate in accordance with the mission, goal, objectives, long-term vision of the university, the goals and objectives of the national system of education and development of the region.

The university has developed a procedure for approving, periodically reviewing (revising) and analyzing EPs and the documents governing this process. To provide the EP with relevant content, a systematic review and addition of the list of elective practice-oriented disciplines is carried out.

The need to change the content of the EP is determined by the department on the basis of analysis: changes SCES EP; employer survey results; student survey results in the

field of satisfaction with acquired competencies; learning outcomes based on the results of the SAC; demanded competencies in the labor market.

The involvement of employers in the formation, improvement, and examination of EPs and the indicated plans is implemented within the framework of the innovative educational consortium - Corporate University, created on the basis of industrial enterprises in the city of Karaganda.

The EEC received evidence that employers are involved in the formation of EPs: proposals are being made to introduce new practice-oriented elective disciplines; the content of training courses is supplemented; on partial transfer of classes to production; subjects of course and diploma projects commissioned by employers; the participation of employer practitioners in the teaching of individual courses and disciplines.

Table 2. About making proposals in the content of elective disciplines by employers

№	Ed.year	Name of elective discipline	Cr.	Organisation	Protocol, Date
5B071900 - "Radio engineering, electronics and telecommunications»					
1	2015-2016	Fundamentals of electronic and measuring equipment; (kaz., rus.)	2	Leading engineer of the development and operation of telecommunication networks of Kazakhtelecom JSC A. Asylbekova.; JSC Kazakhtelecom	№ 1 from 25.08.2015
2	2015-2016	Fundamentals of radio engineering and telecommunications; (kaz., rus.)	2		
3	2015-2016	Antenna feeder devices; (kaz., rus.)	2		
4	2015-2016	Metrology, standardization and certification; (kaz., rus.)	1		
1	2016-2017	Theory of teletraffic; (kaz., rus.)	3	Leading engineer of the development and operation of telecommunication networks of Kazakhtelecom JSC A. Asylbekova; JSC Kazakhtelecom	№ 1 from 29.08.2016
2	2016-2017	Fundamentals of building and modeling communication systems; (kaz., rus.)	2		
3	2016-2017	Electronics, circuitry of analog devices and radio components; (kaz., rus.)	2		
4	2016-2017	Radio automation, radio relay and satellite stations; (kaz., rus.)	3		
5	2016-2017	Electronic technology, microelectronics and microwave technology; (kaz., rus.)	3		
6	2016-2017	Guiding telecommunication systems; (kaz., rus.)	3		
7	2016-2017	Corporate communication networks; (kaz., rus.)	4		
1	2017-2018	Tracking systems of radio automation; (kaz., rus.)	3	Leading engineer of the development and operation of telecommunication networks of Kazakhtelecom JSC A. Asylbekova; JSC Kazakhtelecom	№ 1 from 29.08.2017
2	2017-2018	Departmental communication networks (kaz., rus.)	4		
3	2017-2018	Communication lines; (kaz., rus.)	3		
4	2017-2018	Digital communications technology; (kaz., rus.)	4		
5	2017-2018	Wireless technology; (kaz., rus.)	4		
6	2017-2018	Special issues of telecommunication systems; (kaz., rus.)	4		
5B042000 - “Architecture”					
1	2015-2016	“Energy-efficient design and construction of civil buildings”	3	3-line LLP	№ 20 from 16.03.2015.
2	2015-2016	“3D modeling”	3		

1	2016-2017	"Basics of computer graphics"	3	3-line LLP	№ 20 from 16.03.2016
2	2016-2017	“Fundamentals of prototyping and plastic modeling of the form”	3		
3	2016-2017	“Engineering improvement and modern transport system”	3		
4	2016-2017	"Design of urban development objects"	4		
5	2016-2017	“Innovative technologies in architecture”	2		
6	2016-2017	"Designing a comprehensive school"	4		
7	2016-2017	"Modern architecture and the basics of conceptual design"	3		
1	2017-2018	"Basics of computer graphics"	3	3-line LLP	№ 20 from 07.03.2017
2	2017-2018	Architectural typology of buildings and structures	2		
3	2017-2018	Architectural typology of buildings and structures	3		
4	2017-2018	landscape architecture	3		
5	2017-2018	Residential complex with maintenance	4		
6	2017-2018	Design of buildings for commercial services and public utilities	3		
7	2017-2018	Undergraduate project	2		
8	2017-2018	Working design	4		
5B042100 - “Design”					
1	2015-2016	“Energy-efficient design and construction of civil buildings”	3	3-line LLP	№ 19 from 16.03.2015
2	2015-2016	“3D modeling”	3		
1	2016-2017	“Basics of architectural design”	3	3-line LLP	№ 19 from 16.03.2016
2	2016-2017	“Figurative associative composition”	3		
3	2016-2017	"Garden art"	2		
4	2016-2017	“Renovation of an object with a change in functional purpose”	4		
5	2016-2017	"Styles and directions in interior design"	3		
6	2016-2017	"Architectural and design solution of the urban environment"	4		
7	2016-2017	"Design project of a recreational landscape complex"	4		
1	2017-2018	Basics of architectural design	3	3-line LLP	№ 19 from 07.03.2017 .
2	2017-2018	Figuratively associative composition of design objects	3		
3	2017-2018	Combinatorial constructions in design	3		
4	2017-2018	Production of design objects	2		
5	2017-2018	Modern technologies in design	3		
6	2017-2018	Innovations in the design of environmental objects	3		
7	2017-2018	Design project of exhibition and pavilion structures	3		
8	2017-2018	Undergraduate project	2		
5B074500 "Transport construction"					
1	2015-2016	Road design	3	LLP "KaragandaTechno Service"	№25 from 06.03.2016.
2	2015-2016	Highways	3		
3	2016-2017	Quality control of road construction	3	LLP	№ 20 from

		works		"KaragandaTechno Service"	14.03.2017

In implementing the EP, the university cooperates and exchanges experience with other educational organizations.

Total number of existing agreements within the framework of academic mobility:

- according to the educational program 5B071900 - "Radio engineering, electronics and telecommunications" is 5 (including international - 3, in the Republic of Kazakhstan - 2).
- according to the educational program 5B042000 "Architecture" is 18 (including international - 10, according to the Republic of Kazakhstan - 8);
- in the educational program 5B042100 “Design” is 12 (including international - 6, in the Republic of Kazakhstan - 6);
- according to the educational program 5B074500 "Transport construction" is 9 (including international - 5, in the Republic of Kazakhstan - 4).

Contracts for conducting practices with subsequent employment were concluded:

- according to EP 5B071900 - “Radio engineering, electronics and telecommunications” is 5 enterprises (Transtelecom JSC, Kazcentrelectroprovod LLP, SAPA Projekt LLP, Constructor-2014 LLP Novator-2014 LLP);
- according to EP 5B042000 - “Architecture” and 5B042100 - “Design”, direction “Art” is 5 enterprises (IE Sekerbekov, LLP Arkhproekt-KZ, LLP ArhKon, IE Ryngach (AB Qvadrat), IE G -Group "(5B042000 Architecture); ZigZag Group LLP, AsiaDesignCentre IE, NewRekStar LLP (5B042100 - Design), at the stage of concluding a contract the IE Time Design.
- according to EP 5B074500 - “Transport construction”, agreements on practice bases were concluded with the possibility of subsequent employment with SeiSer LLP; "KaragandyZholLaboratory" LLP; Aksu-T LLP; IslamKZ LLP, "KaragandaTechnoService" LLP; "KaragandaStroyTechnology" LLP.

Practice planning is carried out on the basis of: working curricula of the specialty; guidelines; practice programs; taking into account the results of previous practices. For each course, practice programs have been developed that present goals and objectives, the contents of each type of practice, general provisions for planning practice, requirements for trainees, the duties of the head of practice from the department, the responsibilities of the head of student practice from the enterprise, the types and duration of the practice, the requirements for the report.

A survey of teaching staff conducted during the visit of the EEC IAAR showed that:

- the teaching staff believes that the leadership of the university pays attention to the content of the study program on "very good" - 48.1%, "good" - 49%;
- the results of the questionnaire of students on the issue of supporting educational materials in the learning process: “fully satisfied” - 84.3%, “partially satisfied” –14.2%, “partially unsatisfied” - 1.6%, “not satisfied” 0%.

Analytical part

The university has defined and documented a procedure for assessing the quality of educational programs; set frequency, forms, methods for assessing and monitoring the quality of EP; developed documents that make up the structure of the educational program. The conditions for conducting external examinations of the EP and the conditions for organizing and conducting professional practice are demonstrated.

The practical training of students with the development of dual training in communication education has been strengthened - there are 2 branches of the department of MTU Quartz LLP, and AVT LLP. At the branches of the departments, training sessions are held in majors, field meetings of the State Administrative Commission, professional practice and laboratory studies are conducted using modern CISCO equipment.

The necessary infrastructure has been created, including laboratory facilities, test benches, computer hardware, software and hardware, including CISCO systems, microprocessor-controlled semiconductor drives, and licensed application software.

The main objectives of the educational program and the goals of the Modular educational program are determined. The EP development plan is presented as a whole for the university. Graduate Models for accredited EPs have been developed.

Given the current professional requirements, the needs of the labor market and the proposals of employers, the content of EPs is systematically reviewed and improved. Employers are always involved in the development of EMCD.

The university does not have joint educational programs with foreign educational organizations for accredited EPs.

According to EP 5B071900 - "Radio engineering, electronics and telecommunications" there are the following comments:

- expand the catalog of elective disciplines (CED), in accordance with the trajectory of fiber-optic transmission systems;
- In CED there are not formed competences of students.

According to EP 5B042000 - "Architecture" and EP 5B042100 - "Design", the following remarks are available:

- the subjects of diploma projects at the EP "Architecture" and the EP "Design" differ little from each other.

For example, according to orders 206 and 207 of the SA dated 03/27/19, the subject of the graduation project A.Zh. "Restaurant complex in the city of Karaganda" (spelling mistake, it is necessary "in the city of Karaganda"), and at the Design Institute the theme of the graduation project M. M. Raisova "Country house in the city of Karaganda" (the same mistake). That is, the topic does not reflect the purpose of the project, the direction of activity (interior design, exterior design, design or reconstruction, construction, etc.).

Strengths / Best Practice for EP 5B071900 - "Radio Engineering, Electronics and Telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport Construction":

- students have the opportunity to go through the procedure of professional certification.

EEC recommendations

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction":

- to develop projects of joint educational programs with foreign educational organizations.
- continue the implementation of the internship plan for faculty and program managers in other educational organizations that implement similar educational programs.

Additional recommendation for EP 5B071900 - "Radio engineering, electronics and telecommunications":

- take into account the recommendations of previous accreditation on the issue of work in the direction of continuity of the content of EP at various levels (lack of master's and doctoral programs).

Additional recommendation for EP 5B042000 - "Architecture" and EP 5B042100 - "Design":

- specify the subject of graduation projects of educational programs "Architecture" and "Design" in accordance with the specialty and purpose of the graduate design.

The conclusions of the EEC on the criteria:

Accredited educational programs according to EP 5B071900 - "Radio Engineering, Electronics and Telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B072100 - "Transport Construction" have 1 strong position, 10 satisfactory and 1 suggesting for improvement.

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

➢ *The university should conduct monitoring and periodic assessment of EP in order to ensure 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 assessment of EP should consider:*

➢ *The content of programs in the light of the latest achievements of science in a particular discipline to ensure the relevance of the taught discipline;*

➢ *Changing the needs of society and the professional environment;*

➢ *Load, performance and graduation of students;*

➢ *Effectiveness of student assessment procedures;*

➢ *Expectations, needs and satisfaction of students;*

➢ *Educational environment and support services, and their compliance with the goals of the EP.*

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

➢ *All interested parties should be informed of any planned or taken actions regarding the EP. All changes made to the EP should be published.*

➢ *The EP management should ensure that the content and structure of the EP are reviewed taking into account changes in the labor market, requirements of employers and the social request of the company.*

Evidence part

The monitoring and periodic assessment of accredited EPs at the University is carried out on the basis of internal regulatory documents published on the university's website dated 04/10/2019. They include "Regulatory Documents of the CMC & A" (34 items), "Methodological Instructions" (12 items), Management System Transition Plan Quality Management System (QMS) of KSTU for the new version of ISO 9001: 2015, Corrective Action Plan, Report on the effectiveness of the quality management system for the 2017-2018 academic year, Archive of documents of the Center for Quality Management and Accreditation.

The mechanism for the formation, regular review of the development plan of the EP and monitoring its implementation was developed by the Department of Academic Affairs of KSTU. Information on changes in the EP is carried out at field meetings held at enterprises that are part of the Corporate University established on the basis of KSTU.

The departments monitor and periodically evaluate accredited EP 5B071900 - "Radio Engineering, Electronics and Telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport Construction" using the questionnaire and interviewing method, systematic and direct tracking of results, method external expert evaluations. Evidence of the participation of students, employers and other stakeholders in the revision of the EP is presented.

Monitoring the passage of practice, monitoring the quality of its organization is carried out by the heads of practice from the department and the Career Center. Based on the results of all types of practices, reporting conferences are held, recommendations are developed to improve the organization of internships, and a consolidated report is formed, which includes sections: organization of practices; topics of research conducted by students during the period of practice; analysis of the implementation of practice programs, conclusions and suggestions. After passing a certain type of practice, students

are questioned in order to identify students 'satisfaction with places and organization of internships, as well as questionnaires for managers of practice bases are conducted to assess students' satisfaction with the level of training.

Analytical part

Minutes of meetings of the department or MS confirm the participation of students or employers in the development of EP. Reviews from employers on the EP are not updated.

Students have information which educational trajectory they study.

To assess the satisfaction of the EP among students, a survey is conducted on the KSTU website at AIS Univer. The subject of the questionnaire is “Satisfaction with the quality of the organization of the educational process”, “Satisfaction with the teaching staff”, “Satisfaction of students of 2-4 courses”, “Satisfaction of students of 1 year”. The survey results are processed by the Center for Quality Management and Accreditation and sent to the department to develop corrective actions. However, the EEC Commission noted the lack of feedback on the analysis of recommendations in the context of accredited EP, the development of corrective actions in the context of EP, in particular, according to the results of the survey “Satisfaction with the teaching stuff”.

There is no approved mechanism for analyzing students' questionnaires to meet the expectations and needs of students studying in the educational program.

The material and technical resources used in education and science are sufficient and fully comply with the requirements of the educational process within the framework of the educational program. During the classes, modern multimedia media were demonstrated for the presentation of material, with the aim of forming a highly professional specialist

According to EP 5B071900 - "Radio engineering, electronics and telecommunications" there are the following comments:

- students do not have information on what educational trajectory they study.

