«АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТІҢ ТӘУЕЛСІЗ АГЕНТТІГІ» КЕМ

НУ «НЕЗАВИСИМОЕ АГЕНТСТВО АККРЕДИТАЦИИ И РЕЙТИНГА»

INDEPENDENT AGENCY FOR ACCREDITATION AND RATING

REPORT

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

5B075200 and 6M075200- Engineering systems and networks, 5B070900 - Metallurgy, 5B071000 - Materials science and technology of new materials, 5B090300 - Land management

Kazakh National Research University named after K.I. Satpayev

SITE VISIT DATES: from 04 to 06 June 2018.

INDEPENDENT AGENCY FOR ACCREDITATION AND RATING
External expert commission

Addressed to
Accreditation
Council of IAAR

АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТІҢ ТӘУЕЛСІЗ АГЕНТТІГІ
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Almaty city **«06» June 2018**

CONTENT

(I) NOTATIONS AND ABBREVIATIONS

IAAR	Independent Agency for Accreditation and Rating
BD	Basic disciplines
EECIAAR	External Expert Commission of the Independent Agency for Accreditation and Rating
IRD	Internal regulatory documents
EEAA	External evaluation of academic achievement
SCC	State Certification Commission
SCSE RK	State Compulsory Standard of Education of the Republic of Kazakhstan
UNT	Unified national testing
IET	Individual educational trajectory
IOS	International Organization for Standardization
IC	Individual curriculum
IAC	Institute of Architecture and Construction
MMI	Mining and Metallurgical Institute
IIE	Institute of Industrial Engineering
CYA	Committee on Youth Affairs
CCSES MES RK	Committee for Control in the Sphere of Education and Science of the Ministry of Education and Science of the Republic of Kazakhstan
CED	Catalog of elective disciplines
MES RK	Ministry of Education and Science of the Republic of Kazakhstan
MEP	Modular educational program
RL	Research Laboratory
RW	Research work
SRW	Student's research work
SMC	Scientific and methodical council
GED	General educational disciplines
EP	Educational program
PD	Profile disciplines
TS	Teaching Staff
QMS	Quality Management System
JEP	Joint educational programs
IWST	Independent work of the student with the teacher
SIW	Student independent work
SCT	Student-centered training
SC	Sample curriculum
University	Non-commercial joint-stock company "Kazakh National Research Technical University named after K.I. Satpayev »
EMCD	Educational-methodical complex of discipline
EMCS	Educational-methodical complex of specialties
EMW	Educational-methodical work
ECTS	Electronic educational-methodical complex (European Credit Transfer and Accumulation System - European system of transfer and accumulation of points) - a pan-European system for recording the academic work of students when mastering an educational program or course.
GPA	Average grade

SWOT	SWOT-analysis is a method of strategic planning, consisting in the identification and analysis of factors of the internal and external environment of the organization.

(II) INTRODUCTION

In accordance with Order No. 59-18-OD of May 17, 2013, the Independent Agency for Accreditation and Rating, from June 4 to June 6, 2018, an external expert commission assessed the conformity of the Kazakh National Research Technical University named after K.I. Satpayev standards of specialized accreditation of the IAAR (from February 24, 2017 No. 10-17-OD, fifth edition) under the programs 5B075200 and 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials" 5B090300 "Land management".

The report of the external expert commission (EEC) contains an assessment of the conformity of the activities of the Kazakh National Research Technical University named after KI. Satpayev within the framework of specialized accreditation of the criteria of the IAAR, recommendations of the EEC on further improvement of the parameters of the specialized profile.

The composition of the EEC:

1. **Chairperson of the commission** - Gulvira A. Akibaeva, Candidate of Economic Sciences, Associate Professor, Karaganda State University. E.A. Buketov (city of Karaganda);

2. **Foreign expert** - Dimitar Grekov, member of the Accreditation Council of the National Agency for Assessment and Accreditation, Professor of the Agrarian University (Plovdiv, Bulgaria);

3. **Expert** - Zakirova Dilnara Ikramkhanovna, doctor PhD, University "Turan" (Almaty);

4**. Expert** - Ualkhanov Bayzhan Nurbaevich, Cand.Tech.Sc., Associate Professor, General Director of LLP "Kokshetau experimental-production economy" (Kokshetau city);

5. **Expert** - Ryvkina Natalia Valentinovna, Eurasian National University after L.N. Gumilev (Astana city);

6**. Expert** - Pak Dmitry Y., candidate of technical sciences, associate professor, Karaganda State Technical University (Karaganda);

7. **Expert** - Ismailova Guzal Amitovna, PhD, Kazakh National University named after al-Farabi (Almaty);

8. **Expert** - Zhuparkhan Bakhytgul Zhuparkhankyzy, PhD, Kazakh Agrotechnical Universitya after S. Seifullin (Astana city);

9. **Expert** - Khamraev Sheripidin Itakhunovich, candidate of technical sciences, associate professor, Kazakh National Pedagogical University. Abay (Almaty);

10. **Expert** - Aldungarova Aliya Kairatovna, PhD, Associate Professor, Pavlodar State University named after S. Toraigyrov (Pavlodar);

11. The employer - Beklemishev Pavel Innokentievich, deputy chairman of the Committee for Mechanical Engineering and Metalworking of the Scientific and Production Enterprise "Atameken", member of the Regional Council of the Chamber of Entrepreneurs of Almaty;

12. Student - Amanbek Asem Nurayaliuzi, a student of the Kazakhstan University of Engineering and Technology (Almaty);

13. Student - Tokburina Aysulu Kalasovna, student of the Kazakh State Women's Pedagogical University (Almaty);

14. Student - Medetov Batyrhan Ergazievich, a student of the Almaty University of Energy and Communications (Almaty)

15. The observer from the Agency is Timur Erbolatovich Kanapyanov, the head of international projects and public relations of the IAAR (Astana).

(III) PRESENTATION OF THE ORGANIZATION OF EDUCATION

Kazakh National Research Technical University named after K.I. Satpayev is one of the oldest educational institutions in the Republic of Kazakhstan. History of the University. K.I. Satpaev - the flagship of the engineering education of the Republic - is inextricably linked with the history of our state, its culture and the system of higher education.

The oldest and one of the most prestigious technical universities in Kazakhstan, known for developments in the field of mining and oil business. For more than 80 years, this university has been synonymous with technological progress and leadership in Kazakhstan. And although in the visiting card the Kazakh National Research Technical University named after K.I. Satpayev is dominated by technical specialties, this is a versatile university, where one can also study architecture and management.

It was founded in 1934 as the Kazakh Mining and Metallurgical Institute; in 1960 it was reorganized into the Kazakh Polytechnic Institute; awarded the Order of the Red Banner of Labor; in 1999 the university was named after Academician K.I. Satpayev.

The University became the base for providing engineering personnel to the industry of the Republic and one of the main sources of cadres for scientific, state and public figures of Kazakhstan. His history is connected with the names of such famous scientists and cultural figures as Omirkhan Baikonurov, Kanysh Satpayev, Zhamal Kanlybayeva, Ilyas Esenberlin, Kazbek Valiyev, Shahmardan Yesenov, Akzhan al-Mashani, Bakhyt Sultanov, Askar Zhumagaliyev, Beibut Atamkulov.

In 1960 KazGMI was renamed into KazPTI - Kazakh Polytechnic Institute. In 1967, the vocal-instrumental ensemble "Dos-Mukasan" was organized at the Faculty of Automation and Computer Science. In January 1980, the Architectural and Construction Institute was opened in Almaty, the basis of which was the architectural and engineering faculty of KazPTI, as well as the Alma-Ata branch of the All-Union Correspondence Engineering and Construction Institute.

In 2001, by the Decree of the President of the Republic of Kazakhstan N.A. Nazarbayev is given a special status to the university.

As part of the transformation of higher education in Kazakhstan in 2014, the University named after K.I. Satpayev was awarded the category "National Research University", which made it possible to work with outstanding scientists of the world. The university cooperates with 174 leading universities from 25 countries (including the USA, England, Germany, Italy, France, China, Korea, Poland).

Implementation of the principle of "learning through research" is the main task of the Kazakh National Research University named after K.I. Satpayev. The University conducts extensive scientific work, monitoring and analysis of domestic and world trends in the development of science in the specialized fields of the university, and searches for sources of funding for fundamental and applied research in specialized scientific and educational areas. Kazakh National Research Technical University named after K.I. Satpayev conducts contract research with such well-known private and state enterprises as Kazzinc, Kazchrome, PetroKazakhstan Kumkol Resources, Toppa Su, Kazatomprom, Parasat, and Pavlodar Petrochemical Plant.

In addition to the 8 scientific research institutes working in the university, the Kazakh National Research Technical University named after K.I. Satpaev has a rich research infrastructure. Most of the research work of the university is conducted on the basis of the Technopolis Polytech Technopark, which was awarded the official National certificate and a commemorative medal with gold covering "Leader of Kazakhstan".

In the research infrastructure of the Kazakh National Research University named after K.I. Satpayev also includes 6 research laboratories that study a wide range of topical scientific problems in the fields from architecture to biotechnology of mining, namely: the Laboratory of

Architecture, the Laboratory of Engineering Profile, the Laboratory of Materials Science and Nanotechnologies, the Innovative Geological and Mineralogical Laboratory, the National Scientific Laboratory of Collective the use of information and space technologies, the Research Laboratory of Biological and Geographical Technology of gold, uranium and polymetal. On the basis of the National Scientific Laboratory for the Collective Use of Information and Space Technologies, created on the initiative of the President of the Republic of Kazakhstan, a unique complex of computing clusters - Supercomputer with a peak performance of 10.9 TFLOPS - was launched.

The university possesses a unique material and technical base, with the help of which it can produce almost any product in a short time in a single copy on the instructions of the customer. The production is deployed on the basis of the scientific lab Fab lab, which has the largest center of 3D plastic printing (ABS) in Kazakhstan, a 5-axis milling machine with the latest software control and equipment that completely covers the entire production cycle of electronic cards.

The interaction between teaching, research and training, and between the business community and the university in the Quality Assurance Policy play a key role, and it has intensified due to the university's transition to research status. The University took responsibility for the effective functioning of the university management system (http://kaznitu.kz/ru/about/internal-regulations/certifications) based on the requirements of the ISO Quality Management Standards ISO 9001: 2015, ENQA Standards and Directives, own standards, as a guarantee of the quality of the university's activities. The main goal is to guarantee the quality of educational activity by meeting the requirements of consumers.

The policy of the KazNRTU named after K.I.Satpayev (http://kaznitu.kz/ru/about/internal-regulations/1level) is today focused on improving the corporate culture and preserving values. The university adopted and approved the main regulatory documents that define the Policy in the field of quality assurance culture: the University Charter, the Internal Regulations, the Code of Corporate Culture of the faculty and students of the KazNRTU named after K.I.Satpayev. Corporate culture is the decisive factor determining the effectiveness of the University.

Confirmation of the development of a culture of quality assurance at the university is the success in achieving target quality assurance indicators, the results of external evaluations:

– KazNRTU named after K.I. Satpayev was the first in Kazakhstan to pass and re-confirm the International Institutional Assessment in the European Association of Universities (EUA) for the International Evaluation Program (IEP, 2014);

– in November 2015, the university passed a national institutional assessment in the accreditation agency of IKAQAE (INDEPENDENT KAZAKHSTAN AGENCY FOR QUALITY ASSURANCE IN EDUCATION) (Kazakhstan);

– accredited educational programs in international and national accreditation agencies: ASIIN (Germany) - 18 specialties; IKAE - 48 specialties; IAAR - 33 specialties;

– KazNRTU named after K.Satpayev takes 1st place in the rating of Kazakhstan universities on academic indicators of training specialists among technical universities, is the leader in technical sciences and technologies according to the results of the rating of educational programs of universities held by the NAC RK (now the Center for the Bologna process and academic mobility) in the period from 2011 and 2015;

– In the international ranking of universities QS World University Rankings - 2017 took the position 411- 420 among the Top 800 best universities in the world, improving the indicator of 2016 for 100 positions. In the ranking of QS University Rankings "Developing Europe and Central Asia" 2016-2017gg. KazNRTU entered the Top 100, taking 50th place;

 According to the estimation of the international rating agency Webometrics Ranking of World Universities, KazNRTU became the leader among Kazakhstani universities, taking first place;

 in 2017, the quality management system passed the procedure of recertification and confirmed the double QMS certificate for compliance with the international standard ISO 9001: 2015 for No. 17.1747.026 dated November 15, 2017 from the Association for Certification "Russian Register" and the International Network of Certification Agencies "IQNet" .

The quality assurance policy applies to those activities that are performed by contractors and partners. At the university, outsourced services are transferred to certain functions performed by external organizations: provision of energy resources, servicing of individual equipment, banking services for cash and settlement services, medical services, personnel training, inspections by control and supervision authorities, product certification services, accreditation and certification of testing laboratories, accreditation of educational programs.

The management of outsourcing processes and the requirements for them are fixed in the Quality Manual, the KazNRTU DP Informational and Telecommunication Service, the KazNRTU I DP Department of Public Procurement Management and others (http://kaznitu.kz/ru/about/internal-regulations/2level / documented-procedures).

The University systematically analyzes the state and perspective development of industrial branches of the Republic of Kazakhstan, the annual Addresses of the President of the country N.A. Nazarbayev to the people of Kazakhstan with the aim of adjusting the content of the EP and matching the training of specialists to the labor market requirements. This analysis is carried out by profiling chairs, educational institutes and relevant departments of the university.

The results of the analysis are used to develop proposals for strategic planning for the development of institutions, departments and the university as a whole.

(IV) DESCRIPTION OF PREVIOUS ACCREDITATION PROCEDURE

Educational programs 5B075200 and 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials", 5B090300 "Land Management" pass accreditation in IAAR for the first time.

(V) DESCRIPTION OF THE VISIT

Information about employees and trainees,
who participated in meetings with the EEC IAAR

Category of participants	Quantity
Rector	1
Pro-rectors	6
Directors of institutes	13
Heads of Chairs	10
Directors of departments and heads of departments	5
Teachers	54
Students, undergraduates, doctoral students	76
Graduates	45
Employers	34
Total	**244**

During the tour, the members of the VEC got acquainted with the state of the material and technical base, visited the KazNRTU museum named after K.I. Satpayev, Mineralogical Museum, Scientific Library, training ground of the Mining and Metallurgical Institute, Registrar's Office, FabLab Research and Production Division, Master's and Doctoral Students' House, Institute of Military Affairs, National Research Laboratory for Information and Space Technologies, Laboratory of Engineering Profile, Scientific Laboratory of "Materials Science and Nanotechnology" named after AK, Omarov, Laboratory of Innovative Geospatial Technologies in Geodesy, Cartography and Mine Surveying, Laboratory of the Theory of Metallurgical Processes, Laboratory of Pyrometallurgical Processes, Laboratory of Metallurgy of Light and Rare Metals, Laboratory of Quantum Physics, Laboratory of Thin Film Technologies, Kaspersky Lab and Network Technologies, Laboratory for Circuit Engineering .

The events planned within the framework of the visit of the EEC IAAR facilitated detailed familiarization of experts with the university's educational infrastructure, material and technical resources, faculty, representatives of employers' organizations, students and graduates. This allowed the IAAR members to conduct an independent assessment of the compliance of the data set out in the self-assessment reports of the university's educational programs with the criteria of the specialized accreditation standards of the IAAR.

As part of the planned program, recommendations for improving the University's activities developed by the EEC on the results of the examination were presented at a meeting with the management on June 6, 2018.

(VI) CONFORMING TO THE SPECIALIZED ACCREDITATION STANDARDS

6.1. Standard "Management of the educational program"

✓ *The institution should have a published quality policy.*

✓ *The quality assurance policy should reflect the relationship between research, teaching and learning.*

✓ *The university should demonstrate the development of a culture of quality assurance, including in the context of the EP.*

✓ *Commitment to quality assurance should apply to any activities performed by contractors and partners (outsourcing), including in the implementation of joint / two-degree education and academic mobility.*

✓ *The management of the EP provides transparency in the development of a development plan on the basis of an analysis of its functioning, the real positioning of the institution and the direction of its activities to meet the needs of the state, employers, stakeholders and students.*

✓ *The management of the EP demonstrates the functioning of the structures and regular revision of the EP development plan and monitoring of its implementation, assessing the achievement of the training objectives, meeting the needs of students, employers and society, making decisions, ensuring continuous improvement of the OP.*

✓ *The management of the EP should involve representatives of groups of individuals, including employers, trainees and TSs, in the formation of an EP development plan.*

✓ *The management of the EP should demonstrate the individuality and uniqueness of the EP development plan, its coherence with the national development priorities and the development strategy of the education organization.*

✓ *The university should demonstrate a clear definition of those responsible for business processes within the framework of the EP, unambiguous distribution of the duties of the staff, delineation of the functions of collegial bodies.*

✓ *The management of the EP must provide evidence of the transparency of the management system of the educational program.*

✓ *The management of the EP should demonstrate the successful functioning of the internal quality assurance system of the EP, including its design, management and monitoring, their improvement, decision-making on the basis of facts.*

✓ *The management of the EP should implement risk management.*

✓ *The management of the EP should ensure the participation of representatives of interested persons (employers, teaching staff, students) in the collegial bodies of management of the educational program, as well as their representativeness in making decisions on the management of the educational program.*

✓ *The university should demonstrate the management of innovation within the framework of the EP, including the analysis and implementation of innovative proposals.*

✓ *The management of the EP should demonstrate evidence of openness and accessibility for students, OP, employers and other stakeholders.*

✓ *The management of the EP must receive training in educational management programs.*

✓ *The OP management should aim to ensure that the progress achieved since the last external quality assurance procedure is taken into account in preparing for the next procedure.*

The Evidence

The educational programs of the specialties of the magistracy 6M075200- "Engineering systems and networks" and the bachelor's degree 5B0752000- "Engineering systems and networks", 5B0709000- "Metallurgy", 5B071000- "Material science and technology of new materials"; 5B090300- Land management »are carried out in accordance with the vision, mission and strategy of the KazNRTU named after KI. Satpayev. (http://kaznitu.kz/en/admission/ugr/specialities). Training on accredited EPs is carried out on the basis of license No. KZ56LAA00005304, issued on July 11, 2015.

The unit of the organizational structure for the implementation of accredited EP 5B075200, 6M075200 - "Engineering systems and networks" is the department "Engineering systems and networks" of the Institute of Architecture and Construction of the KazNRTU named after K.I. Satpayev.

Training of students in the specialty 5B070900 "Metallurgy" is conducted at the departments "Metallurgy and mineral processing" and "Metallurgical processes, heat engineering and technology of special materials" at the O. Baikonurov Mining and Metallurgical Institute.

Training in the specialty 5B071000 "Material Science and Technology of New Materials" has been conducted since 2015 at two departments of the Institute of Industrial Engineering: "Technical Physics and Materials Science" (1st and 2nd years of study) and "Machine Tool Building, Materials Science and Technology of Machine Building" (3 and 4 years of education). The chair "Machine-tool construction, materials science and technology of machine-building production" carries out the training of specialists on the EP 5B071000 "Material Science and Technology of New Materials" since 2004.

According to EP 5B071000 "Material Science and Technology of New Materials" - at the Department of "Technical Physics and Materials Science" of the Institute of Industrial Engineering, according to EP 5B090300 "Land Management" - at the Department of Mine Surveying and Geodesy of the O. Baikonurov Mining and Metallurgical Institute.

ABET Accreditation Agency (USA, www.abet.org) has been accredited with the bachelor's degree 5B070900 "Metallurgy" - by the decision of the Accreditation Council on accreditation of July 27, 2010, for a period of 5 years, until September 30, 2016.

From September 30, 2016 to September 30, 2018, the accreditation of ASIIN is valid for the Bachelor's degree 5B070900 Metallurgy and is currently in the process of accreditation.

The educational program "Engineering systems and networks" is aimed at developing a culture of quality assurance and taking into account the needs of the regional labor market. The purpose of the program is the professional training of a specialist in the field of construction and engineering systems and networks, the formation of a competently socially responsible person. The development of quality assurance culture of the educational program "Engineering systems and networks" is to provide graduates with high-quality mathematical and engineering knowledge in demand by society, and contributing to the social mobility of graduates and their stability in the labor market. The development of a culture of quality assurance is achieved through the regular revision and the Educational Program "Engineering systems and networks", the inclusion of relevant educational disciplines. The uniqueness of the program is the active participation of students in design and experimental and research

work, when implementing innovative projects in the field of heating, heat and gas, ventilation, water supply and sanitation.

Educational program "Metallurgy". The development of the quality assurance culture of the educational program "Metallurgy" is to give the graduates fundamental, natural scientific, general engineering and professional training in the field of metallurgy in accordance with the development of science and technology, as well as the changing needs of the mining and metallurgical industry. At the same time, new skills allow us to analyze problems in the field of professional activity and find ways to solve them, solve engineering problems in the design of technologies and equipment of plants and factories, conduct experimental research using information technology and mathematical modeling. The development of a culture of quality assurance is achieved through the regular revision of the educational program "Metallurgy", the inclusion of relevant educational disciplines. Confirmation of the development of the culture of quality assurance at the university is the success in achieving target quality assurance indicators, the results of external assessments.

The educational program "Material Science and Technology of New Materials" is aimed at training specialists in the fields of nanotechnology and machine building. The field of professional activity includes the study of the structure and properties of metallic, nanostructured, composite materials, the development of scientific foundations for new resource-saving technologies, research and development in the field of nanotechnology, the creation of innovative methods for processing existing and new materials, and a number of others. The purpose of the educational program 5B071000 "Materials Science and Technology of New Materials" is the preparation of highly qualified specialists in the field of modern materials science for the development of modern science-intensive technologies and the introduction of new materials and coatings for various purposes into production. Training of personnel in the educational program 5B071000 "Materials Science and Technology of New Materials" is carried out in KazNRTU since 2016 by the Department of "Technical Physics and Materials Science" (TPMS), which is part of the Institute of Industrial Engineering. Training of personnel in the educational program 5B071000 "Material Science and Technology of New Materials" from 2015 is carried out by the Department of "Technical Physics and Materials Science" (TFiM), and the Department is the Chair "Machine Tool Building, Materials Science and Technology of Machine-Building Production" (MTBMSTMBP). Both departments are part of the Institute of Industrial Engineering.

The educational program "Land Management" is aimed at implementing the strategic priorities of the development of the Republic of Kazakhstan in improving the efficiency of land and land use. The mission of the educational program 5B090300 "Land management" is to ensure the qualitative growth of the human capital of the region in the field of land management, through the development of an innovative and scientific and educational environment and training in accordance with the needs of the market for highly qualified personnel with high personal and professional competencies. The goals and objectives of the educational program 5B090300 "Land Management" are formulated taking into account the requirements and requests of potential consumers, and based on the evaluation of the demand for the educational program, which is determined by the interests of the entrants, the potential of the university, the requirements of the state and society as a whole. The new skills will help to form a competitive and competent specialist in the field of advanced land management technologies.

Achievement of the objectives of the EP on specialties 5B075200, 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials", 5B090300 "Land Management" is confirmed by applications of diplomas, which indicate the list of studied disciplines and the number of loans approved in the catalogs of modules .

When developing the EP on the specialties: 5B075200, 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B090300 "Land management" expert councils are created with the involvement of specialists from both internal and external environment.

The process of forming a plan for the development and management of the OP is transparent, not only teachers of the department but also employers take part in its drafting. All curricula are approved by representatives of employers who are also representatives of the Council of Specialties.

Table 1 shows proposals on changes in the content of elective disciplines from employers:

Table 1. Proposals on changes in the content of elective disciplines from employers

№	*Studing year*	*Name of proposed ED*	*Credits*	*Organization*	*Protokol*
5B075200 - «Engineering systems and networks»					
1	2015-16	Resource-saving technologies in DVT systems	3	Teplokommunenergo LLP	№ 10 от 29.01.16
2	2016-17	BIM - technologies in DVT systems	3	KazGOR LLP	№ 4 от 13.10.16
3	2017-18	Automated heat supply systems	3	Almaty Fan Factory	№ 11 от 27.01.17
6M075200 - «Engineering systems and networks» (First year of admission 2017)					
3	2017-18	Gas supply	3	Almaty Fan Factory	№ 11 от 27.01.17
5B070900 - «Metallurgy»					
1	2015-16	Metallurgy of copper and nickel	3	Kazakhmys LLP	№ 2 от 18.09.15
2	2015-16	Metallurgy of lead and zinc	3	Kazakhmys LLP	№ 2 от 18.09.15
3	2016-17	Metallurgy of secondary raw materials	3	Kazakhmys LLP	№ 1 от 17.08.16
4	2017-18	Extractive Metallurgy	3	Kazakhmys LLP	№1 от 22.08.16
5	2017-18	Metallurgy of heavy non-ferrous metals	3	Kazakhmys LLP	№6 от 28.02.18
5B090300 - «Land management»					
1	2017-18	Geodetic work in land management	3	Department of land cadastre and technical survey of real estate	№ 7 от 11.01.2017

A favorable condition for the formation of common competencies that promote self-development and international integration are the mobility of students and the program of

inviting foreign scientists from the world's leading universities is successfully implemented in Satbayev University.

Over the past five academic years, leading foreign scientists have conducted training sessions at the Department of Mine Surveying and Geodesy:

- Dai Huaian - Doctor of Technical Sciences, Professor of China Mining University;
- Bi Yinli Dai Huaian - Doctor of Technical Sciences, Professor of China Mining University;
- Gordeev Victor Aleksandrovich Doctor of Technical Sciences, Professor of the FGBOU HPE "Ural State Mining University" (Ekaterinburg);
- Phan Huaan - Doctor PhD "Royal Technical Institute" (Sweden, Stockholm);
- Wilhelm Stelling - Doctor of Technical Sciences, Technical University of Applied Sciences (Bokhum, Germany);
- Evgeny Levin - PhD doctor, professor of Michigan University of Technology, Houghton, USA;
- Peng Suping - Doctor of Technical Sciences, Professor of China Mining University;
- Militenko Natalia Aleksandrovna - Candidate of Technical Sciences, Researcher, Institute of Problems of Integrated Development of the Subsurface of the Russian Academy of Sciences (IPKON RAS) (RF, Moscow);
- Mustafin Murat Gazizovich - Doctor of Technical Sciences, Professor of St. Petersburg Mining University.