Strengths / Best Practices

- Strengths and best practices for this Standard have not been identified.

EEC recommendations

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction":

- to the supervising structural unit to develop a mechanism for conducting a procedure for analyzing the results of a survey with the development of a plan of corrective actions in the context of specialties and ensuring control over their implementation;

- develop criteria for student satisfaction with the content of the EP.

Additional recommendation for EP 5B042000 - “Architecture” and EP 5B042100 - “Design”:

- develop a plan for their own research in the field of teaching methods of special design and art disciplines of the EP.

The conclusions of the EEC on the criteria:

Accredited educational programs 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" have 0 strong positions, 9 satisfactory and 1 suggesting

improvement, according to the standard "Continuous monitoring and periodic evaluation of educational programs"

6.5. Standard "Student-centered Learning, Teaching and Assessment"

- *EP management should ensure respect and attention to various groups of students and their needs, providing them with flexible learning paths.*
- *EP management should ensure the use of various forms and methods of teaching and learning.*
- *An important factor is the availability of our own research in the field of teaching methods of educational disciplines of EP.*
- *EP management should demonstrate the existence of a feedback system on the use of various teaching methods and assessment of learning outcomes.*
- *EP management should demonstrate support for student autonomy, while also guiding and assisting the teacher.*
- *EP management must demonstrate the existence of a procedure for responding to student complaints.*
- *The university should ensure the consistency, transparency and objectivity of the mechanism for assessing learning outcomes for each EP, including the appeal.*
- *The university should ensure that the procedures for evaluating the learning outcomes of students of EP study meet the planned learning outcomes and program objectives. Evaluation criteria and methods within the framework of the EP should be published in advance.*
- *The university should determine the mechanisms for ensuring the development of learning outcomes by each graduate of EP and ensure the completeness of their formation.*
- *Evaluators must be proficient in modern methods of assessing learning outcomes and regularly improve their skills in this area.*

Evidence part

The implementation of the EP in the specialties 5B071900 - “Radio engineering, electronics and telecommunications”, 5B042000 - “Architecture”, 5B042100 - “Design”, 5B074500 - “Transport construction” within the framework of student-centered training takes into account personal characteristics and needs of students, focusing on independent activity, the process of increasing personal responsibility for learning outcomes.

The functioning of the EP reflects the formation of the individual educational trajectory of students in the EP, the use of innovative teaching methods, the planning and monitoring of Student's Independent Work (SIW), and professional practices. The methodology of interactive methods has been worked out, specialized software support for training sessions is widely used.

The university created the conditions for inclusive education.

Mechanisms for assessing learning outcomes, appeals, transparency of criteria and assessment tools were demonstrated. There is a principle of objective peer review and appeal, which is especially important for art specialties.

The university provides financial support to successful students from underprivileged, large families and orphans, a socially vulnerable category of students is provided with a flexible system of payment for tuition. The university celebrates the success and activity of students, awards, diplomas, certificates are awarded (8 students of the EP “Radio Engineering, Electronics and Telecommunications” are holders of presidential or rector scholarships).

In the educational process, teachers have various forms of conducting classes (business games; round tables; literature review; compiling individual and group projects) that contribute to the development of students' analysis skills and professional decisions.

In order to adapt students to the educational environment of the university, the Guidebook is constantly updated, containing systematized information about the internal rules, organizational and procedural norms of the educational process.

In the process of interviewing EEC IAAR, students noted that they take an active part in the formation of their own (individual) educational path, independently choose those elective courses that maximize the professional competencies they need.

In addition to the choice of elective disciplines, the individual needs for professional skills and cultural experience of students are also taken into account when choosing the base of practice, group work, when determining the supervisor and topic of the diploma work / project, when deciding on the participation of students in research conferences and, in general, in scientific work (scientific projects), etc.

Table 3. Prizes for students in scientific events 2015-2018

№	Name of student	Group	Marked	Event title
5B071900 - "Radio engineering, electronics and telecommunications"				
1	D. Balapanova	RET-14s	diploma for the most significant project	Exhibition-conference "Contribution of young scientists of the Karaganda region to EXPO-2017"
2	A. Fedorova	RET-14s	diploma for the most significant project	Exhibition-conference "Contribution of young scientists of the Karaganda region to EXPO-2017"
3	M. Zadorozhnyuk	RET-12-3	1 place	Olympiad "IT-Planet 2015/16" (2015-2016)
4	K. Abilova	RET-14s	1 place	Olympiad "IT-Planet 2015/16" (2015-2016)
5	A. Arzamaztsev	RET-13-3	Appreciate letter from Kazakhstan Engineering for their contribution to the development of robotics	Republican patriotic gathering "Aibyn-2016", exhibition of experimental samples "My robot")
6	A. Bratko	RET-13-3	Appreciate letter from Kazakhstan Engineering for its contribution to the development of robotics	Republican patriotic gathering "Aibyn-2016", exhibition of experimental samples "My robot")
7	A. Ahmet	RET-15-3	Appreciate letter from Kazakhstan Engineering for its contribution to the development of robotics	Республиканский патриотический сбор «Айбын-2016», выставка экспериментальных образцов «Мой робот».)
8	A. Omarova.	RET-17-3	3rd place	Republican competition of scientific works "Mathematics and its applications in science and technology" in the nomination "Research work of an applied nature."
9	T. Kenes	RET-15-2	1st place	Republican student scientific conference "The contribution of youth science to the implementation of the Strategy" Kazakhstan-2050 "(2017)
10	D. Akhmetova	RET-17-3	2nd place	Republican student scientific conference "The contribution of youth science to the implementation of the Strategy" Kazakhstan-2050

				"(2017)
11	A. Temirgali	RET-17-3	2nd place	Republican student scientific conference "The contribution of youth science to the implementation of the Strategy" Kazakhstan-2050 "(2017)
12	G. Aygali	RET-16-1	3rd place	Republican student scientific conference "The contribution of youth science to the implementation of the Strategy" Kazakhstan-2050 "(2017)
13	A.Tulentaeva	RET-16-1	3rd place	Republican student scientific conference "The contribution of youth science to the implementation of the Strategy" Kazakhstan-2050 "(2017)
14	E. Madi	RET-16-2	Qualifier Winner	International Engineering Championship "Case-in"
5B042000 - “Architecture”				
15	Daria Byvshih	Arh-10-2	Diploma of II degrees	V International Festival of Architectural, Construction and Design Schools of Eurasia, Florence, Italy
16	Ulyana Zykova	Arh-10-2	Diploma of III degree	V International Festival of Architectural, Construction and Design Schools of Eurasia, Florence, Italy
17	Antonina Pak	Arh-10-2	Diploma of III degree	V International Festival of Architectural, Construction and Design Schools of Eurasia, Florence, Italy
18	Nadezhda Ten	Arh-14-2	Diploma "For creativity in art"	International exhibition "50X50", dedicated to the 100th anniversary of the canvas "Black Square" by Kazimir Malevich
19	Philipp Verkhoturov	Arh-11-2	Diploma of I degree	VI International Festival of Architectural, Construction and Design Schools of Eurasia, Lefkosa, North Cyprus
20	Olga Reich	Arh-11-2	Diploma of III degree	VI International Festival of Architectural, Construction and Design Schools of Eurasia, Lefkosa, North Cyprus
21	Roman Volkov	Arh-11-2	Diploma of III degree	International competition Ecotectonics in the framework of the III All-Russian festival of green architecture and ecological lifestyle, Moscow, Russia

5B042100 - “Design”				
22	Stanislav Shevchenko	Diz-15s	Diploma of I degree	II International Exhibition of the Eurasian Union of Designers, dedicated to the 20th anniversary of the Assembly of the Peoples of Kazakhstan
23	Ekaterina Zaitseva	Diz-10-2	Diploma of III degree	II International Exhibition of the Eurasian Union of Designers, dedicated to the 20th anniversary of the Assembly of the Peoples of Kazakhstan
24	Evgenia Necheporchuk	Diz-15-2	Diploma "For creativity in art"	International exhibition "50X50", dedicated to the 100th anniversary of the canvas "Black Square" by Kazimir Malevich
25	Julia Dikhtyareva	Diz-14-2	Diploma "For creativity in art"	International exhibition "50X50", dedicated to the 100th anniversary of the canvas "Black Square" by Kazimir Malevich
26	Leila Kagenova	Diz-15-2	Diploma "For creativity in art"	International exhibition "50X50", dedicated to the 100th anniversary of the canvas "Black Square" by Kazimir Malevich
27	Madina Raisova	Diz-14-2	Diploma "For creativity in art"	International exhibition "50X50", dedicated to the 100th anniversary of the canvas "Black Square" by Kazimir Malevich
28	Stanislav Shevchenko	Diz-15s	Diploma "For creativity in art"	International exhibition "50X50", dedicated to the 100th anniversary of the canvas "Black Square" by Kazimir Malevich
5B074500 - "Transport construction"				
29	Bereke Kabdi, Kuanysh Beisenbaev	TC-16-2	Diploma of II degree	XIV International Scientific Conference of Students and Young Scientists "Science and Education - 2019", ENU. L.N. Gumilyov, Nur-Sultan, April 12, 2019
30	Erkanat Sarsembaev	TC 16-1	Diploma of II degree	Republican student scientific conference "The contribution of youth science to the implementation of the strategy" Kazakhstan -2050 ", dedicated to the 120th anniversary of K. Satpayev and the Year of Youth in the Republic of Kazakhstan
31	Erlan Karabaev	TC 16-1	Diploma of II degree	Republican student scientific conference "The contribution of youth science to the implementation of the strategy" Kazakhstan -2050 ", dedicated to the 120th anniversary of K. Satpayev and the Year of Youth in the Republic of Kazakhstan

Table 4. The level of student involvement in research

№	Department Activities	2015	2016	2017	2018
5B071900 - "Radio engineering, electronics and telecommunications"					
1	Participation in olympiads	4	2	3	1
2	Participation in competitions	8	5	2	2
3	Participation in scientific conferences	20	28	95	3
4	Participation in scientific publications	1	9	3	4
5B042000 - "Architecture"					
1	Participation in competitions	2	2	3	2
2	Participation in scientific conferences	–	17	6	7
3	Participation in scientific publications	1	17	4	7
5B042100 - "Design"					
1	Participation in scientific publications	–	4	4	1
2	Participation in scientific publications	–	3	3	1
5B074500 – «Транспортное строительство»					
1	Participation in scientific conferences	–	–	4	5
2	Participation in scientific conferences	–	–	3	5

Based on the results of a student survey conducted within the framework of the EEC NAAR, it was determined that, in general, equal opportunities were provided to all students: "Full agreement" - 72.4%, "Agreed" - 21.3%, "Partially agree" - 4.7 %, "Total Disagreement" - 0%.

The learning process in a university is characterized by clarity and transparency of requirements, both to the level of academic achievement, and to control procedures, as well as the presence of "feedback" with the student. A survey of EEC students showed that:

- By explaining to you the rules and strategies of the educational program (specialty) "Fully satisfied" - 74.8%, "Partially satisfied" - 20.5%, "Not satisfied" - 0.8%.

- The level of implementation of these rules and strategies of the educational program (specialty) "Fully satisfied" - 78.7%, "Partially satisfied" - 14.2%, "Not satisfied" - 1.6%.

- The level of implementation of these rules and strategies of the educational program (specialty) "Fully satisfied" - 78.7%, "Partially satisfied" - 14.2%, "Not satisfied" - 1.6%.

The university monitors the progress of students along the educational path. The objectivity of assessing students' knowledge, the transparency and adequacy of tools and mechanisms for their assessment is ensured by regulatory documents on the organization of credit training technology.

The Commission notes how positive the fact is that on the basis of Architecture and Design, the milestones and the final control of assessing the quality of students' knowledge of mastering disciplines in academic semesters are carried out collectively. However, the university has not developed a regulation on conducting creative exams.

Table 5. Student performance indicators

Academic year	Quality of knowledge %					Academic progress				
	1 year	2 year	3 year	4 year	5 year	1 year	2 year	3 year	4 year	5 year
5B071900 - "Radio engineering, electronics and telecommunications"										
2015-2016	68,6	60,7	67,9	80,9	-	88,1	70,0	87,9	97,9	-
2016-2017	74,9	76,7	79,4	81,8	-	88,6	93,2	88,3	98,0	-
2017-2018	78,1	79,4	81,9	75	-	96,7	96,5	98,2	94,4	-
5B042000 - “Architecture”										
2015-2016	90	84	87	90	94	93	84	88	95	100
2016-2017	80	82	83	80	80	86	88	84	76	80
2017-2018	89	92	86	82	90	88	90	88	80	92
5B042100 - “Design”										
2015-2016	98	90	89	95	94	98	92	89	96	98
2016-2017	80	82	80	92	90	87	88	79	90	92
2017-2018	82	89	83	93	98	83	89	88	92	100
5B074500 - "Transport construction"										
2015-2016	82	84	87	90	-	84	86	86	92	-
2016-2017	80	75	80	93	-	79	70	88	90	-
2017-2018	85	84	80	93	-	85	84	84	90	-

Table 6. Results of State Certification Commission

Academic year	Total students	Appeared on state. Exam	State Exam Results								
			Very good	%	Good	%	Satisfactory	%	Unsatisfactory	%	Average grade point
5B071900 - "Radio engineering, electronics and telecommunications»											
2015-2016	65	65	26	40%	39	60%	-	-	-	-	B+
2016-2017	65	65	49	75%	16	25%	-	-	-	-	A-
2017-2018	48	48	24	50%	24	50%	-	-	-	-	A-
5B042000 - "Architecture»											
2015-2016	24	24	13	54%	9	38%	2	8%	-	-	B+
2016-2017	23	23	7	30%	13	57%	3	13%	-	-	B

2017-2018	26	26	16	61%	9	35%	1	4%	-	-	A-
5B042100 - "Design»											
2015-2016	-	-	-	-	-	-	-	-	-	-	-
2016-2017	9	9	3	33%	6	67%	-	-	-	-	A-
2017-2018	7	7	2	29%	3	42%	2	29%			B
5B074500 - "Transport construction»											
2015-2016	21	21	2	9%	19	90%	-	-	-	-	A-
2016-2017	24	24	3	13%	21	88%	-	-	-	-	B+
2017-2018	26	26	1	4%	25	96%	-	-	-	-	A-

Table 7. The results of the assertion of theses / projects

Academic year	Total students	Total	The results of the assertion of theses / projects								
			Very good	%	Good	%	Satisfactory	%	Unsatisfactory	%	Average grade point
5B071900 - "Radio engineering, electronics and telecommunications»											
2015-2016	66	66	35	53%	31	47%	-	-	-	-	A-
2016-2017	65	65	51	78%	14	22%	-	-	-	-	A-
2017-2018	48	48	25	52%	23	48%					A-
5B042000 - "Architecture»											
2015-2016	24	24	9	38%	12	50%	3	12%	-	-	B+
2016-2017	23	23	11	48%	12	52%	-	-	-	-	B+
2017-2018	26	26	13	50%	12	46%	1	4%	-	-	A-
5B042100 - "Design»											
2015-2016	-	-	-	-	-	-	-	-	-	-	-
2016-2017	9	9	6	67%	3	33%	-	-	-	-	A
2017-2018	7	7	3	43%	3	43%	1	14%	-	-	B+
5B074500 - "Transport construction»											
2015-2016	21	21	2	9%	19	90%					A-
2016-2017	24	24	3	13%	21	88%					B+
2017-2018	26	26	1	4%	25	96%					A-

The practice places correspond to the profile of the specialty, all types of practice are provided with educational and methodological materials, the practice is formalized in the form of diaries and reports that are recorded and executed in accordance with the requirements. In order to centrally provide students with places of practice with a university and departments, work is underway to conclude long-term agreements with various institutions and organizations.

For accredited educational programs 5B071900 - “Radio engineering, electronics and telecommunications”, 5B042000 - “Architecture”, 5B042100 - “Design”, 5B074500 - “Transport construction”, agreements were signed on the bases of practice with the possibility of subsequent employment. Information is presented in the analytical part of the Standard “Development and approval of the educational program” of this report.

Analytical part

In the university, the formation of an individual educational trajectory of students in the EP takes place. However, innovative teaching methods and professional practices are applied. Mechanisms for assessing learning outcomes, appeals, transparency of criteria and assessment tools were demonstrated.

EP management provides academic freedom in choosing a teacher, transparency and accessibility of students to the assessment results, the ability to assess the professional qualities of teaching staff, as well as the level of material and technical support of the educational process; provides equal opportunities for students, regardless of the language of instruction, in the formation of IET, aimed at the formation of professional competence.

Students are aware of their ability to choose an individual trajectory, as well as the choice of teacher, academic advisors or the form of final certification.

According to EP 5B071900 - "Radio engineering, electronics and telecommunications" the following remarks:- the qualifications of teachers do not always meet the requirements of the discipline. For example, special disciplines for 3-4 courses are taught by teachers without a degree, with the formation of a master's level.

It should be specially noted that the organization of conducting the students 'practice in EP 5B071900 - "Radio Engineering, Electronics and Telecommunications": LLP "Quartz", LLP "AV", JSC "Arcelor Mittal Temirtau"; according to EP 5B042000 - "Architecture": LLP "Institute Karaganda Promstroyproekt"; according to EP 5B042100 - "Design" LLP "ZigZag Group"; according to EP 5B074500 - "Transport construction" - SI "Karagandy ZholLaboratory". For example, at the LLP "Institute Karaganda Promstroyproekt", special training rooms are equipped with equipment and computer equipment with installed modern software. In addition, the enterprise is equipped with an audience for the defense of final qualification works, also in English.

According to the results of surveys of the leaders of the practice bases and the questionnaire conducted by the university, it was revealed that students show an adequate level of theoretical and practical training, the ability to apply and use the knowledge gained at the university to solve practical problems.

An analysis of employer responses during the interview process shows employer satisfaction with university graduates. According to employers, graduates of specialties 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" have the necessary knowledge and skills in work, they note a sufficient professional level and personal qualities of young specialists.

EEC IAAR, having meetings, conversations and interviews with vice-rectors, heads of departments, heads and employees of structural units, students, faculty, representatives of employers' organizations and graduates, as well as by conducting a survey of students and faculty, detailed familiarization of experts with the educational infrastructure of the university, material and technical and information and methodological resources, as well as the necessary documents following:

Strengths / Best Practices

- Strengths and best practices for this Standard have not been identified.

EEC recommendations

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction":

- to develop a regulation establishing a mechanism for analyzing students' questionnaires to meet the expectations and needs of students in training.

Additional recommendations for EP 5B042000 - "Architecture" and EP 5B042100 - "Design":

- to intensify work on their own research in the field of teaching methods of design and art disciplines of EP.

- to develop a regulation on the peer review of the results of studying design and art disciplines of the department in educational programs of the specialties "Architecture" and "Design".

The conclusions of the EEC on the criteria:

Accredited educational programs 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" have 0 strong positions, 10 satisfactory and 10 satisfactory according to the standard "Student-centered training, teaching and performance assessment" 0 suggesting improvement.

6.6. Standard "Students"

- *The university should demonstrate a policy for the formation of the contingent of students in the context of EP from admission to graduation and ensure the transparency of its procedures. Procedures governing the life cycle of students (from admission to completion) must be defined, approved, published.*
- *EP management should demonstrate the implementation of special adaptation and support programs for newly arrived and foreign students.*
- *The university must demonstrate the conformity of its actions to the Lisbon Convention recognition.*
- *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 should demonstrate the existence and application of a mechanism for recognizing the results of academic mobility of students, as well as the results of additional, formal and non-formal learning.*
- *The university should provide an opportunity for external and internal mobility of students of EP, as well as assist them in obtaining external grants for training.*
- *EP management should make every effort to provide students with places of practice, facilitate the employment of graduates, and maintain contact with them.*
- *The university should provide graduates of the study program with documents confirming the qualifications obtained, including the results of training, as well as the context, content and status of the education and evidence of completion.*
- *An important factor is the monitoring of employment and professional activities of graduates of EP.*
- *EP management should actively encourage students to self-education and development of extra-basic programs (extracurricular activities).*
- *An important factor is the existence of an existing alumni / association.*
- *An important factor is the availability of a support mechanism for gifted students.*

Evidence part

The policy of forming a contingent in a university is governed by the Model Rules for admission to study at educational institutions implementing educational programs of postgraduate education (approved by the Government of the Republic of Kazakhstan dated January 19, 2012 No. 111, as amended and supplemented by the Government of the Republic of Kazakhstan dated June 08, 2018 No. 334), The Rules for the award of an educational grant to pay for higher education (approved by the Government of the Republic of Kazakhstan from January 23, 2008 No. 58), and are reflected in the Normative document of KSTU "Management of the process of selection of applicants. DP KSTU 27 - 2019".

The university assesses communications with employers; patriotic, civil, spiritual, moral, sports and recreational activities are held.

Admission to students for educational programs of accredited specialties is carried out on the basis of standard rules for training in educational institutions that implement professional higher education curricula, approved by order of the Ministry of Education and Science of the Republic of Kazakhstan. Admission is carried out according to applications of applicants on a competitive basis, in accordance with the points of a certificate issued according to the results of UNT or CT, conducted according to the technologies developed by the National Testing Center of the Ministry of Education and Science of the Republic of Kazakhstan. The procedure for recruiting and the rules for offsetting loans when transferring from another university is carried out in accordance with the Rules for the transfer and restoration of students in educational institutions.

For admission to the EP specialty "Design" creative exams are held, but there is no Regulation or Rules about them.

Those who entered the university are provided with a student guidebook of KSTU; for students enrolled in an introductory course. Students are introduced to the "Rules of the internal regulations of students" at KSTU. The university has created conditions to support students.

The contingent of students is formed from groups in which training is conducted in the state, Russian languages in full-time. The university carries out systematic work on the collection and analysis of statistical data on the contingent of students and graduates.

According to EP 5B071900 - “Radio Engineering, Electronics and Telecommunications”, training of specialists is conducted from the 2014-2015 academic year. In the specialties of the undergraduate 5B042000 - "Architecture", 5B042100 - "Design" since 2014 full-time. According to EP 5B074500 - “Transport construction”, the training of specialists has been conducted since 2014 in full-time and part-time forms of education on the basis of secondary, vocational and higher education.

Table 8. The contingent of students of the educational program 5B071900 - "Radio engineering, electronics and telecommunications"

Form of training	The contingent of students					
Full-time	2015/2016 academic year		2016/2017 academic year		2017/2018 academic year	
	Kazakh branch	Russian branch	Kazakh branch	Russian branch	Kazakh branch	Russian branch
	66	13	57	22	55	24
Correspondence	16	17	18	17	8	27
Number of Grants	46	3	21	7	32	11
TOTAL	112		114		114	

Table 9. The contingent of students of the educational program 5B042000 - “Architecture”

Form of training	The contingent of students					
Full-time	2015/2016 academic year		2016/2017 academic year		2017/2018 academic year	
	Kazakh branch	Russian branch	Kazakh branch	Russian branch	Kazakh branch	Russian branch
	68	106	81	118	88	102
Correspondence	-	11	-	5	-	4
Number of Grants	4	8	7	7	12	9

TOTAL	197	218	211

Table 10. The contingent of students of the educational program 5B042100 - "Design"

Form of training	The contingent of students					
Full-time	2015/2016 academic year		2016/2017 academic year		2017/2018 academic year	
	Kazakh branch	Russian branch	Kazakh branch	Russian branch	Kazakh branch	Russian branch
		39	4	33	-	45
Correspondence	-	1	-	-	-	-
Number of Grants		2	-	3	-	2
TOTAL	43		40		47	

Table 11. The contingent of students of the educational program 5B074500 - "Transport construction"

Form of training	The contingent of students					
Full-time	2015/2016 academic year		2016/2017 academic year		2017/2018 academic year	
	Kazakh branch	Russian branch	Kazakh branch	Russian branch	Kazakh branch	Russian branch
	12	8	14	32	10	8
Correspondence	9	53	5	18	6	41
Number of Grants	53	22	81	9	98	33
TOTAL	157		159		196	

The principles of creating an educational environment for students to achieve the required professional level, methods of feedback and informing students, aspects of the cultural and social life of students are presented.

The organization of educational work is carried out in accordance with the regulatory materials of the Ministry of Education and Science of the Republic of Kazakhstan. In order to ensure the growth in the quality of educational services provided, a systematic questionnaire is conducted on the subject of students' satisfaction with the quality and learning conditions.

Student scientific work, educational and creative workshops are one of the forms of organization of students' research work.

Table 12. The number of scientific publications of students (for the academic year)

Educational program	2015/2016	2016/2017	2017/2018
5B071900 - "Radio engineering, electronics and telecommunications"	35	61	64
5B042000 - "Architecture"	17	4	7
5B042100 - "Design"	3	3	1
5B074500 - "Transport construction"	-	3	5

At the Department of Communication Systems Technologies, courses were opened on “Electricity for dispatching equipment and teleautomatics”, “Cable-welder-optic fiber” 2 categories in the amount of 80 hours on a paid basis with the issuance of a certificate and the issuance of a certificate with the assignment of a working profession. At the department there is a circle «Cisco: желіге кіріспе» under the guidance of Senior Lecturer U. Esenzholov. and "Radar and direction finding" under the guidance of Senior Lecturer V. Mishchenko in radio sports, where students are trained in sports direction finding, with subsequent participation in championships of national and international importance. Awards are - 2 gold medals: S. Kuznetsova on the 145 MHz band; N. Shagalieva on the range of 3.5 MHz; 3 silver medals: M. Ilyasov at 3.5 MHz; D. Zhanbosova on the range of 145 MHz; A. Zholdasova (RET-11-3 group) - in the Zh-21 group on the 3.5 MHz band; 3 bronze medals: N. Orymbaev on the ranges of 3.5 MHz and 145 MHz; B.Sabitov on the range of 3.5 MHz.

At the department "Architecture and Design" in the EP "Architecture", "Design", "Transport Construction" in the 2017-2018, 2018-2019 academic years, educational, research and creative projects were organized:

on the initiative scientific topic "Fiber-optic systems for monitoring building structures", scientific head – c.t.s., Associate Professor A&D, A.Kozhas;

on the initiative scientific topic "Architectural and planning solution of energy-efficient buildings and structures", scientific head - Senior Lecturer A&D, Y. Borisevich.

In addition, a scientific circle “Modern Trends in Architecture and Design” was organized at the A&D department, and the scientific adviser is R. Antonenko.

Events are held patriotic, civil, spiritual, moral, sports and fitness orientation; students of the study program 5B071900 - “Radio engineering, electronics and telecommunications”, 5B042000 - “Architecture”, 5B042100 - “Design”, 5B074500 - “Transport construction” participate in youth creative and research competitions, conferences.

The student self-government of the university is quite active. University students collaborate with youth organizations of the city, region, participate in competitions, festivals, meetings, literary readings, conferences. The conditions have been created for communication in the virtual space, on the university’s website: the rector’s blog, sections “Write a letter”, “Ask a question”. The site offers information on educational activities, news and announcements about the life of the university.

Table 13. Academic Mobility Data

Specialty	University	Student	Study period
5B071900 - "Radio engineering, electronics and telecommunications"	D. Kabylhamitov	Xinjiang Uygur Technical University, China	1 half of the 2015/16 academic year of the year
	A. Abilova A	University of Lorraine, France	1 half of the 2016/17 school year
	Group RET-15-2 (student exchange in one subject)	Karaganda State University named after Buketov	2 half of the academic year 2017/18
	A Omarova,	Krakow Technical University, Poland	1 half of the 2018/19 academic year

	A Naptalov,	Poznan State University, Poland	2 half of the 2018/19 academic year
	M Tynyshtykov,	Atyrau State University named H. Dosmukhamedova	2 half of the 2018/19 academic year
5B042000 - "Architecture"	A Smagulova,	Jade University of Applied Sciences, Wilhelmshaven, Germany	1 half of the 2016-2017 academic year
	D Batarchuk, A Zhunusova, B Sembaeva, A Smagulova, E Khokhlova,	Karaganda State University named after E.A. Buketova	1 half of the 2016-2017 academic year
	P Dyachenko,	Peter the Great St. Petersburg Polytechnic University, St. Petersburg, Russia	1 half of the 2017-2018 academic year
	K Gabdullin, D Elizabeth,	Tomsk State University of Architecture and Building, Tomsk, Russia	1 half of the 2017-2018 academic year
	A Voloshin,	Tomsk State University of Architecture and Building, Tomsk, Russia	2 half of the 2017-2018 academic year
	A Andryushchenko, M Troinina, W Kim,	University of Applied Sciences and Arts, Coburg, Germany	1 half of the 2018-2019 academic year
	32 people	Karaganda State Industrial University	1 half of the 2018-2019 academic year
	A Madiyar A Andryushchenko,	University of Applied Sciences and Arts, Coburg, Germany	2 half of the 2018-2019 academic year
	Group - 41 people	Karaganda State Industrial University	2 half of the 2018-2019 academic year
5B042100 - "Design"	E Goncharova, Yu Dikhtyareva, S Kernibaeva, M Mylkina, M Raisova, I Tokaeva,	Karaganda State University named E.A. Buketova	1 half of the 2016-2017 academic year
	Mylkina M, Necheporchuk E,	Tomsk State University of Architecture and Building, Tomsk, Russia	2 half of the 2017-2018 academic year
	R Anisimova. A Heinbichner. B Savchenko,	Karaganda State University named E.A. Buketova	2nd half of the 2018-2019 academic year

	D Shiryaeva,		
5B074500 - "Transport construction"	E Karabaev.	Ostrava Technical University, Ostrava, Czech Republic	2 half of the 2017-2018 academic year
	K Enkibaeva, M Mukasheva.	Poznan Polytechnic University of Poznan, Poland	1 half of the 2018-2019 academic year
	L Amantay.	Peter the Great St. Petersburg Polytechnic University, St. Petersburg, Russia	2nd half of the 2018-2019 academic year

The university has an employment promotion service for graduates. The university pays attention to monitoring annual employment and direct and feedback from the labor market, which allows monitoring the compliance of strategic plans with the real demand in the educational services market.