In order to increase the efficiency of personnel training and to maximize the current and future needs of the republic, specialists are interviewed by employers from Kazakhstan's leading enterprises: Kazakhmys LLP, Kazzinc LLP, Altyn Almas LLP, TMK TM CC, Aktobe Ferroalloy Plant, NAK KAZATOMPROM.

Employers note the high level of theoretical and practical training of graduates of this educational program. Employers and universities express the desire to develop cooperation with KazNRTU and, in particular, on the educational program.

Universities partners: Colorado Mountainous School USA, MISIS USA, Worcester Polytechnic Institute of the USA, Tomsk Polytechnic Institute, as well as universities and enterprises reviewers: Moscow State Academy of Fine Chemical Technology. M.V. Lomonosov, Colorado school of mines, USA, Worcester Politechnic Institute, USA, OOO PromEnergoMash, RF, St. Petersburg, Institute of Geotechnics, Slovak Academy of Sciences, Slovakia, Košice, Institute of Polymer Materials and Technologies, FGBOU VPO " South Ural State University ", (NRU).

Every year, students of accredited Bachelor's degree programs carry out diploma works and diploma projects commissioned by enterprises, for example, students-metallurgists cooperate with Corporation Kazakhmys LLP, Kazzinc LLP, JSC Ust-Kamenogorsk Titanium and Magnesium Plant, JSC NAC Kazatomprom , JSC PC "YuzhPolimetal", LLC "PromEnergoMash", JSC "Almaty car repair plant", LLP "Prikaspiyskiy machine building complex", JSC "TNK" Kazkhrom ", OJSC Bakor-filter Ceramics, LLP" KSP STEEL ".

Ensuring the representativeness of the representatives of stakeholder groups in the educational program is an important factor in the formation of the graduate model. Such a collegial management body of the EP Metallurgy and Land Management is the Consultative Council at the O. Baikonurov GMI, the active members of which are the heads of the departments MB Barmenshinova, T.Chepushtanova, B. B. Imansakipova.

Every year, the management of the OC of accredited specialties passes training courses and various trainings on education programs. In 2016, the faculty of the ISI SPS took part in the training seminar "Development of an Intra Higher Education Quality Assurance System", NAAR. Head of the department of MPTiTSM specialty 5B070900-Metallurgy - Tchepushtanova. in 2015 she passed the refresher courses in the program of training international European teachers of engineering universities "Engineering Pedagogics" 20

ECTS, Almaty; IGIP Kazakhstan National Monitoring Committee; IGIP register ING-PAED-IGIP, Austria.

Research activity at Satbayev University is aimed at the development of fundamental and applied scientific research in the field of science-intensive technologies and is concentrated on 5 scientific directions, priority for the development of the economy of the Republic of Kazakhstan. The university actively attracts private investments and uses public-private partnership tools, creating an effective technological corridor "from scientific discovery to commercial results."

Thus, at the department "Engineering systems and networks" from 2015 to the present, the following fundamental and applied scientific research is being carried out:

- MES RK 1415 / GF4 topic: "Research and development of technology for purifying natural waters from anthropogenic pollution and improving the quality of drinking water in Astana" (2015-2017). The topic is headed by Candidate of Technical Sciences, associate professor Sidorova N.V. State registration number: 0115RK01842.

- The Ministry of Education and Science of the Republic of Kazakhstan, "Small Derivational Hydroelectric Power Station with a Hydrocyclone Water Supply Node" (2015-2017, exhibited at EXPO-2017), the head of the topic is Doctor of Technical Sciences, Professor Kasymbekov Zh.K.

- "Investigation of supply and exhaust systems of tunnel ventilation of the Almaty Metro and development of recommendations for increasing its energy efficiency", the head of the topic is Dr. Unashpekov BA.

- "Research, development and implementation of energy-saving heat-shielding fences and modern heat supply systems for buildings with automated heat points", the head of the topic is Dr. Unashpekov B.A.

- "Development of innovative technology for wastewater treatment and treatment of rainfall, ensuring their environmental safety", the head of the topic is Doctor of Technical Sciences, Professor Myrzakhmetov M.

According to EP 5B07100 "Material Science and Technology of New Materials" in accordance with the policy of the educational institution as a research technical university, the faculty of the faculty of SM and TMP conducts scientific research within the framework of grant financing. The subjects of these studies are aimed at the implementation of scientific and innovative activities in the field of materials science and technologies for obtaining new materials:

metal materials and scientifically-based control systems for their phase composition, structure and properties. " The scientific adviser is Doctor of Technical Sciences, Professor Smagulov D.U. The total amount of financing is 20 405 000 tenge. The expected results of the project are related to the development and mastering of new modern methods of mathematical description of phase transformations and programs for computing the phase diagrams of multicomponent metal systems. One of the key tasks is the design and experimental construction of phase diagrams of multicomponent systems based on aluminum and titanium.

2. Innovative project - "Creation of experimental production of innovative aluminum alloys from domestic raw materials and finished products from them with a nanostructured protective ceramic coating. The total amount of financing is 335 000 000 tenge. The scientific adviser is Doctor of Technical Sciences, Professor Smagulov D.U. The purpose of this project is to create an experimental production of innovative aluminum alloys from domestic raw materials and finished products from them. The place of realization of the project results is the Ush-Tobinsky experimental-mechanical plant, KazNRTU named after K.I.Satpaev. The innovative project contains three innovations: a) a new economically-alloyed high-

temperature aluminum alloy, developed at Moscow institute of steel and alloys and KazNRTU; b) technology of plasma electrolytic oxidation (PEO) of a new generation, developed in MICROLAT company; c) a new stage design with an open impeller and a prefabricated diffuser, developed at the Russian State University of Oil and Gas named after M.I. Gubkin.

Analytical part

At the same time, the commission notes that the following issues concerning this standard ***are*** not fully reflected in the self-report, and were not confirmed during the visit of the EEC.

The development plan for the EP was developed in accordance with the strategic priority and objectives of the development of the KazNRTU named after K.I. Satpayev as a research university. The main task of the University is to carry out educational activities, carry out scientific research that responds to the development strategy of the Republic of Kazakhstan on the basis of effective integration of education, science and innovation. To develop strategic documents, the team conducts an assessment of the uniqueness of the institution in meeting the needs of stakeholders, as well as a prospective analysis of the development of the educational services market. The individuality of the EP development plan is partially traced. At the same time, the formulation of the uniqueness and individuality of the development plan of the EP and its coherence with the national development priorities and the development strategy of the KazNRTU named after K.I. Satpayev is not detailed enough.

Also, the commission notes that the mechanisms of interaction of EP 5B071000 - "Material Science and Technology of New Materials" with the business community, the scientific community and employers are not described in full. There are no supporting documents on the coordination of the EP, for example, letters and feedback from employers, their representatives are not included with the board.

The results of the questionnaire showed that the mission and strategy are reflected in the training programs (very well - 41.8%, well - 50.9%), in the evaluation procedure (very good - 30.9%, well - 60%). The TS survey conducted during the IAAR visit showed that the involvement of TS in the process of making managerial and strategic decisions is very good and good - 14.5% and 63.9% respectively, and "Relatively bad" - 18.2%.

According to the results of interviewing, acquaintance with various documentation, material and technical base and information and methodical resources of the university and departments, questioning of students and teaching staff, the EEC of IAAR notes the following:

Strengths / best practices:

- availability of a quality assurance policy;

- the relationship between research, teaching and learning.

REC recommendations

1. To specify the signs of the individuality and uniqueness of accredited EPs, including taking into account the coherence of the development plan of the EP with the development strategy of the University.

2. To ensure transparency in the development of the development plan for EP 5B071000 - "Material Science and Technology of New Materials" on the basis of the analysis of its functioning, the real positioning of the university, taking into account the reform of the structure of training in this specialty and the focus of its activities to meet the needs of the state, employers, stakeholders and students .

3. To ensure more active involvement of stakeholders in the formation, revision, monitoring of plans for the development of the educational program, as well as their informing about the content of EP 5B071000 - "Material Science and Technology of New Materials".

Conclusions of the EEC on the standard "Management of the educational program":

- accredited educational programs 5B075200 and 6M075200 - "Engineering systems and networks", 5B070900 - "Metallurgy", 5B090300 - "Land management" have 2 - strong, 12 - satisfactory, 3 - assuming improvement of positions.

- accredited educational program 5B071000 - "Material Science and Technology of New Materials" has 2 - strong, 9 - satisfactory, 6 - assuming improvement of positions.

6.2. Standarts of «Information Management and Reporting»

✓ *The university should ensure the functioning of the system for collecting, analyzing and managing information based on the use of modern information and communication technologies and software.*

✓ *The OP management should demonstrate the systematic use of processed, adequate information to improve the internal quality assurance system.*

✓ *The system of regular reporting should exist within the framework of the programs, reflecting all levels of the structure, including an assessment of the effectiveness and effectiveness of the departments and departments, scientific research.*

✓ *The university should establish the periodicity, forms and methods for assessing the management of the EP, the activities of collegial bodies and structural units, senior management, the implementation of scientific projects.*

✓ *The university should demonstrate the definition of order and ensure 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, workers and teaching staff in the processes of collecting and analyzing information, as well as making decisions based on them.*

✓ *The OP management should demonstrate the existence of a mechanism of communication with trainees, employees and other stakeholders, including the presence of conflict resolution mechanisms.*

✓ *The university should provide a measure of the degree of satisfaction of the needs of the teaching staff, staff and trainees within the OT and demonstrate evidence of addressing the deficiencies found.*

✓ *The university should evaluate the effectiveness and effectiveness of activities, including in the context of the EP.*

✓ *The information collected and analyzed by the university within the framework of the OP must be taken into account:*

- *Key performance indicators;*
- *the dynamics of the contingent of students in the context of forms and species;*
- *the level of academic achievement, student achievement and deduction;*
- *Students' satisfaction with the implementation of the EP and the quality of training in the university;*
- *availability of educational resources and support systems for students;*
- *Employment and career growth of graduates..*

✓ *Students, employees and TS must confirm their consent to the processing of personal data.*

✓ *The management of the EP should facilitate the provision of all necessary information in the relevant fields of science.*

The Evidence

In KazNRTU named after K.I.Satpayev has an information management system that contains a database of students (order for enrollment, transfer, recovery, information on current academic performance), grades awarded, as well as information about graduates and their placement. Information support is provided for the interaction of educational institutions, scientific organizations, large industrial, small and medium-sized innovative enterprises, as well as potential partners with KazNRTU K.I. Satpayev.

The volume of collected information is reflected on the site in the heading "Mass Media about Us" and in the section of the publication (http://kaznitu.kz/ru/press). Information about educational programs, about expected results of training is posted on the university's website (http://kazntu.kz/ru/). To ensure academic mobility and recording students on the

trajectory of teaching at the departments there are elective catalogs. Electronic versions are posted on the university's website (http://sso.kaznitu.kz) and are available for students. Information management processes are documented and are an integral part of the information structure of the University. Policies, procedures, regulations on information systems are supervised by the Department of Information Systems.

The EP management disseminates information about all aspects of development, formation, approval and implementation through the university's educational portal.

The management of the EP provides teachers, employees and trainees with information on the main provisions of the development plan for the EP by publishing information on the university's internal portal, internal workflow and office orders.

The management of the EP ensures that trainees, employees, teachers and partners, incl. employers are notified about the latest changes, thanks to the website (http://kaznitu.kz/).

The interested persons can receive information on the processes of forming and implementing the development plan for the EP from the public sources of the University (http://kaznitu.kz/), as well as submitting an official request to the office and receiving an official response within a specified time frame.

NJK KazNRTU named after K.I. Satpayev conducts systematic systematic work to improve the functioning of the system for collecting, analyzing and managing information. The main information flows of the University are:

old and new educational portal (http://portal.kaznitu.kz; http://sso.kaznitu.kz/account/login/);

system Anti-plagiarism (http://strikeplagiarism.com/en/), in which graduation thesis is necessarily tested for uniqueness.

In order to improve the internal system of quality assurance of the educational process in the KazNRTU K.I. Satpayev from 2017-2018 academic year has earned a new educational portal, located at http://sso.kaznitu.kz. Each teacher of the department and students are assigned a login and password for access to this system. In this portal, the teacher can see his schedule of exams and examinations, keep a log of visits, post a teaching and methodological complex of disciplines, assign scores to students on current and boundary control, and view the results of the final attestation and examinations.