Table 14. Indicators of employment of graduates

Specialty	2016-2017 year				2017-2018 year			
	Quantity	Employed,%			Quantity	Employed,%		
	Total	full-time	extramural	Total	Total	full-time	extramural	Total
5B071900 - "Radio engineering, electronics and telecommunications"	83	70%	92%	81%	83	62%	87 %	74
5B042000 - “Architecture”	21	93	-	93	31	93	-	93
5B042100 - “Design”	9	100	-	100	7	7	-	100
5B074500 - "Transport construction"	27	100	96	98	26	92	100	96

Table 15. Information on the employment of graduates in 2016-2018

Academic year	Number of graduates	Number of employed	Number of non-employed	Percentage of employed
5B071900 - "Radio engineering, electronics and telecommunications"	166	136	30	81%
5B042000 - “Architecture”	66	61	5	92,2
5B042100 - “Design”	16	16	0	100
5B074500 - "Transport construction"	74	72	2	97
TOTAL				

The results of a survey of students conducted during the visit of the EEC IAAR showed that:

the availability of academic advice to you “Fully satisfied” - 68.5%, “Partially satisfied” - 25.2%, “Partially unsatisfied” - 2.4%, “Not satisfied” - 2.4%;

- the speed of response to feedback from teachers regarding the educational process "Fully satisfied" - 77.2%, "Partially satisfied" - 17.3%, "Partially unsatisfied" - 3.1%, "Not satisfied" - 0%.

Analytical part

The policy of forming of the contingent in the university is regulated and reflected in the academic policy of the university. The principles of creating an educational environment for students to achieve the required professional level, methods of feedback and informing students, aspects of the cultural and social life of students are presented. The university assesses communications with employers; events are held patriotic, civil, spiritual, moral, sports and recreational orientation; students actively participate in youth creative and research competitions, conferences.

The Alumni Association does not function at the university. There is no section on the university's website that promotes effective "post-graduate support", monitoring the career growth of graduates, and organizing work with employers.

Interviewing students, teaching staff and graduates revealed that the university has developed, approved, and operates a Regulation on the Council for mental and moral education. Vigorous activity was confirmed in the interviews of teaching staff and students. However, everyone called this Council in the old way - "Council of elders".

Interviewing graduates revealed that they didn't know about of the existence of the Alumni Association. There are no records of the Association's activities.

The university does not have the practice of forming an electronic portfolio of personal achievements of students in the personal account on the university's website, which complicates the employment process.

According to EP 5B042000 - "Architecture" and EP 5B042100 - "Design", the following remarks are available:

- according to the EP "Architecture" and "Design" on the university's website are presented only diplomas of winners and certificates of participants without a description, for what, when, where, in which competition they participated.

EEC IAAR, on the basis of interviewing and questioning students, familiarization with the educational infrastructure of the university and various documents, notes the following:

Strengths / the best practice for EP 5B071900 - "Radio Engineering, Electronics and Telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport Construction":

- special training rooms equipped with equipment and computer equipment with installed modern software are equipped on the bases of practice of accredited EPs.
- the "Regulation on the Council on Spiritual and Moral Education" ("Council of the Elders") was developed, approved and valid at the university.

EEC recommendations

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction":

- describe the life cycle of students with an indication of the appropriate procedures at each stage of the cycle and evaluate the satisfaction of students with each stage of the life cycle; take corrective measures based on the results;
- clearly define the concept of "Gifted Student" and regulate the process of their support;
- develop the activities of the Alumni Association, to ensure that stakeholders are informed about it.

Additional recommendation for EP 5B042000 - "Architecture" and for EP 5B042100 - "Design":

- develop regulations on entrance exams for undergraduate specialties at the EP 5B042000 - "Architecture" and 5B042100 - "Design", post on the website.

The conclusions of the EEC by criteria:

According to the learning standard, accredited educational programs 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" have 1 strong position, 11 are satisfactory and 0, suggesting improvement.

6.7. Standard "Faculty staff"

- *The university should 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.*
- *The university should demonstrate the compliance of the staff potential of faculty with the development strategy of the university and the specifics of the academic program.*
- *EP management should demonstrate an awareness of responsibility for its employees and ensure favorable working conditions for them.*
- *EP management should demonstrate a change in the role of the teacher in connection with the transition to student-centered learning.*
- *The university should determine the contribution of faculty staff to the implementation of the development strategy of the university, and other strategic documents.*
- *The university should provide opportunities for career growth and professional development of faculty staff.*
- *EP management should involve practitioners of the relevant industries in teaching.*
- *EP management should provide targeted action for the development of young teachers.*
- *The university should demonstrate the motivation for professional and personal development of teachers of the EP, including the promotion of the integration of scientific activity and education, as well as the use of innovative teaching methods.*
- *An important factor is the active use of the teaching staff 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 in the framework of the EP, the involvement of the best foreign and domestic teachers.*
- *An important factor is the involvement of teaching staff in public life (the role of teaching staff in the education system, in the development of science, the region, the creation of a cultural environment, participation in exhibitions, creative contests, charity programs, etc.).*

Evidence part

The Commission has reviewed the qualitative and quantitative composition of teaching staff of the teaching staff, teaching staff principles: teaching staff planning, monitoring the quality of teaching, monitoring the implementation of an individual teaching staff plan, methods for assessing the satisfaction of teaching staff and students, and the policy of staffing teaching staff.

The employment and assessment of the teaching staff is carried out on the basis of the Order of the Minister of Education and Science of the Republic of Kazakhstan dated April 23, 2015 No. 230 "On Approval of the Rules for Competitive Substitution of the Positions of Professors and Scientists of Higher Educational Institutions".

The university has developed and approved by the decision of the Academic Council of KSTU the Regulation on personnel policy (protocol No. 1 dated 03/28/2018), is presented on the university's website http://www.kstu.kz/dup/, which reflects the main directions of the personnel policy of KSTU. The website of the university presents personal pages of teaching staff.

According to the results of the faculty survey conducted within the framework of the EEC IAAR, the university provides an opportunity for teachers to continuously develop their potential at "Very good" (47.1 %) and "Good" (49 %).

The university ensures the completeness and adequacy of the individual planning of the work of teaching staff for all activities, monitoring the effectiveness and efficiency of individual plans. The calculation of the complexity of the training load is based on the workplans of the educational program of specialties, according to the Rules of the organization of the educational process on credit technology of training.

According to the staffing list, the teaching staff is equipped for the entire period of training. The indicators on the qualitative and quantitative composition of teaching staff confirm the presence of the personnel potential necessary for implementing educational programs and meeting the qualification requirements for licensing educational activities.

Table 16. The quantitative and qualitative composition of faculty in the context of EP

№	Name of specialties	Total faculty staff / of which full-time	Doctor of Sciences, prof. /Doctors PhD	Cand. sciences / masters with the scientist. degree	Teachers with scholars. degree and degree / of them staff	Part-timers		Hourly	Teaching at the State the language		Age (people)			
						Total	scientist		Total	scientist	Up to 35 years of staff.	35-50 years old	Over 50 years	Retirement
1	5B071900 - "Radio engineering, electronics and telecommunications"	23/16	1/2	4/8	7/6	7	1	-	14	4	6	4	2	3
2	5B042000 - “Architecture”	51/46	2	22	50%/50%	5	1	-	52%	77%	4	6	36	5
3	5B042100 - “Design”	25/22	1	10	50%/50%	1	-	-	-	-	4	5	11	5
4	5B074500 - "Transport construction"	48/44	2	21	50%/50%	-	-	-	67%	48%	7	17	19	5

Table 17. The number of faculty as of January 1, 2019

Graduating department	Average age	Total	Quantity of full-time faculty	Faculty with advanced degrees			
				Quantity of full-time faculty with advanced degrees	Doctors of Science	Candidates	% degree of allowance
Communication Technology	44	23	16	6	1	4	30
Architecture and design	53	23	18	4	-	4	23

To monitor the competence of the university staff, the administration, the personnel department and the heads of the respective structural units periodically evaluate the competence of existing staff and their compliance with the requirements established by the job descriptions, by attending "open" classes, attending classes, questioning students, etc.

The university has developed and is implementing the Regulation on advanced training of personnel at KSTU. The department has young teachers who graduated from the magistracy.

According to the results of the faculty questionnaire organized by EEC IAAR, teachers evaluate the support of the university and its leadership in the faculty research projects as "very good" - 35.6%, "good" - 56.7%.

The results of scientific research of teachers are reflected in scientific articles, published journals, speeches at scientific conferences at various levels, etc. There are funded projects at accredited EPs.

Table 18. Volumes of funded RW EP cluster

Funded RW, mil	Household Agreement (thousand tenge)	By order of the MES of the RK (thousand tenge)
5B071900 - "Radio engineering, electronics and telecommunications"		
16	800	9000
Architecture and design		
	1500000	-
	1225000	-

Table 19. The number of scientific publications of faculty (for the academic year)

	2015/2016	2016/2017	2017/2018
Department of "Communication Systems Technology"			
In international scientific journals TomsonReuters, Scopus	2	2	9
Highly rated journals (RSCI and others)	4	4	7
Magazines recommended by Education and Science Monitoring Committee MES RK	2	4	4
Magazines of near and far abroad	7	7	13
International Conferences	20	44	31

Monographs	3	2	2
Study guides	9	8	9
E-books	16	10	7
Total	**63**	**81**	**82**
Department of Architecture and Design			
In international scientific journals Tomson Reuters, Scopus	2	1	2
Highly rated journals (RSCI and others)	2	5	3
Magazines recommended by Education and Science Monitoring Committee MES RK	2	3	4
Magazines of near and far abroad	3	3	3
International Conferences	11	10	17
Monographs	2	-	1
Study guides	4	18	9
E-books	-	4	6
Total	**26**	**44**	**45**

Table 20. Further education in educational programs

Educational program	2014-2015			2015-2016 ac.y.			2016-2017			2017-2018		
	Total full-time faculty	Advanced training, full-time faculty	Percent, %	Total full-time faculty	Advanced training, full-time faculty	Percent, %	Total full-time faculty	Advanced training, full-time faculty	Percent, %	Total full-time faculty	Advanced training, full-time faculty	Percent, %
5B071900 - "Radio engineering, electronics and telecommunications"	23	23	100	25	25	100	24	24	100	25	25	100
5B042000 - “Architecture”	8	7	88	10	8	80	12	6	50	13	12	92
5B042100 - “Design”	5	4	80	6	4	67	6	4	67	6	6	100
5B074500 - "Transport construction"	-	-	-	-	-	-	-	-	-	6	4	67
TOTAL	**36**	**34**	**67**	**41**	**37**	**61,75**	**42**	**54,25**	**72,3**	**50**	**47**	**89,75**

The condition of the moral and psychological climate at the department is characterized by stability, a creative attitude towards the fulfillment of one's duties. Labor and executive discipline at the proper level. University teachers take an active part in the public life of the city and the Republic.

A survey of teaching staff conducted during the visit of the EEC IAAR showed that:

- the feedback level of faculty with management satisfies “very good” - 34.6%, “good” –55.8%;

- teachers can use their own innovations in the learning process at “very good” - 60.6%, “good” –37.5%;

- how the work on academic mobility is set to “very good” - 41.3%, “good” –52.3%;

- how is the work on raising the level of teaching staff training set to “very good” - 37.5%, “good” –56.7%;

- the involvement of faculty in the process of making managerial and strategic decisions is “very good” - 31.7%, “good” –55.8%.

Analytical part

In general, the faculty on the degree of special and specialized disciplines, IT competence is fully satisfied with the requirements. Information about teachers on the university’s website is not provided enough (scientific areas, taught disciplines, etc.), there is no external mobility of faculty, it is necessary to constantly improve professional development of personnel in areas of specialization in leading scientific centers of the Republic of Kazakhstan and abroad.

The Department of "Technology and Communication Systems" prepares personnel for the development of EP at various levels: V. Yugay in 2016 received a Ph.D. degree in Radio Engineering, Electronics and Telecommunications, T. Serikov in 2015, the senior teacher entered the doctoral program of KazNTU (Almaty), specialty 6D071900 "Radio engineering, electronics and telecommunications."

According to EP 5B071900 - “Radio engineering, electronics and telecommunications”, 5B042000 - “Architecture”, 5B042100 - “Design”, 5B074500 - “Transport construction”, the following comments were identified:

- In conducting specialized classes at accredited EPs, it is not enough, or teachers with a scientific degree are not involved at all.

- EEC suggests that when accepting a specialist from the production to the position of teacher, it is inappropriate to present the following requirements: the availability of scientific and methodological works, publications in national and international publications; availability of articles in journals included in the Scopus database, Web of Science; participation in research projects.

According to EP 5B071900 - "Radio engineering, electronics and telecommunications" there are the following comments:

- not enough full-time teaching staff with basic education, academic degree and academic title;

-absence of articles in journals included in the Scopus database, Web of Science.

According to EP 5B042000 - “Architecture” and EP 5B042100 - “Design”, there are the following comments:

- not paid attention to the use of teaching staff in the classroom of innovative teaching methods.

EEC IAAR held meetings, conversations and interviews with vice-rectors, deans, department heads, heads and employees of structural units, students, faculty, representatives of employers' organizations and graduates, as well as conducting a survey of students and faculty, a detailed familiarization of experts with educational infrastructure of the university, material-technical and information-methodological resources, as well as the necessary documents the following notes:

Strengths / the best Practices

- Within the framework of this Standard, strengths have not been identified.

EEC recommendations

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction":

- for the implementation of accredited EPs, add the staff of the faculty departments with basic education, academic degree and academic rank;

- continue to work on the implementation of academic mobility and advanced training of teaching staff in the profile of the taught disciplines;

- provide for the possibility of providing teaching staff with conditions for playing sports outside of class hours.

The conclusions of the EEC according to the criteria:

Accredited educational programs 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" have 0 strong positions, 12 satisfactory and 0, suggesting the standard "Teaching staff" improvement.

6.8. Standard "Educational Resources and Student Support Systems"

o *EP management must demonstrate that the material and technical resources and infrastructure are sufficient.*

o *EP management should demonstrate the existence of support procedures for various groups of learners, including information and counseling.*

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

- *technological support for students and teaching staff in accordance with educational programs (for example, online training, modeling, databases, data analysis programs);*
- *library resources, including a collection of educational, methodological and scientific literature on general education, basic and specialized disciplines in paper and electronic media, periodicals, access to scientific databases;*
- *examination of the results of research, graduation works, dissertations on plagiarism;*
- *access to educational Internet resources;*
- *WI-FI functioning in the territory of the educational organization.*

o *The university should strive to ensure that the educational equipment and software used for the development of educational programs are similar to those used in the relevant industries.*

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

o *The university should strive to take into account the needs of various groups of students in the context of EP (adults, workers, foreign students, as well as students with disabilities).*

Evidence part

According to information on the university's website, the university carries out educational activities on the basis of the long-term strategic document "Strategic plan for the development of the Karaganda State Technical University for 2014-2023." (approved prot. No. 1 of the Academic Council dated 09/05/2016).

The software used for organizing the educational process, creating and displaying information content is presented. The educational program is provided by the fund of educational, methodological and scientific literature on general education, basic and specialized disciplines in paper and electronic media in the context of the languages of instruction.

Implemented support is provided for gifted students; measures are being taken to provide social protection for students from children left without parental care; issues of inclusive education and support for foreign students are being addressed.

Sufficient conditions have been created at the university to ensure the accessibility and quality of education, to continuously improve the qualifications of teaching staff and to increase the effectiveness of managing EP.

For the organization of educational activities, students are provided with a guide. The university has regulations for the organization and educational and methodological support of the educational process, the organization of research and educational work,

available for students in the university's library, at the department and on the university's internal website.

The university has a student support service that provides all categories of students with the opportunity to get acquainted with the requirements for the educational process, financial discipline, behavior, get advice, form an individual educational trajectory, organize independent work, get access to reading rooms and computer classes outside of class hours, take part in the work of public associations and university management.

For effective and regular analysis of the adequacy of resources and support systems for students in the university conducted sociological research. The degree of satisfaction and wishes of students to educational programs, the level of teaching and social conditions are revealed.

Classrooms comply with sanitary and hygienic standards for educational classrooms of universities of the Republic of Kazakhstan. The existing classroom fund of EP specialties as a whole provides the need for training rooms for students, which ensures the organization of training sessions. The total training area used complies with regulatory indicators, sanitary and fire service standards. There are conclusions of SES and fire service.

The library as a whole is provided with literature on all specialties of the university. The library fund is constantly updated with EML, periodical literature. There is a fund of literature on electronic and magnetic media. The electronic library fund is accessible from each computer of the university.

Table 21. Information about the security of disciplines paper and electronic media library of KSTU

№	Specialty Code	Name of specialties	Number of books on paper	Availability of disciplines publication on paper	% availability of electronic publications
1	5B071900	Radio engineering, electronics and telecommunications	58086	Provided	367 (58,5%)
2	5B042000	Architecture	25939	109,1	315
3	5B042100	Design	9258	210,0	253
4	5B074500	Transport construction	28806	459	283

Table 22. The total book fund

№	Indicator	Academic year / instance		
		2016-2017	2017-2018	2018-2019
1	The total book fund	1 275 845	1 207 892	1 128 148
2	including in Kazakh	326 516	329 435	329 282
3	including in English	19026	18 561	20 065

Table 23. Provision of educational, methodological and scientific literature in the context of specialties for the 2018-2019 academic year

Name of specialty	Contingent	Educational literature	Scientific literature	Educational and other	Library resources, TOTAL	Provision of EL + SL per student

							literatur e						
	kaz	rus	kaz	rus	kaz	rus	kaz	rus	kaz	rus	kaz	rus	total
5B071900 - "Radio engineering, electronics and telecommunications"	184	59	21607	21504	2839	4068	3943	4125	165	171	132,8	433,4	205,8
5B042000 - “Architecture”	97	141	9211	13852	3399	4902	1943	2071	163	130	130	153	283
5B042100 - “Design”	4	40	945	4826	47	2797	459	1309	119	114	248	190,5	438,5
5B074500 - "Transport construction"	106	45	10803	11773	970	2964	947	1349	113	170	111,0	327,4	148,0

Table 24. The number of electronic and magnetic media accredited by OP

CD-ROM	Videotapes	Scanned and digitized books
5B071900 - "Radio engineering, electronics and telecommunications"		
92	-	53
Videotapes -92 (56 – in Kazakh, 36 – in Russian)		
5B042000 - “Architecture”, 5B042100 - “Design”, 5B074500 - “Transport construction”		
-	-	Architecture 58 pcs, design 56, Transport construction 48 pcs.
-		

The educational process is provided by professional computer programs: Operating System, Office Suite, Graphic Editors, Audio-Video Editors, Web Design and Visual Project Software, Project Automation System (PAS), Desktop Publishing System, Database Management System, Antivirus programs.

Accessibility to the WI-FI network in the territory of KSTU is at a high level, the information network of the university has an Internet access speed of 600 Mb \ s. The buildings contain the necessary number of access points for high-quality network coverage. In interviews with students, they also received confirmation of the complete coverage of the broadcast area of the WI-FI network in the university and student dormitories. This confirms the provision of high-speed Internet to all students, teachers and employees of the university.

Table 25. Information on the information security of KSTU

Name of indicator	indicator
Network Connectivity	Yes
Internet connection speed of at least 1 Mbps	96 Mbps
The number of local networks	2
The total number of units of computer technology (pcs)	35
The number of units of computer technology used in the	35

educational process (pcs)	
Total number of computer classes	1

The results of a student survey conducted during the visit of the EEC IAAR showed:

- the availability of computer classes and Internet resources: “Completely satisfied” - 78%, “Partially satisfied” - 15%, “Partly dissatisfied” - 3.1%, “Not satisfied” - 1.6%;
- high quality of services provided in libraries and reading rooms: “Completely satisfied” - 83.5%, “Partially satisfied” - 15.7%, “Partially dissatisfied” - 0.8%, “Not satisfied” - 0%.

Analytical part

The material, technical, informational, human and socio-cultural resources correspond to the activities, mission, vision and strategy of the University and plans for implementing the EP. Educational resources, in general, and the system of support for student meet the qualification requirements: there are the necessary computer classes, workshops and laboratories staffed with educational equipment. At the same time, it is necessary to update the content of EML on the educational portal, providing access to students and outside of school hours.

The university provides an opportunity for the development of inclusive education and for remote consultation on the subjects studied.

According to EP 5B071900 - “Radio Engineering, Electronics and Telecommunications”, there is no provision on distance learning and poorly reflected work on distance learning.

For the implementation of EP 5B042000 - "Architecture" and EP 5B042100 - "Design" there are specialized classrooms and workshops for design and art disciplines. Squares, classrooms and workshops comply with ergonomic and psycho-physical requirements.

On the basis of interviewing and questioning of teaching staff and students, familiarization with the material base, the educational infrastructure of the university and various documents, EEC IAAR notes the following:

Strengths / the best practice for EP 5B071900 - “Radio Engineering, Electronics and Telecommunications”, 5B042000 - “Architecture”, 5B042100 - “Design”, 5B074500 - “Transport Construction”:

- accessibility to the WI-FI network in the territory of KSTU at a high level.

EEC recommendations:

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction":

- to conduct special events to ensure “barrier-free” physical access and psychological and pedagogical support for students with developmental disabilities and persons with disabilities.

The conclusions of the EEC on the criteria:

According to the standard “Educational resources and student support systems”, accredited educational programs 5B071900 - “Radio engineering, electronics and telecommunications”, 5B042000 - “Architecture”, 5B042100 - “Design”, 5B074500 - “Transport construction” have 1 strong position, 9 are satisfactory and 0 suggesting improvement.

6.9. Public Awareness Standard

o The information published by the university in the framework of the EP should be accurate, objective, relevant and should include:

- *implemented programs, indicating expected learning outcomes;*
- *the information about the possibility of assigning qualification at the end of the EP;*
- *the information about teaching, training, assessment procedures;*
- *the information about passing grades and training opportunities provided to students;*
- *the information about employment opportunities for graduates.*

o EP management should use a variety of methods to disseminating information, including the media, information networks to inform the general public and interested parties.

o Public information should include support and explain the national development programs of the country and the system of higher and postgraduate education.

o The university should publish audited financial statements on its own web resource, including in the context of EP.

o The university should demonstrate the reflection on the web resource of information characterizing the university as a whole and in the context of educational programs.

o An important factor is the availability of adequate and objective information about the faculty of education, in terms of personalities.

o An important factor is informing the public about cooperation and interaction with partners within the framework of EP, including with scientific / consulting organizations, business partners, social partners and educational organizations.

o The university should post information and links to external resources based on the results of external evaluations.

o An important factor is the participation of the university and implemented EPs in various external assessment procedures.

Evidence part

The university presents relatively diverse ways of disseminating information: the official website of the university (http://www.kstu.kz.), social networks, periodicals and reference books of the university, the mass media, information banners and brochures, which contain relevant information for informing the public and stakeholders.

Information materials about the university are published in the media - in national and regional publications, on regional and city television. Modern information systems, information and communication technologies and software are used to inform the public. The website of the university demonstrated the availability of basic information on accredited EP to the public.

The formation of a positive image of KSTU is influenced by the active dissemination of information about its activities. The university has created a single information-analytical and socially-oriented environment, there is an information department. Information materials about the university are published in the media - in republican and regional publications, on regional and city television. To inform the public, modern information systems, information and communication technologies and software are used.

Information is posted on the university's website, in the news section and in thematic sections, information and analytical, image and other materials are prepared and published in the media.

The structural divisions of the university, performing organizational, managerial and information-analytical functions, are responsible for collecting information, organizing events for accessing scientific, pedagogical and educational-methodical information; monitoring and analysis of the state of informatization of education and managerial activity, etc.: office-reception, training department, information technology department.

The university has a career guidance department, where there are materials about the departments. The department organizes various events throughout the year: meetings with graduates of schools and colleges in the city and the region, is engaged in advertising the university, prepares booklets, places commercials on television, radio and other media.

There is a system of informing all employees, faculty, students and undergraduates through both paper and electronic distribution of internal and external documents by

structural units, publishing the necessary information on the university website, posting information and announcements on information stands in the state and russian languages, informing managers and interested parties at meetings and meetings, through direct mailing by e-mail, etc.

There are open days, job fairs at the university, exhibitions of achievements and demonstrations of new technologies and equipment, career guidance events, booklets, promotional and presentation materials are held.

The site provides an opportunity to go to the rector's blog, write a complaint, get advice on issues of interest. Forms of feedback at the university: questionnaires, a system for considering proposals. On the personal pages of the rector and vice-rectors posted information about hours of reception on personal issues. Suggestion and recommendations can be made during meetings of collegial bodies, which include students and teachers.

The university management pays a lot of attention to the presence of a communication mechanism with students, employees and other persons interested in the activities of the university.

A survey of teaching staff conducted during the visit of the EEC IAAR showed that the teaching staff is basically quite the work of the Internet. Lack of access to the Internet: "never" - 86.5%, "sometimes" - 13.5%, "often" - 0%.

Analytical part

An analysis of the content of the university's website allowed us to establish that the information on complaints handling for consumers on the university's website is transparent; information on interaction with scientific/consulting organizations and educational organizations that implement such educational programs is provided; transparency of information on complaints handling is reflected.

The university's website has published audited financial statements in the context of accredited EPs.

The university determines its contribution to supporting the implementation of national development programs of the country by developing and implementing the Strategic Development Plan of the Karaganda State Technical University for 2014-2023, which says that the University has created and is implementing a model of patriotic education of students on the example of the First President of the Republic Kazakhstan N.A. Nazarbayev, which was twice discussed in Parliament and recommended for distribution in universities of the country. In 2014, in accordance with the national idea of "Mangilik El", it was transformed into the model "Formation of New Kazakhstan Patriotism".

Also, the University has developed and is implementing a comprehensive development program for the Karaganda State Technical University for 2019 in the light of the strategic objectives of the Messages of the President of the Republic of Kazakhstan - Leader of the Nation N.A. Nazarbayev to the people of Kazakhstan "New Development Opportunities under the Fourth Industrial Revolution", "Five Social Initiatives of the President" and "Growing Welfare of Kazakhstan People: Raising Incomes and Quality of Life".

In the context of the implementation of the state program "Digital Kazakhstan", the Academic Council of KSTU adopted the concept of the transition of KSTU to the Digital KSTU model. In support of the state program "Digital Kazakhstan" and the national project "Intellectual Nation - 2020", proclaimed by the President of the Republic of Kazakhstan Nursultan Nazarbayev, work is underway on the functioning of the Cisco Academy.

Public information on this criterion is envisaged by posting all documents on the university's website in the public domain and discussing it on the advice of collegial management bodies with the participation of interested parties.

EEC IAAR, on the basis of interviewing and questioning of employees, faculty and students, familiarization with the educational infrastructure of the university and various documents, notes the following:

Strengths / The Best Practice for EP 5B071900 - "Radio Engineering, Electronics and Telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport Construction":

- the university has adopted and is in effect the Concept of transition of KSTU to the Digital KSTU model, work is underway on the operation of the Cisco Networking Academy in cooperation with commercial and state structures of Kazakhstan.

EEC recommendations

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction":

- add information on the university website about the specifics of accredited educational programs about the features and areas of the specialty, about the possibility of employment, etc.

Additional recommendation for EP 5B042000 - "Architecture" and EP 5B042100 - "Design":

- add and update the university's website with information for applicants entering the specialties of the "Art" direction in creative exams.

The conclusions of the EEC on the criteria:

According to the Public Information standard, accredited educational programs 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" have 1 strong position, 12 are satisfactory and 0, suggesting improvement.

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

The organization of educational activities for accredited EPs is carried out through the planning of the educational process and the content of education, the choice of methods for their implementation. The balance of theoretical and practice-oriented disciplines in the implementation of the EP is ensured by the fact that the study of theoretical disciplines necessarily assumes their practical orientation to the educational process in accordance with general didactic principles, and the study of practice-oriented disciplines, including methodological ones, is based on fundamental theories. Much attention is paid to the technology of project activities.