Evaluation of the activities of the management of EP 5B075200, 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials", 5B090300 "Land Management" and relevant departments, as structural divisions of the University, is conducted in accordance with the documented procedure KazNRTU 801 " Internal audit "(http://kaznitu.kz/en/about/internal-regulations/2level/documented-procedures). All works under this procedure are supervised by a quality management representative, responsible for quality and chief auditors. To conduct internal audit, certified University TSs have been trained, trained at a special course for training internal auditors of the QMS. Annually in August, the responsible for the quality is drafting the schedule of internal audit for the forthcoming academic year in the form of F KazNRTU 801-01 and determines the composition of auditors.

In the documented procedure "Analysis of management of DP KazNRTU 502" (DP KazNRTU 502) established the procedure and criteria for conducting performance analysis.

At the end of the school year (before June 1 of the current academic year), the management of EP 5B075200, 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials", 5B090300 "Land Management" reports on forms F KazNRTU 502- 03, F KazNRTU 502-04, prepared in accordance with the DP KazNRTU 502. The collection, monitoring and analysis of reports is carried out by the Corporate Development Department.

Responsible in quality is preparing the draft document "Management Analysis" and submits for consideration to the representative of the quality manual.

Also, the management of EP 5B075200, 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials", 5B090300 "Land Management" provides a report of the department in form F KazNRTU 705-07), where the structure of the report is prescribed.

The documented procedure of DP KazNRTU-714 "Questionnaire survey. Customer Satisfaction Assessment, which reflects the rules, forms and timing of consumer satisfaction monitoring activities (feedback). Periodicity at least once a year.

Students regularly participate in the questionnaire "Teacher through the eyes of students." The rector of the university has a blog on the KazNRTU website http://kaznitu.kz/ru/about/rectors-blog, where all interested persons can ask questions.

The KazNRTU website contains information on institutes and departments, contact details of the institute's management and departments. Heads of departments have reception hours for visitors, during which all interested persons can handle questions.

The documented procedure 721 "Consideration of appeals and complaints" establishes the procedure for registration and consideration of incoming applications to KazNRTU named after K.I. Satpayev (letters, complaints, proposals, statements).

Satbayev University conducts systematic monitoring, evaluation of the "effectiveness" and "effectiveness" of the implementation of the strategy for the development of educational programs with the participation of trainees, staff and other stakeholders through the systematic collection, analysis and management of information.

The following indicators are taken into account:

- information on the contingent of students and the achievements of students, statistics on the movement of students, the level of academic achievement and the quality of knowledge; (Educational portal http://sso.kaznitu.kz)
- satisfaction of consumers (society, employers, trainees, etc.) with the implementation of programs (DP KazNRTU 714 - Questionnaire Survey, Customer Satisfaction Assessment http://kaznitu.kz/en/about/internal-regulations/2level/documented-procedures);
- Accessibility of educational resources and support services for students (Educational portal http://sso.kaznitu.kz, DP KazNRTU 715 Academic support for trainees http://kaznitu.kz/en/about/internal-regulations/2level/documented-procedures);
- Employment of graduates; key strategic indicators of the university activity (http://kaznitu.kz/en/university/mission-strategy).

At the end of each semester, a qualitative assessment is carried out in the form of a questionnaire of students on the university's educational portal. Based on the results of the questionnaire, further plans are being made to improve educational programs and annual monitoring of the work of the teaching staff. The teacher has the right to know about the results of the questioning of students after the presentation and approval of assessments on their subject.

Annually a fair of vacancies is held in the walls of KazNRTU named after KISatpayev with the aim of establishing links with enterprises, identifying the personnel needs of domestic business, and employing university graduates in the best Kazakhstani companies. The event is attended by representatives of more than 40 companies, including Schlumberger, KazTransOil, Baitau Partnetrs, Kazakhmys Corporation, Philip Morris Kazakhstan, Caspimunaigas, construction company Basis, Bureau Veritas Kazakhstan, Consulting Engineers, Borusan Makina Kazakhstan . We are looking for effective ways to work with alumni and employers in improving the quality of programs.

Also individual presentations of companies-employers, trainings, master classes, profile lectures from companies, round tables with students and representatives of companies, open days of companies are held.

Information protection is carried out by means of differentiation, according to functional duties, as well as the use of logins and passwords. The protected information includes:

personal data about students and employees not intended for public disclosure, information on the results of academic achievement for persons who do not have access, etc. "Information Security Policy" is on the university's website.

In KazNRTU Satpayev organized information support of scientific research, the scientific library implemented a system of information and library support of scientific research, which provides users with information search in databases and electronic catalogs (EC). With the purpose of rendering assistance to students and researchers on the site of the library of the KazNRTU named after K.I. Satpayev created the section "Researchers". This section provides information necessary for students and researchers engaged in scientific activities. Proceedings of scientists at the University Scientific Library is on the Internet. International contacts of the library are expanding, book exchange with university libraries of the CIS and foreign countries is conducted.

The University has access to the following databases / electronic science libraries: EBSCO, Clarivate Analytics (Thomson reuters), SpringerLink, Elsevier, Scopus, ScienceDirect, Biblioteklektator, IPRbooks, OnePetro, eLibrary.ru, Lan Publishing House. Resources include full texts or abstracts of scientific, technical and socio-political publications, as well as small-circulation and highly specialized journals from around the world.

The scientific library is constantly in search of new technologies and methods of work aimed at helping the educational process, the education of students. Since 2009 the Scientific Library has started the creation of the Electronic Library. In 2013, purchased the book scanner Elar Plan Scan, which allows you to significantly increase the fund of the Electronic Library. To date, the Electronic Library has more than 14,748 documents. By the number of bibliographic descriptions transferred to the RMEB, active references to the scientific work of the PPS, the Scientific Library of KazNRTU named after K.I. In 2015, Satpaeva took the first place among university libraries in Kazakhstan.

Performers of R & D, TS and students have access to scientific literature funds from any computer of the university, which has access to the Internet by the IP addresses of the university. For remote access from home computers or phones receive a personal login and password.

Analytical part

At the same time, there are a number of questions concerning this standard that are not fully reflected in the self-report and have not been confirmed in the course of the EEC work.

Analyzing the EP for filling the "Information Management and Reporting" standard for accredited areas, the commission notes that the university has a system of information management and reporting on student recruitment, academic performance, contingent movement, staffing, academic mobility of students and faculty, which is presented in regular reports at the meetings of the departments, the administration and the Academic Council of the University. A regular questioning of students and employers is conducted, and appropriate measures are taken to correct deficiencies based on the results of their questioning / interviewing. However, the university's website does not have access to detailed TS personal data.

Questioning of students, conducted during the visit of the IAAR EEC, showed that satisfaction:

- the utility of the organization's website as a whole was satisfied with 73.1%;
- by informing the requirements in order to successfully complete this specialty - 82.7%.

According to the results of interviewing, acquaintance with various documentation, material and technical base and information and methodical resources of the university and departments, questioning of students and teaching staff, the EEC of IAAR notes the following:

Strengths / best practices:

- the periodicity, forms and methods of assessing the management of the EP, the implementation of scientific projects;

- availability of educational resources and support systems for students;

- assistance to the management of the EP providing all the necessary information in the relevant fields of science.

EEC recommendations

1. On an ongoing basis, update the university's website with up-to-date information on university development and educational programs.

2. Details of information on the TS, their achievements and areas of interest and to ensure access to this information on the university's website.

Conclusions of the EEC on the "Information Management and Reporting" standard:

- accredited educational programs 5B075200 and 6M075200 - "Engineering systems and networks", 5B070900 - "Metallurgy", 5B090300 - "Land management", 5B071000 - "Material science and technology of new materials" have 5 - strong, 12 - satisfactory, suggesting improvement of positions - no .

6.3. Standard «Development and approval of educational programs»

✓ *The institution should define and document the procedures for the development of the EP and their approval at the institutional level.*

✓ *The management of the EP should ensure that the developed OS meets the established objectives, including the expected learning outcomes.*

✓ *The RP management should ensure that there are developed models of the graduate student who describe the results of the training and personal qualities.*

✓ *The management of the EP should demonstrate the conduct of external expertise of the EP.*

✓ *The qualification obtained at the conclusion of the EP shall be clearly defined, clarified and consistent with a certain level of the NQF.*

✓ *The management team should determine the impact of disciplines and professional practices on the formation of learning outcomes.*

✓ *An important factor is the possibility of preparing students for professional certification.*

✓ *The management of the EP should provide evidence of the participation of trainees, TSs and other stakeholders in the development of the EP, ensuring their quality.*

✓ *The complexity of the EP should be clearly defined in Kazakhstan credits and ECTS.*

✓ *The management of the EP should ensure the content of the academic disciplines and learning outcomes of the level of study (bachelor's, master's, doctoral).*

✓ *The OT structure should provide for various activities corresponding to the learning outcomes.*

✓ *An important factor is the existence of joint EP with foreign educational organizations.*

The Evidence

All educational programs of the university have clearly formulated goals, which are consistent with the mission of the KazNRTU named after K.I. Satpayev. The objectives of educational programs are formulated taking into account the requirements and requests of potential consumers, based on the evaluation of the demand for educational programs, which is determined by the interests of potential employers, the potential of the university, the requirements of the state and society as a whole.

The procedures for assessing the quality of the educational program are defined by the internal normative documents of the university. Educational programs are annually reviewed and updated in terms of curriculum content, content and content of curriculum work programs, and curriculum and production practices. Revision and updating of the curriculum is carried out once at the end of the school year and is approved for the next academic year.

The analysis of working curricula is carried out during the academic year by the heads of the departments together with the teachers.

The university has a mechanism for evaluating the educational program in the process of its formation. The internal evaluation of educational programs is carried out at the level of: Expert Councils for the Management of Educational Programs, the Scientific Council of the Institute, the Academic Council of the University and is approved by the rector of the KazNRTU named after. K.I. Satpayev.

The results of the assessment of the EP are reflected in the reports on the implementation of the development plans of the EP, are included in the annual reports of the departments, institutes, the university with critical analysis, are used to adjust the development activities of the departments, institutes and universities for the next academic year.

Based on the wishes of employers, elective courses are introduced into the curricula of the EP. Participation of employers in the development or modernization of the EP is determined by the following factors:

- experience of interaction with educational institutions in the field of development and actualization of vocational training or individual disciplines;
- personal fame in the professional community or in the sphere of the business or production they represent.

Changes in educational programs are carried out at the stages of adjusting the content of goals, the structure of the program, the design of curricula and the correction of working programs of educational disciplines.

If the goals of the program are not met, the learning outcomes, ways of achieving results are revised and new goals of the basic educational program are formulated. The head of the graduating department prepares a motivated conclusion about the need to modernize the educational program. Mandatory in the work plans of collegiate bodies (the Academic Council of the University, the educational and methodological council of the university, the educational and methodological council of the institute) contains questions on the planning and implementation of educational programs.

Accredited educational programs are provided by the availability of developed models of graduate students whose content should contribute to the formation of professional competence of students.

Interested persons - employers (in the form of consultations, in the format of guest lectures, master classes, round tables for making a decision on the model) are involved in drawing up the graduate model, which makes it possible to realize a socially significant goal - the professional adaptation of students and university graduates to the constantly changing tendencies of the market labor. Such interaction with employers allows building an educational process in accordance with the needs of production and the economy in competitive personnel.

Names of educational disciplines and their content are developed by the issuing department. This takes into account the experience of foreign universities training specialists of a similar profile, plans for the long-term development of industries in Kazakhstan and the foremost foreign countries for which specialists are trained, as well as the opinion of partner enterprises. So, in accordance with the recommendations of employers, the leadership of the EP determines the content, scope, logic of constructing an individual educational trajectory of students. Individual educational trajectories are formed, based on the requirements of the market, the desire of the student and the capabilities of the university. Practically, the choice of the necessary academic disciplines for this trajectory is made by the students together with the adviser on the basis of the curriculum of the specialty and QED.

Specific features of EP 5B071000 - "Material Science and Technology of New Materials" presuppose the existence of two trajectories of training, based on physical materials and

nanomaterials, as well as a technological direction tied to the production processes of obtaining and processing engineering materials. This is confirmed by the availability of educational disciplines of the corresponding trajectory, taught mainly in the third and fourth years of training: "Design of production", "Equipment and tooling in materials science", "Corrosion and anticorrosion coatings", "Modification and alloying of materials", " Mechanical properties of materials ", etc.) The inclusion of these disciplines along the trajectory" Materials for various purposes and technologies for their production and processing "are consistent with the curricula of foreign universities in the EP" Materials Science & Engineering "(Moscow Institute of steel and alloys, PensState University).

Table 2. Educational trajectories of accredited EP

№	Specialty	Name of trajectories
1	5B075200- "Engineering systems and networks"	Heat and ventilation
		Water supply and sewerage
2	6M075200 - "Engineering systems and networks"	Heat and ventilation
		Water supply and sewerage
3	5B070900- "Metallurgy"	Metallurgy of ferrous metals, Metallurgy of non-ferrous metals (MIOPI)
		Metallurgical processes, metallurgical heat engineering and technology of special materials, powder metallurgy (MPTiTSM)
4		Physical Materials Science and Nanomaterials
		Materials for various purposes and technologies for their production and processing
5	5B071000- "Materials Science and Technology of New Materials"	-

The logic of the taught disciplines on accredited specialties is determined by the study of disciplines with regard to prerequisites. In the module catalog, the MOS reflects the prerequisites and post-requisites of each academic discipline. Students can include in their ISM disciplines, declared from the catalog of modules, provided that all prerequisite disciplines are studied.