"TECHNICAL SCIENCES AND TECHNOLOGIES"

Educational programs in the areas of "Technical Sciences and Technologies" must meet the following requirements:

In order to familiarize students with the professional environment and relevant issues in the field of specialization, as well as to acquire skills based on theoretical training, the education program should include disciplines and activities aimed at gaining practical experience and skills in the specialty in general and majors in particular, in t .h .:

- excursions to enterprises in the field of specialization (factories, workshops, research institutes, laboratories, educational and experimental farms, etc.),

- conducting individual classes or entire disciplines at the enterprise of specialization,

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

The teaching staff involved in the education program should include full-time teachers who have long-term experience as full-time employees in enterprises in the field of specialization of the education program.

The content of all disciplines of physics should be based to one degree or another and include a clear relationship with the content of fundamental natural sciences, such as mathematics, chemistry, physics.

EP management should provide measures to strengthen practical training in the field of specialization.

EP management should provide training for students in the application of modern information technologies.

Evidence part

According to EP 5B074500 - "Transport construction", EP 5B071900 - "Radio engineering, electronics and telecommunications":

The need for professional practice, as well as the number of places is determined by the contract of professional practice in accordance with the schedule, which is agreed with the company. An agreement with the bases of professional practice of students is concluded no later than one month before the start of practice.

The results of all types of practices are summarized at the final conferences organized by the department, with the participation of students who have passed the practice and junior students and, in the future, are submitted for discussion of the department meeting.

The practice places correspond to the profile of the specialty, all types of practice are provided with educational and methodological materials, the practice is formalized in the form of diaries and reports that are recorded and executed in accordance with the requirements. In order to centrally provide students with places of practice with a university and departments, work is underway to conclude long-term agreements with various institutions and organizations.

In addition, as part of the educational process, classes are held in individual disciplines at specialization enterprises.

For the EP 5B071900 - “Radio Engineering, Electronics and Telecommunications”, students are being trained for professional certification:

- the courses “Electric controller of dispatching equipment and teleautomatics”, “Cable maker-solder of optical fiber” 2 categories in the amount of 80 hours on a paid basis with the issuance of a certificate and the issuance of a certificate with the assignment of a working profession were opened.

Circles function.

Olympiads of various levels are organized on the basis of KU enterprises (LLP “AV” and LLP “Kazcentrelectroprovod”).

Contracts have been concluded for conducting practices with subsequent employment with enterprises corresponding to the accredited EP.

"ART"

Educational programs in the direction of "Art", such as "Musicology", "Choreography", "Architecture", etc., must meet the following requirements:

EP management should demonstrate that the graduates of the program have theoretical knowledge in the field of arts and self-expression skills through creativity that are related to the competencies of the accredited EP, for example, choreography, singing, graphics, painting, sculpture, architectural, industrial, graphic design, etc .;

EP management should demonstrate self-learning and self-development skills in students;

Within the program, students should be able to listen to at least one discipline in their field of specialization taught by a practicing specialist;

The study program should include the maximum possible number of disciplines and activities in which the skills are taught to students individually or in small groups, for example, conducting master classes by distinguished workers in the field of specialization;

EP management should organize for students the maximum possible number of events that facilitate students to demonstrate their acquired creative skills, such as concerts and exhibitions;

Creative work, participation in concerts, competitions, performances, etc. within this area is part of scientific activity.

Within the framework of EP, students should be provided with knowledge and skills of creative activity and methods / technologies practiced in the world, and knowledge on art management;

EP should contribute to the enrichment of creative experience in various activities characteristic of the specialty;

In order to familiarize students with the professional environment and relevant issues in the field of specialization, as well as to acquire skills based on theoretical training, the education program should include disciplines and activities aimed at gaining practical experience and skills in the specialty in general and majors in particular, in t .h .:

- excursions to enterprises in the field of specialization (museums, theaters, design offices, etc.),
- conducting individual classes or entire disciplines at the enterprise of specialization,
- holding seminars to solve practical problems relevant to enterprises in the field of specialization, etc.;

An important factor in the framework of the EP is the presence of a peer review mechanism for creative examinations of students.

Evidence part

According to the EP 5B042000 - “Architecture”, 5B042100 - “Design”:

Based on interviews of graduates of accredited programs and acquaintance with their creative former students of the Department of A&D, it can be concluded that the university demonstrated to students the knowledge, skills in the field of art through self-education, self-development and self-expression through creativity. The creative work of faculty and students of the department "A&D" is part of scientific activity. The exhibition at the House of Architects of Karaganda for World Architects Day was dedicated to several dates: the 65th anniversary of KSTU, the 20th anniversary of the opening of the specialty "Architecture" at ACF KSTU and the best diploma projects of 2018 at the university. http://www.kstu.kz/press-reliz-ko-dnyu-vsemirnoj-arhitektury/ .

A variety of events are regularly organized for students to help students demonstrate creative skills. For example, an exhibition of student projects at the Regional Museum of Fine Arts, October 20, 2017, dedicated to the 20th anniversary of the specialty "Architecture" in KSTU: http://www.kstu.kz/20-letnij-yubilej-spetsialnosti-arhitektura-v-kargtu/ , http://inkaraganda.kz/articles/146116

Students take part in national and international competitions of diploma projects. For example, the International Festival of Architectural, Construction and Design Schools of Eurasia, the competition results can be found at http://www.kazgasa.kz/ru/news/vi-mezhdunarodnyy-festival-arhitekturno-stroitelnyh-i-dizaynerskih-shkol-evrazii . Other awards, certificates and diplomas of students of the EP “Art” of KSTU can be found at: http://www.kstu.kz/nashi-nagrady-i-dostizheniya/.

Leading experts in the field of urban planning and architectural design are invited as chairmen of the State Administrative Commission and reviewers of diploma projects. In their reports, the chairmen of the SAC give, in addition to analyzing the knowledge of students, make suggestions on the subject of graduation projects, on making additions to the content of disciplines, and on the need to include elective courses in the content of the EP to form the necessary competencies for a university graduate taking into account his qualifications. Graduates of the specialties “Architecture” and “Design” with industrial and pedagogical experience in these specialties are involved in the master classes.

Evaluation of creative coursework projects on EP 5B042000 “Architecture” and EP 5B042100 “Design” is conducted collectively, so the assessment is objective. It includes leading teachers of design and graphic arts disciplines. The composition of the commissions for the acceptance of term papers and projects is discussed and approved at a meeting of the department one month before the term of protection, which is reflected in the minutes of the meetings of the department (protocol from the registry department No. 6 dated November 28, 2018; protocol of the register department No. 14 dated 03/27/2011. 2019). The schedule for the protection of term papers and projects is approved at meetings of the educational and methodical seminars of the department “Architecture and Design” 2 times a year (prot. No. 3 of November 30, 2018; prot. No. 8 of April 26, 2019).

The university has formed the competency model of the graduate of bachelors in the field of "Art" in the context of accredited EPs, consisting of two main groups of competencies: general cultural and professional. The results of training in educational programs are: the formation of students' competencies that are in demand on the labor market; personal, professional and social development of students, contributing to socialization, the formation of a common personality culture.

Analytical part (general)

An analysis of the feedback of employers and heads of training and production practices on accredited EP 5B071900 - “Radio engineering, electronics and telecommunications”, 5B042000 - “Architecture”, 5B042100 - “Design”, 5B074500 - “Transport construction” indicates that there is a pronounced practical orientation of special disciplines .

Disciplines and activities aimed at obtaining practical skills appropriate to the specialty acquired are included. It should be specially noted that the organization of conducting the students ’practice in EP 5B071900 - “Radio Engineering, Electronics and Telecommunications ”: LLP “Quartz”, LLP “AV”, JSC “Arcelor Mittal Temirtau”; according to EP 5B042000 - “Architecture”: LLP “Institute Karaganda Promstroyproekt”; according to EP 5B042100 - “Design” LLP “ZigZag Group”; according to EP 5B074500 - “Transport construction” - SI “Karagandy ZholLaboratory”. For example, at the LLP “Institute Karaganda Promstroyproekt”, special training rooms are equipped with equipment and computer equipment with installed modern software. In addition, the enterprise is equipped with an audience for the defense of final qualification works.

The teaching staff includes full-time teachers with long-term practical experience in the field of specialty. The interconnection of special disciplines of EP with fundamental natural sciences, studied in junior courses is traced.

When implementing accredited students' learning opportunities, they gain practical skills in using modern information technologies.

According to EP 5B071900 - "Radio engineering, electronics and telecommunications":

- at the LLP “AV” company, a special training room is equipped with equipment and computer equipment with installed modern software.

According to the EP 5B042000 - "Architecture" and 5B042100 - "Design":

- the university practices the mechanism of peer review of creative exam papers of students, defines the rules, composition of the commission, etc. However, there is no Regulation on peer review;

- Students have the opportunity to study in small groups.

- in the framework of the EP there are a number of disciplines that are conducted by practicing specialists with extensive experience, who instill skills in creative activity.

- the university has created the conditions for exhibition events: an exhibition hall, training studios of drawing and painting.

According to EP 5B074500 - "Transport construction":

- Students receive practical skills in using modern information technologies.

In general, according to the Standard, the commission can draw a conclusion about the formed system of planning educational activities in its various areas and about the effective use of existing educational, material, technical, program-information and other resources in the implementation of accredited educational programs.

On the basis of visiting exams, a coursework museum and graduation projects of students, interviewing and questioning teaching staff and students are familiarizing themselves with the university's educational infrastructure and the submitted documents, the following notes:

Strengths / The Best Practices

According to EP 5B071900 - "Radio Engineering, Electronics and Telecommunications" and EP 5B074500 - "Transport Construction" Strengths and best practices under this Standard have not been identified.

According to the EP 5B042000 - "Architecture", 5B042100 - "Design":

The creative work of the teaching staff of the department, the work of graduates and students at accredited educational institutions, diploma projects have been repeatedly awarded with diplomas of Republican and international competitions and festivals.

EEC recommendations

Direction "Technical sciences and technologies"

Recommendation for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" is:

- to continue to equip laboratories, classrooms and specialized classrooms.

Direction "Art".

Recommendation for EP 5B042000 - "Architecture", 5B042100 - "Design" is:

- to develop a regulation on the peer review of the results of training in design and art disciplines of the department in educational programs with the specialties "Architecture" and "Design".

The conclusions of the EEC on the criteria:

According to the standard "Standards in the context of individual specialties", accredited educational programs for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" have 1 strong position, 14 are satisfactory and 0 suggesting improvement.

Including:

- in the direction "Technical sciences and technologies" 0 strong positions, 5 satisfactory and 0, suggesting improvement;

- in the direction of "Art" they have 1 strong position, 9 satisfactory and 0, suggesting improvement.

The organization of educational activities for accredited EPs is carried out through the planning of the educational process and the content of education, the choice of methods for their implementation. The balance of theoretical and practice-oriented disciplines in the implementation of the EP is ensured by the fact that the study of theoretical disciplines necessarily assumes their practical orientation to the educational process in accordance with general didactic principles, and the study of practice-oriented disciplines, including methodological ones, is based on fundamental theories. Much attention is paid to the technology of project activities.

"TECHNICAL SCIENCES AND TECHNOLOGIES"

Educational programs in the areas of "Technical Sciences and Technologies" must meet the following requirements:

In order to familiarize students with the professional environment and relevant issues in the field of specialization, as well as to acquire skills based on theoretical training, the education program should include disciplines and activities aimed at gaining practical experience and skills in the specialty in general and majors in particular:

- excursions to enterprises in the field of specialization (factories, workshops, research institutes, laboratories, educational and experimental farms, etc.),
- conducting individual classes or entire disciplines at the enterprise of specialization,
- conducting seminars to solve practical problems relevant for enterprises in the field of specialization, etc.

The teaching staff involved in the education program should include full-time teachers who have long-term experience as full-time employees in enterprises in the field of specialization of the education program.

The content of all disciplines of physics should be based to one degree or another and include a clear relationship with the content of fundamental natural sciences, such as mathematics, chemistry, physics.

EP management should provide measures to strengthen practical training in the field of specialization.

EP management should provide training for students in the application of modern information technologies.

Evidence part

According to EP 5B074500 - "Transport construction", EP 5B071900 - "Radio engineering, electronics and telecommunications":

The need for professional practice, as well as the number of places is determined by the contract of professional practice in accordance with the schedule, which is agreed with the company. An agreement with the bases of professional practice of students is concluded no later than one month before the start of practice.

The results of all types of practices are summarized at the final conferences organized by the department, with the participation of students who have passed the practice and junior students and, in the future, are submitted for discussion of the department meeting.

The practice places correspond to the profile of the specialty, all types of practice are provided with educational and methodological materials, the practice is formalized in the form of diaries and reports that are recorded and executed in accordance with the requirements. In order to centrally provide students with places of practice with a university and departments, work is underway to conclude long-term agreements with various institutions and organizations.

In addition, as part of the educational process, classes are held in individual disciplines at specialization enterprises.

For the EP 5B071900 - “Radio Engineering, Electronics and Telecommunications”, students are being trained for professional certification:

- the courses “Electric controller of dispatching equipment and teleautomatics”, “Cable maker-solder of optical fiber” 2 categories in the amount of 80 hours on a paid basis with the issuance of a certificate and the issuance of a certificate with the assignment of a working profession were opened.

Functional groupes.

Olympiads of various levels are organized on the basis of KU enterprises (LLP “AV” and LLP “Kazcentrelectroprovod”).

Contracts have been concluded for conducting practices with subsequent employment with enterprises corresponding to the accredited EP.

"ART"

Educational programs in the direction of "Art", such as "Musicology", "Choreography", "Architecture", etc., must meet the following requirements:

EP management should demonstrate that the graduates of the program have theoretical knowledge in the field of arts and self-expression skills through creativity that are related to the competencies of the accredited EP, for example, choreography, singing, graphics, painting, sculpture, architectural, industrial, graphic design, etc .;

EP management should demonstrate self-learning and self-development skills in students;

Within the program, students should be able to listen to at least one discipline in their field of specialization taught by a practicing specialist;

The study program should include the maximum possible number of disciplines and activities in which the skills are taught to students individually or in small groups, for example, conducting master classes by distinguished workers in the field of specialization;

EP management should organize for students the maximum possible number of events that facilitate students to demonstrate their acquired creative skills, such as concerts and exhibitions;

Creative work, participation in concerts, competitions, performances, etc. within this area is part of scientific activity.

Within the framework of EP, students should be provided with knowledge and skills of creative activity and methods / technologies practiced in the world, and knowledge on art management;

EP should contribute to the enrichment of creative experience in various activities characteristic of the specialty;

In order to familiarize students with the professional environment and relevant issues in the field of specialization, as well as to acquire skills based on theoretical training, the education program should include disciplines and activities aimed at gaining practical experience and skills in the specialty in general and majors in particular, in t .h .:

- excursions to enterprises in the field of specialization (museums, theaters, design offices, etc.),
- conducting individual classes or entire disciplines at the enterprise of specialization,
- holding seminars to solve practical problems relevant to enterprises in the field of specialization, etc .;

An important factor in the framework of the EP is the presence of a peer review mechanism for creative examinations of students.

Evidence part

According to the EP 5B042000 - “Architecture”, 5B042100 - “Design”:

Based on interviews of graduates of accredited programs and acquaintance with their creative former students of the department of A&D, it can be concluded that the university demonstrated to students the knowledge, skills in the field of art through self-education, self-development and self-expression through creativity. The creative work of faculty and students of the department "A&D" is part of scientific activity. The exhibition at the House of Architects of Karaganda for World Architects Day was dedicated to several dates: the 65th anniversary of KSTU, the 20th anniversary of the opening of the specialty

"Architecture" at ACF KSTU and the best diploma projects of 2018 at the university. http://www.kstu.kz/press-reliz-ko-dnyu-vsemirnoj-arhitektury/ .

A variety of events are regularly organized for students to help students demonstrate creative skills. For example, an exhibition of student projects at the Regional Museum of Fine Arts, October 20, 2017, dedicated to the 20th anniversary of the specialty "Architecture" in KSTU: http://www.kstu.kz/20-letnij-yubilej-spetsialnosti-arhitektura-v-kargtu/ , http://inkaraganda.kz/articles/146116

Students take part in national and international competitions of diploma projects. For example, the International Festival of Architectural, Construction and Design Schools of Eurasia, the competition results can be found at http://www.kazgasa.kz/ru/news/vi-mezhdunarodnyy-festival-arhitekturno-stroitelnyh-i-dizaynerskih-shkol-evrazii . Other awards, certificates and diplomas of students of the EP "Art" of KSTU can be found at: http://www.kstu.kz/nashi-nagrady-i-dostizheniya/.

Leading experts in the field of urban planning and architectural design are invited as chairmen of the State Administrative Commission and reviewers of diploma projects. In their reports, the chairmen of the SAC give, in addition to analyzing the knowledge of students, make suggestions on the subject of graduation projects, on making additions to the content of disciplines, and on the need to include elective courses in the content of the EP to form the necessary competencies for a university graduate taking into account his qualifications. Graduates of the specialties "Architecture" and "Design" with industrial and pedagogical experience in these specialties are involved in the master classes.

Evaluation of creative coursework projects on EP 5B042000 "Architecture" and EP 5B042100 "Design" is conducted collectively, so the assessment is objective. Which includes leading teachers of design and graphic arts disciplines. The composition of the commissions for the acceptance of term papers and projects is discussed and approved at a meeting of the department one month before the term of protection, which is reflected in the minutes of the meetings of the department (protocol from the registry department No. 6 dated November 28, 2018; protocol of the register department No. 14 dated 03/27/2011. 2019). The schedule for the protection of term papers and projects is approved at meetings of the educational and methodical seminars of the department "Architecture and Design" 2 times a year (prot. No. 3 of November 30, 2018; prot. No. 8 of April 26, 2019).

The university has formed the competency model of the graduate of bachelors in the field of "Art" in the context of accredited EPs, consisting of two main groups of competencies: general cultural and professional. The results of training in educational programs are: the formation of students' competencies that are in demand on the labor market; personal, professional and social development of students, contributing to socialization, the formation of a common personality culture.

Analytical part (general)

An analysis of the feedback of employers and heads of training and production practices on accredited EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" indicates that there is a pronounced practical orientation of special disciplines .

Disciplines and activities aimed at obtaining practical skills appropriate to the specialty acquired are included. It should be specially noted that the organization of conducting the students 'practice in EP 5B071900 - "Radio Engineering, Electronics and Telecommunications ": LLP "Quartz", LLP "AV", JSC "Arcelor Mittal Temirtau"; according to EP 5B042000 - "Architecture": LLP "Institute Karaganda Promstroyproekt"; according to EP 5B042100 - "Design" LLP "ZigZag Group"; according to EP 5B074500 - "Transport construction" - SI "Karagandy ZholLaboratory". For example, at the LLP "Institute Karaganda Promstroyproekt", special training rooms are equipped with equipment and

computer equipment with installed modern software. In addition, the enterprise is equipped with an audience for the defense of final qualification works.

The teaching staff includes full-time teachers with long-term practical experience in the field of specialty. The interconnection of special disciplines of EP with fundamental natural sciences, studied in junior courses is traced.

When implementing accredited students' learning opportunities, they gain practical skills in using modern information technologies.

According to EP 5B071900 - "Radio engineering, electronics and telecommunications":

- at the LLP "AB" company, a special training room is equipped with equipment and computer equipment with installed modern software.

According to the EP 5B042000 - "Architecture" and 5B042100 - "Design":

- the university practices the mechanism of peer review of creative exam papers of students, defines the rules, composition of the commission, etc. However, there is no Regulation on peer review;
- Students have the opportunity to study in small groups.
- in the framework of the EP there are a number of disciplines that are conducted by practicing specialists with extensive experience, who instill skills in creative activity.
- the university has created the conditions for exhibition events: an exhibition hall, training studios of drawing and painting.

According to EP 5B074500 - "Transport construction":

- Students receive practical skills in using modern information technologies.

In general, according to the Standard, the commission can draw a conclusion about the formed system of planning educational activities in its various areas and about the effective use of existing educational, material, technical, program-information and other resources in the implementation of accredited educational programs.

On the basis of visiting exams, a coursework museum and graduation projects of students, interviewing and questioning teaching staff and students, familiarizing themselves with the university's educational infrastructure and the submitted documents, the following notes:

Strengths / the best practices

According to EP 5B071900 - "Radio Engineering, Electronics and Telecommunications" and EP 5B074500 - "Transport Construction" strengths and best practices under this standard have not been identified.

According to the EP 5B042000 - "Architecture", 5B042100 - "Design":

The creative work of the teaching staff of the department, the work of graduates and students at accredited educational institutions, diploma projects have been repeatedly awarded with certificates of Republican and International competitions and festivals.

EEC recommendations

Direction "Technical sciences and technologies"

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction":

- continue to equip laboratories, classrooms and specialized classrooms.

Direction "Art".

Recommendation for EP 5B042000 - "Architecture", 5B042100 - "Design"is:

- to develop a regulation on the peer review of the results of training in design and art disciplines of the department in educational programs with the specialties "Architecture" and "Design".

The conclusions of the EEC on the criteria:

According to the standard "Standards in the context of individual specialties", accredited educational programs for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" have 1 strong position, 14 are satisfactory and 0 suggesting improvement.

Including:

- in the direction "Technical sciences and technologies" 0 strong positions, 5 satisfactory and 0, suggesting improvement;

- in the direction of "Art" they have 1 strong position, 9 satisfactory and 0, suggesting improvement.

(VII) REVIEW OF STRENGTHS / BEST PRACTICE BY EACH STANDARD

According to the standard "Management of the educational program":

Strengths / the best practice for EP 5B071900 - "Radio Engineering, Electronics and Telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport Construction":

- on a regular basis the participation of employers, teaching staff, students and other stakeholders as part of the collegial management bodies of the EP is ensured.

According to the Standard "Information Management and Reporting"

- Within the framework of this Standard, strengths have not been identified.

According to the Standard "Development and approval of the educational program":

Strengths / Best Practice for EP 5B071900 - "Radio Engineering, Electronics and Telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport Construction":

- students have the opportunity to pass the professional certification procedure.

According to the standard "Continuous monitoring and periodic evaluation of educational programs"

- Within the framework of this Standard, strengths have not been identified.

According to the standard "Student-centered learning, teaching and performance assessment":

- Within the framework of this Standard, strengths have not been identified.

According to the Standard "Students":

Strengths / Best Practice for EP 5B071900 - "Radio Engineering, Electronics and Telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport Construction":

- special training rooms staffed with equipment and computer equipment with installed modern software are equipped on the bases of practice of accredited EPs.
- the "Regulation on the Council on Spiritual and Moral Education" ("Council of the Elders") was developed, approved and valid at the university.

According to the Standard "Faculty":

- Within the framework of this Standard, no strengths have been identified.

According to the Standard "Educational Resources and Student Support Systems":

Strengths / Best Practice for EP 5B071900 - "Radio Engineering, Electronics and Telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport Construction":

- accessibility to the WI-FI network in the territory of KSTU at a high level

According to the Public Information Standard:

Strengths / Best Practice for EP 5B071900 - "Radio Engineering, Electronics and Telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport Construction":

- the university has adopted and is in effect the Concept of transition of KSTU to the Digital KSTU model, work is underway on the operation of the Cisco Networking Academy in cooperation with commercial and state structures of Kazakhstan.

Standards in the context of individual specialties:

According to EP 5B071900 - "Radio engineering, electronics and telecommunications" and EP 5B074500 - "Transport construction":

- 2 certified instructors under the CCNA program: Introduction to network work at the Network Academy at KSTU CCNA: routing and switcing.

According to the EP 5B042000 - "Architecture", 5B042100 - "Design":

- the creative work of the teaching staff of the department, the work of graduates and students at the accredited EP, graduates projects have been repeatedly awarded with certificate of Republican and International competitions and festivals.

(VIII) OVERVIEW OF QUALITY IMPROVEMENT RECOMMENDATIONS BY EACH STANDARD

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

According to the standard "Management of the educational program":

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" are:

- to develop development plans for accredited EPs with concretization of strategic planning indicators in the context of directions and time intervals and conduct an analysis of the conformity of the EP Development Plan with the current KSTU development strategy, based on forecasting its relevance in the near and distant future;
- to determine the uniqueness and advantages of accredited EPs in comparison with other EPs implemented in the region and in the Republic;
- to continue the introduction of the process of teaching academic disciplines in English in these specialties in order to ensure that educational programs comply with the leading trends in national education policy (multilingual education);
- to identify and analyze the resources (human, material, financial, organizational, etc.) necessary for the implementation of the EP. Use the results of the analysis of resources when updating the development plan of the EP;
- to develop a risk management program with the appointment of those responsible, determine the list of possible threats during the implementation of the EP, provide for procedures that prevent the onset of threats and manage them;
- to continue training programs for the management of educational programs, including the heads of departments and managers of educational programs in educational management;
- to develop a plan to attract well-known scientists, public and political figures, practitioners to the implementation of the EP.

Additional recommendation for EP 5B071900 - "Radio engineering, electronics and telecommunications":

- demonstrate changes and recommendations since the last external review in the preparation of documents.

According to the Standard "Information Management and Reporting":

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction"are:

- to collect and analyze data on the career growth of graduates of accredited EPs, use the data to determine the competitive advantages of educational programs;
- to determine the criteria and systematize the assessment of the effectiveness and efficiency of the EP;
- to supplement the university's website with the necessary information about the educational program (employment of graduates, creative activities of students and faculty, scientific and creative projects, etc.).

According to the Standard "Development and approval of the educational program":

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" are:

- to develop projects of joint educational programs with foreign educational organizations.

- to continue the implementation of the internship plan for faculty and program managers in other educational organizations that implement similar educational programs.

Additional recommendation for EP 5B071900 - "Radio engineering, electronics and telecommunications"is:

- to take into account the recommendations of previous accreditation on the issue of work in the direction of continuity of the content of EP at various levels (lack of master's and doctoral programs).

Additional recommendation for EP 5B042000 - "Architecture" and EP 5B042100 - "Design" is:

- to specify the subject of graduation projects of educational programs "Architecture" and "Design" in accordance with the specialty and purpose of the graduate design.

According to the standard "Continuous monitoring and periodic evaluation of educational programs":

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" are:

- to the supervising structural unit to develop a mechanism for conducting a procedure for analyzing the results of a survey with the development of a plan of corrective actions in the context of specialties and ensuring control over their implementation;

- to develop criteria for student satisfaction with the content of the EP.

Additional recommendation for EP 5B042000 - "Architecture" and EP 5B042100 - "Design"is:

- to develop a plan for their own research in the field of teaching methods of special design and art disciplines of the EP.

According to the standard "Student-centered learning, teaching and performance assessment":

Recommendation for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" is :

- to develop a regulation establishing a mechanism for analyzing students' questionnaires to meet the expectations and needs of students in training.

Additional recommendations for EP 5B042000 - "Architecture" and EP 5B042100 - "Design" are:

- to intensify work on their own research in the field of teaching methods of design and art disciplines of EP.

- to develop a regulation on the peer review of the results of studying design and art disciplines of the department in educational programs of the specialties "Architecture" and "Design".

According to the Standard "Students":

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction":

- to describe the life cycle of students with an indication of the appropriate procedures at each stage of the cycle and evaluate the satisfaction of students with each stage of the life cycle; take corrective measures based on the results;

- to define the concept of "Gifted Student" and regulate the process of their support;

- to develop the activities of the Alumni Association, to ensure that stakeholders are informed about it.

Additional recommendation for EP 5B042000 - "Architecture" and for EP 5B042100 - "Design"is:

- to develop a regulation on entrance exams in the undergraduate specialties at the EP 5B042000 - "Architecture" and 5B042100 - "Design", to post on the website.

According to the Standard "Faculty":

Recommendations for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction"are:

- for the implementation of accredited EPs, supplement the staff of the faculty departments with basic education, academic degree and academic rank;
- to continue to work on the implementation of academic mobility and advanced training of teaching staff in the profile of the taught disciplines;
- to provide for the possibility of providing teaching staff with conditions for playing sports outside of school hours.

According to the Standard "Educational Resources and Student Support Systems":

Recommendation for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" is:

- to conduct special events to ensure "barrier-free" physical access and psychological and pedagogical support for students with developmental disabilities and persons with disabilities.

According to the Public Information Standard:

Recommendation for EP 5B071900 - "Radio engineering, electronics and telecommunications", 5B042000 - "Architecture", 5B042100 - "Design", 5B074500 - "Transport construction" is:

- to supplement information on the university website about the specifics of accredited educational programs about the features and areas of the specialty, about the possibility of employment, etc.

Additional recommendation for EP 5B042000 - "Architecture" and EP 5B042100 - "Design" is:

- to supplement and update the university's website with information for applicants entering the specialties of the Art direction in creative exams.

According to the Standard "Standards in the context of individual specialties":

Direction "Technical sciences and technologies"

Recommendation for EP 5B071900 - "Radio engineering, electronics and telecommunications", EP 5B074500 - "Transport construction" is:

- to continue to equip laboratories, classrooms and specialized classrooms.

Direction "Art".

Recommendation for EP 5B042000 - "Architecture", 5B042100 - "Design" is:

- to develop a regulation on the peer review of the results of training in design and art disciplines of the department in educational programs with the specialties "Architecture" and "Design".