As effective forms of implementing the model of development of professional competence, both traditional forms of learning (receptive, reproductive, productive exercises, exercises based on problem-oriented professionally directed situations, role play, dramatization, discussion) and research projects are used. For example, in the educational process of EP 5B070900 "Metallurgy" 3D atlases of metallurgical furnaces are used.

Passage of all kinds of practices by students is an obligatory element of education in the specialty educational program. The educational program provides the following types of practice: educational (after 1 course), production (after the 2nd course), production (after the third year), pre-diploma - after the 7th semester of the 4th year. Planning of practice is carried out on the basis of working curricula of a specialty, programs of practices; accounting for the results of previous practices; adopted decisions to improve students' practices.

Analytical part

At the same time, the commission notes that according to this standard the following issues are not fully reflected in the self-report and did not find confirmation during the visit of the EEC.

Foreign partners of the organization of education KazNRTU are the leading universities

not only at the local level, but also include the top leading universities in the ratings of QS, CIS, THE, AWART, national and other ratings. For example, educational plans and development plans for the specialty "Metallurgy" are regularly assessed and reviewed by foreign partners, including the Colorado Mountain School, Worcester Polytechnic Institute, USA and MISiS, Russia. However, joint training in bachelor's degree is not yet implemented.

The most important factor in increasing the effectiveness of the EP is external expertise. The continuous monitoring of the implementation of the EP development plan, which results is considered in addition to the meetings of the department, the council of specialties, is also mandatory for the meetings of the scientific councils of the institutes, the Academic Council and the Academic Council of the University.

External experts are managers of various companies who have extensive experience in the field and have made a significant contribution to the development of valuation activities and logistics services in the country.

The Commission notes that there is no information on the review of EP 5B071000 - "Material Science and Technology of New Materials".

Questioning of trainees, conducted during the visit of the HEC NAAR, showed that:

- the level of accessibility and responsiveness of the university's management is estimated as high - 53.8%;
- accessibility for academic counseling is assessed as high - 59.6%.

According to the results of interviewing, acquaintance with various documentation, material and technical base and information and methodical resources of the university and departments, questioning of students and teaching staff, the HEC of NAAR notes the following:

Strengths / best practices:

- participation of stakeholders in the formation of the EP;
- the complexity of the EP is clearly defined in Kazakhstan credits and ECTS;
- the "Competence model of the graduate", "Model of a specialist" operating in the university reflect their influence on the formation of modern approaches to professional competence in students;
- conducting external examinations of the EP.

EEC recommendations

1. Analyze the feasibility of implementing a two-diploma education and enhancing internal and external academic mobility, which implies the harmonization of the content of educational programs with educational programs of leading Kazakh and foreign universities.

2. Demonstrate the conduct of external expertise of EP 5B071000 - "Material Science and Technology of New Materials".

Conclusions of the EEC on the standard "Development and approval of educational programs":

- accredited educational programs 5B075200 and 6M075200 - "Engineering systems and networks", 5B070900 - "Metallurgy", 5B090300 - "Land management" have 2 - strong, 8 - satisfactory, 2 - assuming improvement of position.

- accredited educational program 5B071000 - "Material Science and Technology of New Materials" has 2 - strong, 7 - satisfactory, 3 - assuming improvement of positions.

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

✓ *The institution should monitor and periodically assess the OD in order to ensure that the goal is achieved and meet the needs of students and the community. The results of these processes are aimed at the continuous improvement of the EP.*

✓ *Monitoring and periodic evaluation of EP should consider:*

- *The content of programs in the light of the latest achievements of science in a specific discipline to ensure the relevance of the discipline being taught;*
- *Changes in the needs of society and the professional environment;*
- *The workload, progress and release of students;*
- *Effectiveness of evaluation procedures for students;*
- *Expectations, needs and satisfaction of students;*
- *Educational environment and support services and their compliance with the objectives of the EP.;*

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

✓ *All interested persons should be informed of any planned or undertaken actions in relation to the EP. All changes made to the EP shall be published.*

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

The Evidence

NJK Kaz KazNRTU named after K.I. Satpayev conducts continuous monitoring of the quality of education in accordance with the strategic goals of the university.

Monitoring and periodic evaluation of educational programs of specialties 5B075200, 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials", 5B090300 "Land Management" including a systematic and regular comprehensive testing, focused on improving the quality of educational programs, conducted on the basis of the analysis of curricula, the catalog of elective disciplines, individual curricula of trainees, internal normative documents regulating the implementation of education programs; protocols of collegial bodies and meetings of departments; interviewing and questioning of students, teaching staff and interested parties; the results of observations of the activities of support services.

The verification procedure involves monitoring the students' satisfaction with the quality of teaching and the provision of the educational process with educational, material and technical and information resources, monitoring the satisfaction of the KazNRTU staff. K.I. Satpayev (internal monitoring) and monitoring of expectations and requirements of employers / consumers of graduates, consumer's assessment of the competence of the KazNRTU graduate. K.I. Satpaev (external monitoring).

Feedback with the consumer and potential employer is carried out through interviewing, questioning, analysis and processing of wishes and other information received in accordance with the established procedure using information technology.

The control of educational programs includes the evaluation of curricula, work plans and methodological developments in the context of disciplines. The renewability of educational programs is carried out in accordance with the changes in the State Educational Establishment, the introduction of new directions and courses of choice, and requests from employers. Periodicity of revision of curricula and programs of educational disciplines - once a year, after discussion of the introduced changes, reviews of experts, at meetings of departments.

In order to determine the expectations, the needs of students, the level of their satisfaction with the process and the conditions of training at the university, monitoring is systematically carried out. Meetings of the directors of the institute and the pro-rector with students are also regularly organized. Informal meetings like "Snack with the Dean" are held to discuss topical issues and strengthen relations. During the meeting, everyone can ask the director questions of interest to them, discuss the problems.

Information collected on the basis of monitoring results is analyzed and brought into line with modern requirements, the latest trends in a particular discipline, the changing needs of society. The changes made are approved by the minutes of the meetings of the department, the Institute of Education of the Institute and the Academic Council of KazNRTU.

The indicators of monitoring the implementation of educational programs (OS) are grouped by main blocks:

1 block - resource support of the EP (personnel security, the state of educational documentation, educational and methodological support of the educational process);

2 block - contingent of EP (average score of UNT and KTA, safety of the contingent, group occupancy, budgetary and commercial reception, student satisfaction, etc.);

3 block - the relevance of the EP (employment, consolidation of graduates, etc.).

At the meetings of the Academic Council of the University, academic councils of institutes, the educational and methodological council of the university, the issues of implementing the plans for the development of the EP, the results of implementing the planned activities are heard in a planned order. Reports on the implementation of development plans are included in the annual reports of the departments, institutes, universities with critical analysis. These reports are reviewed and approved at meetings of the departments, scientific councils of institutes and universities, educational and methodological councils of the institute and the university. The results of the evaluation of the effectiveness of the implementation stages of the development phase are used to adjust the development activities of the departments, institutes and universities for the next academic year and are included in the work plan. Development plans are adjusted annually.

The wishes of students are determined using an analytical report on the results of a sociological survey of students' satisfaction with the quality of the educational process, where students fill out special questionnaires. Also, students' wishes are collected during meetings with the group's adviser, with the director of the institute. Also, the "Open Door Policy" is practiced, where each student has direct access to the director and the head of the department.

Monitoring of academic achievements of students is carried out through the educational portal of advisors, the office registrar and the summary analytical department.

Analytical part

The analysis of the procedures for monitoring and periodic evaluation of the OS is carried out on the basis of: the analysis of curricula, the catalog of elective disciplines, individual plans of the programs of trainees, internal normative documents regulating the implementation of educational programs, their monitoring and evaluation; protocols of collegial bodies and meetings of departments; interviewing and questioning of students, teaching staff and interested parties; the results of observations of the activities of support services.

However, the commission notes that the standard does not fully reflect the issue of informing interested parties of any planned or undertaken actions against the EP. Informing stakeholders of changes in the content of the OS is of a periodic nature, but it should be noted that there is a need to publish changes to the educational programs for wider access of all stakeholders.

Monitoring of changes in the needs of society and the professional environment is carried out by studying the needs for training without interruption from the main place of work, in training according to the individual program, in the constant modernization and modification of the training material, students and employers.

Monitoring of the educational environment and the support service of accredited PAs is carried out by questioning students and teachers for their satisfaction with the services provided. The Commission notes that there has been no supporting documentation for PS 5B071000 - "Material Science and Technology of New Materials" according to this criterion, although the University's educational portal (www.portal.kaznitu.kz) has data on the questioning of students ("Teacher with the eyes of students"), not submitted to commission in paper version.

According to the results of interviewing, acquaintance with various documentation, material and technical base and information and methodical resources of the university and departments, questioning of students and teaching staff, the IAAR commission notes the following:

Strengths / best practice:

- monitoring and periodic evaluation of educational environments and support services for their compliance with the objectives of the EP;
- there are developed regulations and forms for conducting questionnaires and interviewing of students, teaching staff and interested parties;
- Revision of the content and structure of the EP taking into account changes in the labor market, the requirements of employers and the social demand of the society.

EEC recommendations

1. Expand opportunities and ways of informing stakeholders about any planned or undertaken actions in relation to the EP.

2. To take into account the changes in the needs of society and the professional environment of EP 5B071000 - "Material Science and Technology of New Materials".

Conclusions of the EEC on the standard "Constant monitoring and periodic evaluation of educational programs":

- accredited educational programs 5B075200 and 6M075200 - "Engineering systems and networks", 5B070900 - "Metallurgy", 5B090300 - "Land management" have 2 - strong, 8 - satisfactory, assuming improvement of positions - no.

- accredited educational program 5B071000 - "Material Science and Technology of New Materials" has 1 - strong, 8 - satisfactory, 1 - assuming improvement of positions.

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

✓ *The RP management should ensure respect and attention to different groups of learners and their needs, providing them with flexible learning paths. The RP 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 methods of teaching the academic disciplines of the EP.*

✓ *The RP management should demonstrate the availability of a feedback system on the use of different teaching methods and evaluation of learning outcomes.*

✓ *The RP management should demonstrate support for the autonomy of trainees with simultaneous guidance and assistance from the instructor.*

✓ *The RP management should demonstrate the existence of a procedure for responding to student complaints.*

✓ *The institution should ensure the consistency, transparency and objectivity of the evaluation mechanism for each training program, including an appeal.*

✓ *The institution should ensure that the procedures for evaluating the learning outcomes of the students of the OT are consistent with the planned learning outcomes and program objectives. Criteria and methods of evaluation within the framework of the EP should be published in advance.*

✓ *The institution should determine the mechanisms for ensuring that each graduate has mastered the learning outcomes and ensures the completeness of their formation.*

✓ *Evaluators should possess modern methods for evaluating the results of training and regularly improve their qualifications in this field.*

The Evidence

NJK KazNRTU named after K.I. Satpayev's goal is to transform the learning process to ensure the same conditions for all students through the introduction of student-centered learning.

Student-centered training allows creating unique conditions for each trainee, contributing to effective promotion of the chosen educational trajectory.

All educational and methodological documentation is compiled in three languages (Kazakh, Russian, English): catalogs of elective disciplines, curriculum, work programs and syllabuses, and individual curricula, tests, exam tickets are compiled in the language of instruction.

The needs of students are identified through questionnaires and filling out special forms on the educational portal KazNRTU.

The students are provided with a professional and academic orientation, the FTI is developed taking into account the sequence of the study of disciplines. Students have academic freedom in choosing a discipline and a teacher in online mode.

When implementing the EP, the individual characteristics of students are taken into account as much as possible. This is expressed in an individual approach to each, with the help of consultations during office hours of teachers and in various ways electronic communications.

The University uses the following forms of training: lecture, seminar, workshop, laboratory classes, consultation, facultative, research work of students, all kinds of practices, independent work, independent work with the teacher, training conference, course design, degree projecting.

The following active and innovative teaching methods are introduced in the educational process: the method of analyzing specific situations; method of discussion; training in cooperation, lecture-conversation, lecture-visualization, lecture-debate, brainstorming; method of projects; method of business game. The need to use active teaching methods is justified by the UMC during the formation of the EP and the decision is made about its possible application by the teachers.

It is planned to introduce the following methods: problem and gaming technology, collective and group activity technologies, imitative methods of active learning, creative learning, innovative educational project activity, lecture-press conference.

On the basis of specialties 5B075200, 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials", 5B090300 "Land Management" in the educational process, innovative methods are used, mainly related to the use of information and communication technologies, master-classes for young teachers, holding open lectures with the aim of generalizing the experience of teaching, attendance by lecturers of assistant classes and vice versa attendance by lecturers for their assistants I'm learning and uniformity requirements of the discipline. Also at the department of the Ministry of Education and Science, the Young Metallurgist Club operates. Responsible for the implementation of the requirements of the criterion for the effectiveness of the application of active and innovative teaching methods is the lecturer.