Appendix 1. Parameters of a specialized profile (5B071900-Radio engineering, electronics and telecommunications, 5B042000-Architecture, 5B042100-Design, 5B074500-Transport construction)

№	№	Criteria for evaluation	Education Organization Position			
			Strong	Satisfactory	Suggests improvement	Unsatisfactory
Standard "Management of the educational program"						
1	1	The university must have a published quality assurance policy.		+		
2	2	Quality assurance policies should reflect the link between research, teaching and learning.		+		
3	3	The university should demonstrate the development of a culture of quality assurance, including in the context of EP.		+		
4	4	A commitment to quality assurance should apply to any activity carried out by contractors and partners (outsourcing), including in the implementation of joint / double degree education and academic mobility.		+		
5	5	EP management ensures transparency in the development of the EP development plan based on an analysis of its functioning, the actual positioning of the university and its focus on meeting the needs of the state, employers, interested individuals and students.			+	
6	6	EP management demonstrates the functioning of the mechanisms for forming and regularly reviewing 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 continual improvement of EP.			+	
7	7	EP management should involve representatives of stakeholder groups, including employers, students and faculty members, in the formation of the EP development plan.			+	
8	8	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 should demonstrate a clear definition of those responsible for business processes within the framework of the EP, an unambiguous distribution of the duties of the staff, and delimitation of the functions of collegial bodies.		+		
10	10	EP management must provide evidence of the transparency of the educational program management system.		+		

11	11	EP management must demonstrate the successful functioning of the internal quality assurance system of the EP, including its design, management and monitoring, their improvement, and decision-making based on facts.		+		
12	12	EP management must manage risk.			+	
13	13	EP management should ensure the participation of representatives of interested parties (employers, teaching staff, students) in the collegial bodies of the educational program management, as well as their representativeness in making decisions on educational program management.	+			
14	14	The university should demonstrate innovation management in the framework of the EP, including the analysis and implementation of innovative proposals.		+		
15	15	EP management should demonstrate evidence of openness and accessibility for students, faculty, employers and other interested parties.		+		
16	16	EP management must be trained in education management programs.		+		
17	17	EP management should strive to ensure that progress made since the last external quality assurance procedure was taken into account in preparation for the next procedure.		+		
		Total standard	**1**	**11**	**5**	**0**
Standard "Information Management and Reporting"						
18	1	The university should ensure the functioning of a 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 framework of EP, there should be a system of regular reporting, reflecting all levels of the structure, including an assessment of the effectiveness and efficiency of the departments and departments, and scientific research.		+		
21	4	The university should establish the frequency, forms and methods of evaluating the management of EP, the activities of collegial bodies and structural divisions, senior management, and the implementation of scientific projects.		+		
22	5	The university should demonstrate the definition of the order and ensuring the protection of information, including the definition of responsible persons for the accuracy and timeliness of the analysis of information and the provision of data.		+		
23	6	An important factor is the involvement of students, workers and teaching staff in the processes of collecting and analyzing information, as well as making decisions based on them.		+		

24	7	EP management should demonstrate the existence of a communication mechanism with students, employees and other interested parties, including the existence of conflict resolution mechanisms.		+		
25	8	The university should provide a measure of the degree of satisfaction of the needs of faculty, staff and students in the framework of the EP and demonstrate evidence of elimination of the discovered deficiencies.		+		
26	9	The university should evaluate the effectiveness and efficiency of activities, including in the context of EP.		+		
	10	Information collected and analyzed by the university should take into account:				
27	11	key performance indicators;		+		
28	12	the dynamics of the contingent of students in the context of forms and types;		+		
29	13	level of academic achievement, student achievement and expulsion;		+		
30	14	students' satisfaction with the implementation of the academic program and the quality of education at the university;		+		
31	15	the availability of educational resources and support systems for students;		+		
32	16	employment and career growth of graduates.		+		
33	17	Students, employees and faculty must document their consent to the processing of personal data.		+		
34	18	EP management should facilitate the provision of all necessary information in relevant fields of science.		+		
		Total standard	**0**	**17**	**0**	**0**
Standard "Development and approval of educational programs"						
35	1	The university should determine and document the procedures for the development of EP and their approval at the institutional level.		+		
36	2	EP management should ensure that developed EPs are consistent with established goals, including intended learning outcomes.		+		
37	3	EP management should ensure the availability of developed models of the graduate of the EP that describe the learning outcomes and personal qualities.		+		
38	4	EP management must demonstrate that it conducts external reviews of the EP.		+		
39	5	The qualifications obtained upon completion of the EP must be clearly defined, explained and consistent with a certain level of NSC.		+		
40	6	EP management should determine the impact of disciplines and professional practices on the formation of learning outcomes.		+		
41	7	An important factor is the ability to prepare students for professional certification.	+			

42	8	EP management must provide evidence of the participation of students, faculty and other stakeholders in the development of EP, ensuring their quality.		+		
43	9	The complexity of the EP should be clearly defined in Kazakhstan loans and ECTS.		+		
44	10	EP management should ensure the content of academic disciplines and learning outcomes for the level of training (bachelor's, master's, doctoral).		+		
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 educational institutions with foreign educational organizations.			+	
		Total standard	**1**	**10**	**1**	**0**
Standard "Continuous monitoring and periodic evaluation of educational programs"						
47	1	The university should conduct monitoring and periodic assessment of 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 OP.		+		
		Monitoring and periodic assessment of EP should consider:				
48	2	the content of the programs in the light of the latest achievements of science in a particular discipline to ensure the relevance of the taught discipline;		+		
49	3	changes in the needs of society and the professional environment;		+		
50	4	load, academic performance and graduation of students;		+		
51	5	the effectiveness of student assessment procedures;		+		
52	6	students' expectations, needs, and satisfaction with learning in EP;			+	
53	7	educational environment and support services and their compliance with the goals of the EP.		+		
54	8	The university and the EP management must provide evidence of the participation of students, employers and other stakeholders in the revision of the EP.		+		
55	9	All interested parties should be informed of any planned or taken actions regarding the OP. All changes made to the EP should be published.		+		
56	10	EP management should ensure that the content and structure of the EP are reviewed taking into account changes in the labor market, requirements of employers and the social request of the company.		+		
		Total standard	**0**	**9**	**1**	**0**
Standard "Student-centered Learning, Teaching and Assessment"						
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 should ensure the use of various forms		+		

		and methods of teaching and learning.				
59	3	An important factor is the availability of our own research in the field of teaching methods of educational disciplines of EP.		+		
60	4	EP management should demonstrate the existence of a feedback system for the use of various teaching methods and assessment of learning outcomes.		+		
61	5	EP management should demonstrate support for students' autonomy while guiding and assisting the teacher.		+		
62	6	EP management should demonstrate the existence of a procedure for responding to student complaints.		+		
63	7	The university should ensure the consistency, transparency and objectivity of the mechanism for assessing learning outcomes for each EP, including the appeal.		+		
64	8	The university should ensure that the procedures for evaluating the learning outcomes of students of EP study are in line with the planned learning outcomes and program objectives. Evaluation criteria and methods within the framework of the EP should be published in advance.		+		
65	9	The university should determine the mechanisms for ensuring the mastery of each learning outcome by each graduate of the study program and ensure the completeness of their formation.		+		
66	10	Evaluators must be proficient in modern methods of assessing learning outcomes and regularly improve their skills in this area.		+		
		Total standard	**0**	**10**	**0**	**0**
Standard "Students"						
67	1	The university should demonstrate a policy for the formation of the contingent of students from admission to graduation and ensure the transparency of its procedures. Procedures governing the life cycle of students (from admission to completion) must be defined, approved, published.		+		
68	2	EP management should demonstrate the implementation of special adaptation and support programs for newly arrived and foreign students.		+		
69	3	The university must demonstrate the conformity of its actions to 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 should demonstrate the existence and application of a mechanism for recognizing the results of academic mobility of students, as well as the results of		+		

		additional, formal and non-formal learning.				
72	6	The university should provide an opportunity for external and internal mobility of students of EP, as well as assist them in obtaining external grants for training.		+		
73	7	EP management should make every effort to provide students with places of practice, facilitate the employment of graduates, and maintain contact with them.	+			
74	8	The university should provide graduates of the study program with documents confirming the qualifications obtained, including the results of training, as well as the context, content and status of the education and evidence of completion.		+		
75	9	An important factor is the monitoring of employment and professional activities of graduates of EP.		+		
76	10	EP management should actively encourage students to self-education and development outside the main program (extracurricular activities).		+		
77	11	An important factor is the existence of an existing alumni / association.		+		
78	12	An important factor is the availability of a support mechanism for gifted students.		+		
		Total standard	**1**	**11**	**0**	**0**
Standard "Faculty"						
79	1	The university should have an objective and transparent personnel policy, including hiring, professional growth and staff development, ensuring the professional competence of the entire staff.		+		
80	2	The university should demonstrate the compliance of the staff potential of the teaching staff with the development strategy of the university and the specifics of the academic program.		+		
81	3	EP management should demonstrate awareness of responsibility for its employees and ensure favorable working conditions for them.		+		
82	4	EP management should demonstrate a change in the role of the teacher in connection with the transition to student-centered learning.		+		
83	5	The university should determine the contribution of faculty staff 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 faculty staff.		+		
85	7	EP management should involve practitioners in relevant industries in teaching.		+		
86	8	EP management should provide targeted action to develop young teachers.		+		
87	9	The university should demonstrate the motivation for the professional and personal development of teachers of EP, including encouraging the integration of scientific activity and education, as well as the use of innovative teaching methods.		+		

88	10	An important factor is the active use of teaching staff of information and communication technologies in the educational process (for example, on-line training, e-portfolio, MEP, etc.).		+		
89	11	An important factor is the development of academic mobility in the framework of EP, the involvement of the best foreign and domestic teachers.		+		
90	12	An important factor is the involvement of teaching staff in public life (the role of teaching staff in the education system, in the development of science, the region, the creation of a cultural environment, participation in exhibitions, creative contests, charity programs, etc.).		+		
		Total standard	**0**	**12**	**0**	**0**
Standard "Educational Resources and Student Support Systems"						
91	1.	EP management must demonstrate the adequacy of material and technical resources and infrastructure.		+		
92	2.	EP management should demonstrate the existence of support procedures for various groups of students, including information and counseling.		+		
		EP management must demonstrate compliance of information resources with EP specifics, including compliance with:				
93	3.	technological support for students and faculty in accordance with educational programs (for example, online training, modeling, databases, data analysis programs);		+		
94	4.	library resources, including a fund of educational, methodological and scientific literature on general education, basic and majors in paper and electronic media, periodicals, access to scientific databases;		+		
95	5.	access to educational Internet resources;		+		
96	6.	examination of the results of research, final works, dissertations on plagiarism;		+		
97	7.	WI-FI functioning in the territory of the educational organization.	+			
98	8.	The university should strive to ensure that the educational equipment and software used to master the educational program 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 terms of EP (adults, workers, foreign students, as well as students with disabilities).		+		
		Total standard	**1**	**9**	**0**	**0**
Public Awareness Standard						
		Information published by the university within the framework of the EP should be accurate, objective, relevant and should include:				

101	1.	ongoing programs indicating expected learning outcomes;		+		
102	2.	information about the possibility of qualification at the end of the EP;		+		
103	3.	information on teaching, training, assessment procedures;		+		
104	4.	information about passing grades and educational opportunities provided to students;		+		
105	5.	information on job opportunities for graduates.		+		
106	6.	EP management should use a variety of methods of disseminating information (including media, web resources, information networks, etc.) to inform the general public and interested parties.		+		
107	7.	Public awareness should include support and clarification of national development programs of the country and the system of higher and postgraduate education.	+			
108	8.	The university should publish audited financial statements on its own web resource.		+		
109	9.	The university should demonstrate the reflection on the web resource of information characterizing the university as a whole and in the context of EP.		+		
110	10.	An important factor is the availability of adequate and objective information about the faculty of education, in terms of personalities.		+		
111	11.	An important factor is informing the public about cooperation and interaction with partners within the framework of EP, including with scientific / consulting organizations, business partners, social partners and educational organizations.		+		
112	12.	The university should post information and links to external resources based on the results of external evaluation procedures.		+		
113	13.	An important factor is the participation of the university and implemented EPs in various external assessment procedures.		+		
		Total standard	**1**	**12**	**0**	**0**
Standards in the context of individual specialties						
TECHNICAL SCIENCES AND TECHNOLOGIES						
		Educational programs in the areas of "Engineering and technology", such as "Radio engineering, electronics and telecommunications", "Transport construction", etc., must meet the following requirements:				
114	1.	In order to familiarize students with the professional environment and relevant issues in the field of specialization, as well as to acquire skills based on theoretical training, the education program should include disciplines and activities aimed at gaining practical experience and skills in the specialty in general and majors in particular, in t .h .:		+		
115	2.	- excursions to enterprises in the field of specialization (factories,		+		

116	3.	workshops, research institutes, laboratories, educational experimental farms, etc.),		+		
117	4.	- conducting individual classes or entire disciplines at the enterprise of specialization,		+		
118	5.	- conducting seminars to solve practical problems relevant for enterprises in the field of specialization, etc.		+		
ART						
		Educational programs in the field of "Art", such as "Design", "Architecture", etc., must meet the following requirements:				
119	6.	EP management should demonstrate that the graduates of the program have theoretical knowledge in the field of arts and self-expression skills through creativity that are related to the competencies of the accredited EP, for example, choreography, singing, graphics, painting, sculpture, architectural, industrial, graphic design, etc .;		+		
120	7.	EP management should demonstrate self-learning and self-development skills in students;		+		
121	8.	Within the program, students should be able to listen to at least one discipline in their field of specialization taught by a practicing specialist;		+		
122	9.	The study program should include the maximum possible number of disciplines and activities in which the skills are taught to students individually or in small groups, for example, conducting master classes by distinguished workers in the field of specialization;		+		
123	10.	EP management should organize for students the maximum possible number of events that facilitate students to demonstrate their acquired creative skills, such as concerts and exhibitions;		+		
124	11.	Creative work, participation in concerts, competitions, performances, etc. within this area is part of scientific activity.	+			
125	12.	Within the framework of EP, students should be provided with knowledge and skills of creative activity and methods / technologies practiced in the world, and knowledge on art management;		+		
126	13.	EP should contribute to the enrichment of creative experience in various activities characteristic of the specialty;		+		
127	14.	In order to familiarize students with the professional environment and relevant issues in the field of specialization, as well as to acquire skills based on theoretical training, the education program should include disciplines and activities aimed at gaining practical experience and skills in the specialty in general and majors in particular:		+		
128	15.	- excursions to enterprises in the field of specialization (museums, theaters, design offices, etc.),		+		
		Total standard	**1**	**9**	**0**	**0**
		TOTAL	**6**	**115**	**7**	**0**