The teaching staff of the departments of MIOPI and MPTiSM have their own developments in the field of methods of teaching the academic disciplines (textbooks, electronic textbooks, teaching and methodological instructions for practical and laboratory studies).

An example of the successful implementation of new developments in the field of training methods within the framework of the "Engineering systems and networks" is the use of electronic textbooks, for example, "Gas supply" (author - professor Unaspekov BA), within

the framework of EP Metallurgy is the use of electronic textbooks on metallurgy of heavy non-ferrous metals associate professor of the Department of MIOPI Baimbetova BS

The use of a variety of teaching methods, including new teaching technologies using interactive teaching aids and Internet resources on the basis of EP 5B071000 - "Material Science and Technology of New Materials", was reflected in the active participation of students in competitions of research works and material-science competitions, where they occupied prizes . Confirmatory certificates are available and stored in the database of the Department of SMiTMP.

Evaluation of the student's knowledge is carried out on the basis of a rating letter system with a corresponding translation into the traditional rating system according to the scale of the student's knowledge assessment accepted by the KazNRTU.

Compliance with the procedures for assessing the level of knowledge of students learning the planned results of the training and the objectives of the program management of the EP provides, in accordance with the normative document of the DP KazNRTU 706 Assessment of knowledge and the elimination of debt (http://kaznitu.kz/ru/about/internal-regulations/2level/documented-procedures).

Students who fail to achieve their planned learning outcomes and program objectives should retake the discipline on a paid basis and recruit the appropriate number of credits (DP KazNRTU 706 Assessment of knowledge and debt elimination.) (Http://kaznitu.kz/ru/about/internal- regulations / 2level / documented-procedures).

Criteria and methods of evaluation are contained in the teacher's syllabus and are published in the teacher's personal account on the educational portal. http://sso.kaznitu.kz.

The students express complete satisfaction with the quality of teaching (82.7%); fairness of examinations and attestation (76.9%); conducted tests and examinations (78.8%).

In an effort to create a system of genuinely democratic relations between students, employees and administration of the university, the community of teaching staff, staff and students adopted the "Code of Corporate Governance" (http://kaznitu.kz/ru/about/internal-regulations/3level/cmku) and "Code of Corporate Ethics "(http://kaznitu.kz/en/about/internal-regulations/3level/cmku) and undertake to follow it faithfully.

The Code of Corporate Governance and the Code of Corporate Ethics were developed in accordance with the Constitutional Rights of the Citizens of the Republic of Kazakhstan, the provisions of the Universal Declaration of Human Rights proclaimed by the UN General Assembly, the requirements of the current laws of the Republic of Kazakhstan "On Education", "On Languages in the Republic of Kazakhstan" "On Science" "On Combating Corruption" and other normative acts of the Republic of Kazakhstan, internal normative acts of KazNRTU, Policy and objectives in the field of quality, legislative requirements and norms on occupational safety and health. The "Code of Corporate Governance" establishes an obligatory model of behavior for each employee of the KazNRTU regardless of the position held. The model of TS behavior has its organic part of its political, legal, moral and aesthetic culture and corporate principle in the implementation of the educational process. At the same time, a professional culture is formed in the teaching and upbringing process, which includes the personal and professional-business qualities of a high school employee.

Analytical part

Analyzing the EP on the content of the Standard, the commission notes that the following issues are not fully reflected in the self-report and did not find confirmation during the visit of the EEC.

Students receive information about the possibilities of forming an individual educational trajectory, as well as assistance with its implementation through the student's private office and with the help of an adviser.

Systematic development and implementation of various forms and methods of teaching and learning, including the use of innovative methods, monitoring the satisfaction of students and teaching staff with methodological innovations are shown, but the commission notes that it requires improvement of the availability of own research on the methodology of teaching the academic disciplines in the framework of the implemented training programs .

Based on the analysis of the results of feedback, decisions are taken to implement the student-centered approach in teaching. Heads of the departments conduct the examination of questions on the results of conducting open lectures and interrelations at the meeting of the department, which considers the use of teaching methods, assessment of knowledge, identified inconsistencies and the reasons for their appearance. The Commission notes that there are no supporting documents and indirect evidence of feedback on the use of different teaching methods for EP 5B071000 - "Material Science and Technology of New Materials".

According to the results of interviewing, acquaintance with various documentation, material and technical base and information and methodical resources of the university and departments, questioning of students and teaching staff, the EEC of NAAR notes the following:

Strengths / best practice:

- the institution ensures the consistency, transparency and objectivity of the mechanism for evaluating learning outcomes for each OS.

EEC recommendations

1. To continue to develop our own TS research in the field of teaching methods for educational disciplines accredited by the OT in the context of student-centered learning.

2. To provide a feedback system on the use of different teaching methods and the evaluation of the learning outcomes of EP 5B071000 - "Material Science and Technology of New Materials".

Conclusions of the EEC on the standard "Student-centered teaching, teaching and assessment of academic performance»:

- accredited educational programs 5B075200 and 6M075200 - "Engineering systems and networks", 5B070900 - "Metallurgy", 5B090300 - "Land management" have 1 - strong, 8 - satisfactory, 1 - anticipating improvement.

- accredited educational program 5B071000 - "Material science and technology of new materials" has 1 - strong, 7 - satisfactory, 2 - assuming improvement of positions.

6.6 Standard "Learners"

✓ *The university should demonstrate the policy of forming a contingent of trainees in the context of the OS from admission to release and ensure the transparency of its procedures. Procedures regulating the life cycle of trainees (from admission to completion) should be identified, approved, published.*

✓ *The RP management should demonstrate special adaptation and support programs for newly enrolled and foreign students.*

✓ *The institution should demonstrate the conformity of its actions to the Lisbon Recognition Convention.*

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

✓ *The RP management should demonstrate the existence and application of a mechanism for recognizing the results of academic mobility of trainees, as well as the results of additional, formal and informal training.*

✓ *The university should provide an opportunity for external and internal mobility of the students of the EP, and also assist them in obtaining external grants for training.*

✓ *The management of the EP should make the maximum amount of effort to provide practice-based practitioners, facilitate the employment of graduates, and maintain communication with them.*

✓ *The institution should provide the graduates with documents confirming the received qualifications, including the results achieved, as well as the context, content and status of the education received and evidence of its completion.*

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

✓ *The RP leadership should actively encourage students to self-education and development outside the main program (extracurricular activities).*

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

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

The Evidence

Admission of applicants to KazNRTU. K.I. Satpaev is conducted according to the Typical Rules for Admission to Education in the Educational Organization, implementing the professional higher education curricula approved by the Resolution of the Government of the Republic of Kazakhstan dated January 19, 2012 No. 111 (taking into account the amendments introduced from July 3, 2016 No. 412) and Rules for awarding an educational grant for payment of higher education, approved by the Government of the Republic of Kazakhstan dated January 23, 2008, No. 58 (taking into account the amendments introduced on July 4, 2016 No. 405).

The management of educational programs of the bachelor degree 5B075200, 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials", 5B090300 "Land Management" determines the procedure for students studying at the University on credit technology, regulate the registration of students for academic disciplines, conducting current, intermediate and final controls, final certification, organization of the students' passing of practices, transfer, restoration, deductions, appointment of the state endii, evaluation knowledge of students and others.

Reception of persons entering the KazNRTU is carried out on their applications on a competitive basis in accordance with the points of the certificate issued by the results of the Unified National Testing (UNT) or complex testing.

Admission of foreign citizens for training in KazNRTU on a fee basis is carried out in the form of an interview conducted by the admission committee of the university.

The process of forming a contingent of trainees is described in the documented procedure of the DP KazNRTU 702 - "Formation of the contingent of trainees" (http://kaznitu.kz/ru/about/internal-regulations/2level/forms).

Table 3. Contingent of accredited educational programs

Specialty	***Number of students***								
	2015-2016 y4.y.			***2016-2017 st.y.***			***2017-2018st4.y.***		
	n		***o***	***n***		***o***	***n***		***o***
	Grant	arra n	***Total***	***Grant***	arran	***Tot al***	***Grant***	arra n	***Total***
6M075200 - «Engineering systems and networks »	Recruitment to the specialty is carried out in 2017.						5	-	5
5B075200 - «Engineering systems and networks »	74	10	84	58	32	90	57	28	85
5B070900 -	176	7	183	99	0	99	48	0	48

«Metallurgy»									
5B071000 - «Material Science and Technology of New Materials»	18	0	18	13	0	13	6	0	6
5B090300 - «Land management»	12	6	18	13	6	19	9	2	11

*g – Grant *a – arrangement

The procedure for the implementation of procedures for the formation of contingent (rules for admission, transfer from course to course, from other institutions of higher education, the procedure for the re-crediting of loans used in other HEIs, deductions, etc., is established by documented procedures 702 "Formation of the contingent of trainees (Bacalaria) from 25.05.2017 and the rules for admission to the Bachelor's degree in KazNRTU Pr 029.03-17.01.01-2017 (http://kaznitu.kz/en/about/internal-regulations/2level/documented-procedures).

The transfer of students from the course to the course is carried out according to the results of the academic year (interim assessments), taking into account the results of the summer semester and the earned average GPA.

An obligatory condition for the transfer of students from the course to the course is the achievement by them of an average GPA of not less than the transfer point set in the KazNRTU: from a 1-course to a 2-course - 2.0, from a 2-course to a 3-course - 2.1, course for 4-course and from 4-course to 5-course - 2.2. (http://kaznitu.kz/en/about/internal-regulations/2level/documented-procedures).

The university for all applicants makes equal demands in accordance with the normative documents of the Ministry of Education and Science of the Republic of Kazakhstan. For newly admitted students, an orientation week is held to familiarize themselves with the training and methodological documentation.

Taking into account the information received, the students form the FTI, build educational trajectories, using the choice of both the teacher and the academic discipline, taking into account their needs for obtaining the relevant competencies within the chosen specialty.

As part of the adaptation, residence of foreign citizens and nonresident students in hostels of the University is provided free of charge. In the range of services provided to foreign students, in addition to educational services and documentation, also includes assistance and support in adapting to a new educational and socio-cultural environment.

On accredited EP 5B075200, 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials", 5B090300 "Land Management" are currently being trained by 5 foreign students, 4 of them are Metallurgy from the near abroad (Uzbekistan), from the far abroad - 1 student specialty "Engineering systems and networks" (Afghanistan).

For new foreign students of KazNRTU, the program of primary adaptation of the "Orientation Month" is carried out in analogy with similar programs in foreign universities (Orientation Week, Welcome Week, Welcome Days). Foreign citizens entering the magistracy and doctoral studies pass the entrance examinations in Kazakh or Russian (the language of instruction) and in the specialty.

The university has developed and implemented in the context of educational work DP 715 KazNRTU "Academic support for trainees" (http://kaznitu.kz/ru/about/internal-regulations/2level/documented-procedures).

In order to integrate into the international educational space, improve the quality of knowledge, comparability and recognition of educational programs with programs of foreign universities, strengthen internationalization, KazNRTU implements academic mobility of

students. For example, in the framework of the agreement on academic mobility with the University of Aveiro (Portugal), in the spring semester of the 2017-2018 academic year, the second-year bachelor student of the MIOPI department of the specialty "Metallurgy" - Karibaev Diaz Erikuly was sent to study.

In order to promote the employment of graduates, a vacancy fair is held annually, at which interested employers have the opportunity to meet with graduates. The event is attended by representatives of more than 40 companies, including Schlumberger, KazTransOil, Baitau Partnetrs, Kazakhmys Corporation, Philip Morris Kazakhstan, Caspimunaigas, construction company Basis, Bureau Veritas Kazakhstan, Consulting Engineers, Borusan Makina Kazakhstan (http://kaznitu.kz/en/news/yarmarka-vakansiy-2017-v-kaznitu-im-ki-satpaeva.

Table 4. Employment of graduates

Specialty	***Information on the employment of graduates in the specialty***								
	2014-2015y.e.			***2015-2016 y.e.***			***2016-2017y.e.***		
	Release	***Employment***		***Release***	***Employment***		***Release***	***Employment***	
	people.	***people.***		***Employment***	***people.***		***people.***		***%***
6M075200 - «Engineering systems and networks »	Preparation is carried out from 2016.								
5B075200 - «Engineering systems and networks »	Preparation is carried out from 2012.			25	23	92	24	22	92
5B070900 - «Metallurgy»	164	124	76	36	21	58	43	30	70
5B071000 - «Material Science and Technology of New Materials»	13	10	77	8	6	75	22	20	90
5B090300 - «Land management»	7	4	86	-	-	-	8	6	75

To maintain feedback from alumni of different years, the Alumni Association of KazGMI-KazPTI-KazNTU named after KI is functioning. Satpayev, whose goal and mission is to establish and strengthen business ties with companies and organizations in which graduates of the university successfully work. Alumni Association of Alumni gathers proposals on improving the teaching and upbringing process at the university during the production practices, graduates working at the enterprises carry out patronage over the students. The Alumni Association organizes jubilee meetings of graduates who graduated from the university 20 years ago. For great services in the creation of the image of the university in the country and abroad, the best graduates are awarded with the sign.

In order to create conditions for the disclosure of the personal potential of gifted students and the organization of leisure for students at the university, there are organizations

in the sphere of youth policy and a sports club (http://kaznitu.kz/ru/news/otkrytye-pervenstva-satbayev-university-sredi-studentov- magistrantov-i-pps-)

Table 5. Active organizations in the field of youth policy

№	*Name of organization*	*Field of activity*
1.	Committee on Youth Affairs	Ensuring the implementation of the state youth policy, the tasks of the registration and upbringing process
2.	League of Volunteers	Development of Volunteer Movement
3.	SPE	Community of Petroleum Engineers
4.	SAE	Community of Engineers
5.	Be Smart in Business	Business-trainings, business-forums, case-clubs
6.	IDC	Debate
7.	Stand Up	Humor, public speaking
8.	English Club	The development of English
9.	Sport Lab	Development of sports
10.	Art & You	Creative amateur performance, charity
11.	Satbayev Hunters	Personal growth, cultural events
12.	Enactus	Leadership and development
13.	AAPG	Community of geologists
14.	Insight	Personal growth
15.	Technocrat (Kaz)	Debate (kaz)
16.	ITSA - Student Associataion IT	Research activities in the field of information and telecommunication technologies
17.	KazNRTU Society of Automotive Engineers Student Chapter	Training in practical skills required in industrial engineering
18.	Student "Zhas Kanat"	
19.	Youth wing "Zhas Otan"	

Annually, for the success in studying and active participation in the public life of the university, students from excellent students, winners of international and republican Olympiads, amateur art festivals; activists of student self-government and students-athletes are awarded with certificates and cash prizes.

Students of KazNRTU are active participants of student scientific and socially significant, cultural and mass events of city, republican and international scale.

Students - metallurgists regularly become winners of the contest "Spring KazNITI", 1 place in 2017, 2 place in 2018. Student 2-yo. course Asemgul Tanysbekova specialty Metallurgy took the 2nd place in the competition - I'm next Satpayev.

According to the questionnaire, the students express full satisfaction with the availability of academic counseling (59.6%); quality of the student health service (53.8%); availability of library resources (86.5%); existing educational resources (76.9%); the overall quality of the curriculum (84.6%); the ratio between the student and the teacher (86.5%).

Analytical part

The information presented in the self-report in the context of this standard was mostly confirmed during the visit of the EEC. At the same time, the external commission notes that, as the interviews with the alumni showed, not all of them are aware of the fact that the Alumni Association of KazGMI-KazPTI-KazNTU named after K.I. Satpayev, whose goal and mission is

to establish and strengthen business ties with companies and organizations in which graduates of the university successfully work. The Alumni Association collects proposals on improving the teaching and upbringing process at the university during the production practices, graduates working on the enterprises carry out patronage over the students.

In the university there is the possibility of external and internal mobility for students, however, the commission notes the insufficient academic mobility of students of the OT in question.

According to the results of interviewing, acquaintance with various documentation, material and technical base and information and methodical resources of the university and departments, questioning of students and teaching staff, the HEC of NAAR notes the following:

Strengths / best practices:

- availability of special adaptation and support programs for newly enrolled and foreign students;

- Providing graduates with documents confirming the received qualification, including the results achieved, as well as the context, content and status of the education received and evidence of its completion.

EEC recommendations

1. Consider the possibility of supporting the academic mobility of the students of the EP in accordance with the concluded memorandums.

2. Strengthen the work on attracting graduates of accredited PAs in the work of collegiate management bodies, including in the association of graduates.

Conclusions of the EEC on the "Learning" standard:

- accredited educational programs 5B075200 and 6M075200 - "Engineering systems and networks", 5B070900 - "Metallurgy", 5B090300 - "Land management", 5B071000 - "Material science and technology of new materials" have 2 strong, 7 - satisfactory, 3 - .

6.7 Standard "Teaching staff and teaching effectiveness"

✓ *The university should have an objective and transparent personnel policy, including in the context of the EP, which includes hiring, professional growth and staff development, which ensures the professional competence of the whole state.*

✓ *The university should demonstrate the conformity of the personnel potential of the TS with the development strategy of the university and the specifics of the OS.*

✓ *The management of the RP should demonstrate awareness of responsibility for its employees and providing them with favorable working conditions.*

✓ *The RP management should demonstrate the changing role of the teacher in connection with the transition to student-centered learning.*

✓ *The university should determine the contribution of the TS 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 the teaching staff.*

✓ *The RP management should involve practitioners of relevant industries in teaching.*

✓ *The RP management should ensure targeted actions for the development of young teachers.*

✓ *The university should demonstrate the motivation for the professional and personal development of the teaching staff, including the promotion of both the integration of research and education, and the use of innovative teaching methods.*

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

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

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

The Evidence

The selection of the faculty at the departments is conducted on the basis of the competition based on the requirements set forth in the normative document "Rules for Competitive Substitution of TS Positions" approved by the Ministry of Education and Science. Information about the competition for the selection of personnel and personnel is carried out by the Personnel Department through the mass media. Selection of TS from the number of applicants who submitted documents for participation in the competition is held at the meetings of the competitive commission in accordance with the Regulations on the competitive commission approved by the Ministry of Education and Science.

Personnel policy is reflected in documented procedure 601 "Personnel management". http://kaznitu.kz/en/about/internal-regulations/2level/documented-procedures. Also, the personnel policy is reflected in the Regulations on competitive replacement of the posts of the staff of the Kaliningrad National Technical University. Satpayev, Rules of internal labor regulations, Regulations on labor remuneration, "Regulations for certification of the NES of KazNRTU named after KI. Satpayev.

The implementation of the development plan for the educational program is accompanied by the development of the staff potential through the improvement of the professional knowledge and skills of teachers, raising their competence in accordance with the requests of the innovative society, developing the potential of the teaching staff through the development and wide application of information and communication technologies to ensure quality education. Recently, special attention has been paid to improving the language training of the teaching staff in order to introduce educational programs in the format of multilingual education.

The level of competence of the TS, as defined in the university, is related to the professional standard, the sectoral framework and the NQF. To ensure its provision, the teaching staff of the department is formed on the basis of competitive selection in accordance with the following criteria: the availability of an appropriate basic education, the availability of academic and / or academic degrees, as well as length of service in the specialty and author's educational methodical developments. Information on basic education; academic and non-academic experience; advanced training; membership in professional organizations; awards and bonuses; activities in the service sector within and outside the institution; important publications and presentations; new professional, developmental design; and other important activities are presented in the TS Forms. Formation of the teaching staff of the chairs is conducted in strict accordance with the qualification requirements for the national universities of the Republic of Kazakhstan.

The number of staff TS in the EP Metallurgy: 29 people, of which 3 in combination, with academic degrees and titles - 5 doc., 5 (PhD), 10 cand., 9 mages, which is 100% graded.
The number of staff TS in the "Engineering systems and networks" EP: 17 people, of which 2 in combination, with academic degrees and titles - 4 doc., 8 cand., 3 mages, which is 94% of graduation.

The number of staff TS under the EP "Land Management": 16 people, 2 of them in combination, with academic degrees and titles - 2 doc., 4 cand., 4 PhD doctors, 6 mages, which is 100% of graduation.

The number of staff TS in the EP "Material Science and Technology of New Materials": 6 people. on the department of SMiTMP with academic degrees and titles - 2 doc., 2 candidate of technical sciences. Sciences, 1 PhD, 1 mag., which is 74% of graduation and 12 people. on the department of TFiM - 3 doc., 2 candidate. Sciences, 4 PhD, 3 mag. (75% of gradualness).

Social support of employees is carried out by the university trade union committee.

Provided social assistance in KazNRTU:

- workers with a disability are entitled to a shorter working day;
- employees engaged in the training process, and for the staff increased paid holidays; employees in hazardous working conditions are granted additional leave, 30% of the surcharge to wages are paid, special food and free medical examinations are provided;
- On a regular basis, material assistance is provided to veterans of the Great Patriotic War, participants in the Afghan war, participants in the labor front and university veterans;
- Teachers and employees of the University, as well as their children are given Sanatorium vouchers at a discount of 50% of the cost of a trip to "Koktem";
- summer camp for children of employees - with a 30% discount.

The motivation for the professional and personal development of the teachers of the UP is carried out, among other things, by encouraging scientific activity and innovative teaching methods.

Planning and reporting on research work is carried out in accordance with the developed and approved passport of the research work of the KazNRTU, in which the goals, objectives and main scientific directions of applied and innovative research as well as plans of research are formulated and consolidated.

By kinds of works on the specialty "Engineering systems and networks" a large share in the total amount of the department's funding is applied research (80%), which indicates the presence of a huge innovative potential, followed by fundamental research (20%). In comparison with 2017 the volume of financing on household / contractual topics was 54,000,000, 00 tenge.

By kinds of work on the specialty "Metallurgy" a large share in the total amount of funding of the department is applied research (80%), which indicates the presence of a huge innovation potential, followed by fundamental research (20%). In comparison with 2017 the volume of financing on household / contractual topics increased 5.5 times and amounted to 168 065 501.36 tenge.

The KazNRTU has a rating system that assesses the annual qualification of the teaching staff. All TSs pass courses of advanced training, organized both by KazNRTU and on an independent basis. One of the key activities of the EP management is the creation of favorable conditions for professional and personal development of the teaching staff, including planned upgrading of qualifications. In the educational process, electronic, electronic textbooks and multimedia training programs developed by the teaching staff are used.

Table 6. Improvement of qualifications of teaching staff

PC Level	***Number of***		
	2015/2016	***2016/2017***	***2017/2018***
Department "Engineering systems and networks"			
Internship	2	4	1
Republican	7	8	2
International	3	2	-
Total	10	14	3
Department "Metallurgy and mineral processing"			
Internship	20	15	10
Republican	10	4	10
International	3	5	2
Total	33	24	22
Department "Metallurgical processes, heat engineering and technology of special materials"			
Internship	5	17	15
Republican	5	15	13

International	11	15	7
Total	21	47	35
Department of "Technical Physics and Materials Science" and "Machine Tool Building, Materials Science and Technology of Machine-Building Production"			
Internship			
Republican	6	9	2
International			1
Total			
Department of Mine Surveying and Surveying»			
Internship	12	3	1
Republican	6	5	4
International	1	2	6
Total	19	10	11

One of the mechanisms for motivating the use of IT in the educational process is participation in the competition for a grant from the Ministry of Education and Science of the Republic of Kazakhstan "Best Teacher of the University". In 2016, was awarded the title of "Best University Teacher" Dauletbakova TS, Professor of the Department of MIOPI (specialty - Metallurgy).

Table 7. Statistical indicators of research in the departments of accredited OT

№	Statistical scientific indicators of research	***amount***		
		2015 г.	***2016 г.***	***2017 г.***
Department "Engineering systems and networks"				
1	Patents	1		
3	Monographs	1	1	
4	Tutorials	1	1	
5	Training aids	1		5
6	Issue of scientific articles in TomsonReuters, Scopus with non-zero impact factor		2	1
7	High-ranking magazines (RINC)			
8	Magazines recommended by the CCSEC of the Ministry of Education and Science of the Republic of Kazakhstan	1	1	5
9	International conferences	1	7	1
Department "Metallurgy and mineral processing"				
1	Patents	1	6	8
3	Monographs			
4	Tutorials		1	
5	Training aids			2
6	Issue of scientific articles in TomsonReuters, Scopus with non-zero impact factor	5	7	11
7	High-ranking magazines (RINC)	6		2
8	Magazines recommended by the CCSEC of the Ministry of Education and Science of the Republic of Kazakhstan	16	20	29
9	International conferences	10	10	11
Department "Metallurgical processes, heat engineering and technology of special				

materials»				
1	Patents	3		
3	Monographs	1	1	3
4	Tutorials			
5	Training aids		1	1
6	Issue of scientific articles in TomsonReuters, Scopus with non-zero impact factor	5	8	7
7	High-ranking magazines (RINC)	1	1	3
8	Magazines recommended by the CCSEC of the Ministry of Education and Science of the Republic of Kazakhstan	21	21	30
9	International conferences	11	7	15
Department of "Technical Physics and Materials Science" and "Machine Tool Building, Materials Science and Technology of Machine-Building Production"				
1	Patents	1	3	
3	Monographs		1	
4	Tutorials		3	1
5	Training aids	1		
6	Issue of scientific articles in TomsonReuters, Scopus with non-zero impact factor	3	9	7
7	High-ranking magazines (RINC)			2
8	Magazines recommended by the CCSEC of the Ministry of Education and Science of the Republic of Kazakhstan		25	5
9	International conferences	1	20	8
Department of Mine Surveying and Surveying				
1	Patents	2	3	
3	Monographs	1	1	1
4	Tutorials	3		2
5	Training aids			1
6	Issue of scientific articles in TomsonReuters, Scopus with non-zero impact factor	2	1	
7	High-ranking magazines (RINC)			
8	Magazines recommended by the CCSEC of the Ministry of Education and Science of the Republic of Kazakhstan	10	12	14
9	International conferences	1	4	6

Teachers and staff of the accredited specialties of the departments take an active part in the Donsaulik Intramural Sports Games, the winners of which take part in the interuniversity sports day of Almaty and take prizes. The university team has been in the first place for the last 9 years.

The role of university TS in the development of education and science of the city and the republic is significant. The evidence of this is the competitions of scientific projects, as well as ongoing scientific seminars, conferences. In addition, the faculty members are regular participants of the traditional festival of amateur performances "Spring in KazNRTU ", the University Spartakiada "Densaulyk", interuniversity Spartakiada "Parasat" and other events. Regularly published materials of scientists KazNRTU in the media, aimed at strengthening the public image of the university.

The TS questionnaire, conducted during the visit of the NAEC HEC, showed that:

- the university provides opportunities for TS in using innovations in education - very well and well - 63.6% and 60% respectively;

- TS satisfies the content of the educational program - very well and well - 27.3% and 63.6% respectively;

- the level of feedback of TSs with management meets by 23.6%;

30.9% of the teaching staff are satisfied with the organization of academic mobility, and the plan of work to upgrade the qualifications of the teaching staff;

Analytical part

In general, we can conclude that the activities of the departments meet the criteria of the standard. Teachers are aware of the change in their role in connection with the transition to student-centered learning. TS, serving the EP, makes a significant contribution to the implementation of the development strategy of the university. The opportunity for career growth and professional development of the PPS EP has been created. Heads of the departments take active, purposeful actions to attract and develop young teachers.

At the same time, the commission notes that the following questions regarding this standard are not fully reflected in the self-report and were not confirmed during the visit of the EEC.

The university encourages the integration of scientific activities and education and the application of TS innovative teaching methods. At the same time, the commission notes an insufficient level of use of innovative methods of teaching and the application of TS information and communication technologies in the educational process.

Also, the commission notes that during the visit of the VEC TS EP 5B071000 - "Material Science and Technology of New Materials" did not demonstrate activity during the questioning, interviews, interviews due to lack of awareness of the leadership of the EP.

According to the results of interviewing, acquaintance with various documentation, material and technical base and information and methodical resources of the university and departments, questioning of students and teaching staff, the EEC of NAAR notes the following:

Strengths / best practice:

- the university demonstrates an objective and transparent personnel policy, which includes hiring, professional growth and development of personnel, ensuring the professional competence of the whole state;

- Conformity of the personnel potential of the TS with the development strategy of the university and the specifics of the EP;

- involvement of the teaching staff in scientific research;

- provision of targeted actions for the development of young teachers.

EEC recommendations

1. Strengthen the work on the conditions for motivating TSs to apply innovative methods and information and communication technologies in the educational process.

Conclusions of the EEC on the standard "Teaching staff and the effectiveness of teaching":

- accredited educational programs 5B075200 and 6M075200 - "Engineering systems and networks", 5B070900 - "Metallurgy", 5B090300 - "Land management" have 4 - strong, 8 - satisfactory, assuming improvement of positions - no.

- accredited educational program 5B071000 - "Materials Science and Technology of New Materials" has 4 - strong, 7 - satisfactory, 1 - assuming improvement of positions.

6.8 Standard "Educational resources and student support systems"

✓ *The RP management should demonstrate the sufficiency of the material and technical resources and infrastructure.*

✓ *The RP management should demonstrate the existence of support procedures for different groups of learners, including information and counseling.*

✓ *The RP management should demonstrate the correspondence of information resources to the specifics of the EP, including compliance:*

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

✓ *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 sectors.*

✓ *The institution should ensure compliance with safety requirements in the learning process.*

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

The Evidence

The university creates conditions for meeting the social, personal and everyday needs of students. To this end, structural units are functioning that assist students in organizing the educational process and in solving social issues: the directorates of institutions; department; Registrar's office; department of international cooperation; science Library; Department for Student Affairs; Department of Information Systems, etc.

The composition of the audit fund, the procedure for its maintenance, use and provision of training equipment, training and research laboratories, as well as infrastructure resources and resources to ensure the appropriate conditions of the production environment is determined by internal regulatory documents. (http://kaznitu.kz/en/about/internal-regulations/2level/documented-procedures).

Table 8. Laboratory support of departments

Name of the laboratory	***Types of training activities***	***Type of equipment***	***Area***
Department "Engineering systems and networks"			
Chemistry of water and microbiology	Laboratory works	The electric laboratory furnace, Analyzer Fluorate - 02-2M, PH meter ANION - 4101, Laboratory ionomer ANION4101, Analytical scales AX 120, Laboratory balance EK-3000, Laboratory balance ELB 300, Laboratory electronic balance, Water bath, The distiller is electric, The columbler,	39,2 м2

		Magnetic stirrer ARE, Microscope, The device for the determination of phenol in water 0.5 l, The device for the determination of phenol in water1,0 l, The device for determining COD, Device for stripping and polishing. arsenic, pH liter, Ph-150 meter Spectrophotometer	
Heating, ventilation and gas supply	Practical lessons	Laboratory stand "Gas pressure regulator", Laboratory stand "Ventilation and conditioning systems", Laboratory stand "Heating systems", Gas stove, gas column for heating water, radiators connected to the heating system and stands.	51,9 м2
Water supply and sewerage	Laboratory works	Stand lab. (lab complex on intra-house networks), Stand lab. (definition of characteristics of the pipeline section), Laboratory stand. (study of the operation of non-pressure high-speed filters), Laboratory stand. (study of the work of internal sewage fittings), Stand lab. (study of the operation of mechanical mesh filters), Stand lab. (study of the operation of pressure filters), Laboratory stand. (study of the operation of the aeration tank with ejector aerators), Laboratory stand. (study of the operation of settling tanks with a flake chamber), a stand-up (stop valves of the internal water pipe), an in-house stand (connection of internal water pipes), a laboratory stand (study of the operation of mechanical set filters), an apparatus for the study of heat transfer in natural convection of a veritable cilium, (automation of the work of the shock pump and fast pressure filter with water flushing), pipe connector, otokolonki Closet for chemical reagents, Gate valve, Laboratory stand (hydraulic and pneumatic test of pressure pipelines)	55,3 м2
Heat engineering and heat generating plants	Practical lessons	Wall. (measurement pressure in the pressure and suction pipes), Wall. (measurement of the heat transfer process on the heat exchange model), Device for expiring the heat exchanger, Device for studying the thermal conductivity of materials Device for determining the coefficient of study MMTP011, Device for the use of heat transfer in	37,6 м2

		forced air movement, Device for heat transfer in natural convection horiz.cili	
Hydropower and hydropower plants	Laboratory works Practical lessons	Booth and testers for the small hydro-cyclone units under consideration (study of the operation of small hydrocyclones in a computer), Semi-closed shelving with glass, Shelving, Pump, Model of a small hydro power station with a hydrocyclone water supply unit, Model "Device for cleaning mine wells", Laboratory stand work pressure hydrocyclones), Valve	42 м2
Department "Metallurgy and mineral processing"			
Laboratory of pyrometallurgical processes	Conducting laboratory work with bachelor students on general courses, special courses, research of doctoral students of the department	Scales, chemical Granulator Jaw Crusher Chopper Compressor KVDG Muffle furnace Mine ash furnace SCHOL-1.1,6 / 12-M3 Drying cabinet Electric arc furnace Laboratory autoclave Autoclave for industrial use	72 м^2
Laboratory of pyrometallurgical processes	Conducting laboratory work with bachelor students on general courses, special courses, research of doctoral students of the department	Planetary ball mill PM 100 The VLT scales - 1500-P High temperature tube furnace Tubular furnace horizontal oven Washer Low-temperature electric furnace Gas analyzer	40м^2
Laboratory of hydrometallurgical processes	Conducting laboratory work with bachelor students on general courses, special courses, research of doctoral students of	Atomic absorption spectrometer Potentiometer PCB Vacuum pump-compressor VNK-2 Analytical scales Scales VLT -510-P AE-10 distiller Liquid thermostat "VT-14-02" pH-meter pH-150MP Microprocessor pH meter HI 2213 Magnetic stirrer Stirring device PE-8310 Sand bath MIMP-PB	36 м^2

	the department	Low temperature laboratory electric oven (drying cabinet) SNOL 58/350	
Laboratory for metallurgy of light and rare metals	Conducting laboratory work with bachelor students on general courses, special courses, research of doctoral students of the department	Scales, chemical Laboratory scales SHIMADZU Electric resistance furnace chamber SNOL 6,7 / 1300 Liquid Thermostat Stirrer RW-16 Drying cabinet Vacuum Filtration Unit	36 м^2
Laboratory of Mass Transfer Processes	Conducting laboratory work with bachelor students on general courses, special courses, research of doctoral students of the department	4-stage extractor Shaker Circulation thermostat Magnetic Stirrer Magnetic stirrer MM-5 Rotary evaporator	18 м^2
Training laboratory	Conducting laboratory work with bachelor students on general courses, special courses, research of doctoral students of the department	DE-4 Distiller Laboratory scales SHIMADZU Muffle furnace Liquid Thermostat Rectifier device Potentiometer P-307 Galvanometer	60 м^2
Training laboratory	Conducting laboratory work with bachelor students on general courses,	SPARK spectrometer Scales VLT -510-P Laboratory balance ADVENTURER JENWAY 6300 Spectrophotometer Ionometer I-160 Rectifier combined Magnetic stirrer ika	18 м^2

	special courses, research of doctoral students of the department	Magnetic stirrer	
Department "Metallurgical processes, heat engineering and technology of special materials"			
Thermotechnical processes	Conducting laboratory work with bachelor students on general courses, special courses	Tubular furnace SNOL, Muffle furnace SLOL, Electroheating furnace of cylindrical type, Multichannel measuring-regulator OWEN TPN138, Planetary mill Vacuum cleaner "Raketa".	40,8 м^2
Special Courses	Conducting laboratory work with bachelor students on general courses, special courses	Potentiometer Titrator, USB Microscope, FPC-BW08 Horizontal Shaker, Cup Washer, Refractometer, A spectrophotometer, Homogenizer DI25. The thermal analyzer STA 409PC / PG, NETZSCH, Three-zone tubular oven NABERTHERM	80,7 м^2
Theory of metallurgical processes	Conducting laboratory work with bachelor students on general courses, special courses	Centrifuge OPN-8, Muffle tube furnace SLOL, Magnetic agitator with heating, Bath water six-seater, The pump is vacuum, Horizontal shaker, Gas analyzer MGL 9.1.	80,2 м^2
Laboratory of KAZATOMPROM	Conducting laboratory work with bachelor students on general courses, special courses	Extractors, automatic, Automatic titrators, FEC photocolorimeter.	40,8 м^2
Department of "Technical physics and materials science" and the department "Machine-tool construction, materials science and technologies of machine-building production"			
Laboratory	Conducting laboratory, research	Educational equipment for high schools PHYWE (Germany)	50 кв.м.

	works on the courses "Condensed state physics", "Methods of research of material properties"		
Quantum Physics"	Preparation of thin films of metals, semiconductors and investigation of their properties	VUP 5M, spectrophotometer "SF-2000", modern PCs	40 кв.м.
Laboratory of Materials Science and Nanotechnology	Technology for growing CNTs Microhardness measurement Metallographic examination Dilatometric analysis Methods for measuring the hardness of materials	Plant for growing CNT - CVD Microtimer PTM3 Metallographic microscope Metan Quick Line05 Dilatometer Universal hardness tester	70 кв.м.
Department of Mine Surveying and Surveying			
«Geocamera»	Provision of geodetic instruments	Leica TS 15, Leica TCRA1205, GPS1200, Geominegeosite, FARO FOCUS 3D, Geoscan 101, Leica sprinter 250M	40 м^2
«Innovative geospatial technologies»	Laboratory works Practical lessons	Surpac, Erdas, Agisoft, envy	40 м^2

Trained according to EP 5B075200, 6M075200 "Engineering systems and networks", 5B070900- "Metallurgy", 5B071000 "Materials Science and Technology of New Materials", 5B090300 "Land Management" and PPS of the Department have access to the electronic catalog of the Scientific Library (Documentation Procedure No. 607 "Information Management resources of the scientific library ") and to international databases of scientific research results, teaching aids and materials (http://e-lib.kazntu.kz/).

TS according to EP 5B075200, 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials",

5B090300 "Land Management" has office hours for consultations advising students on the educational process. The schedule of office hours is presented in the syllabus of the PPS and is approved at the meeting of the department.

The student can apply to the head of the department, the deputy director of the institute, the adviser or the manager of the department at any time to answer the questions of interest to him. The answer can be received immediately or after a certain number of hours or days.

The mechanism of assistance to students in the event of problems associated with the educational process is prescribed in the DP KazNRTU 706 "Assessment of knowledge and the elimination of arrears (bachelor)."

Advisers 5B075200, 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials", 5B090300 "Land Management" monitor and monitor the progress and attendance of students. In case of finding the forthcoming problem related to the educational process, notify the student and the head of the department. TS analyzes student performance and attendance, which are reflected in the TS report, after each assessment and session. Questions of progress and attendance of students are considered at the meeting of the department.

All research results, graduate work for students in accordance with EP 5B075200, 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials", 5B090300 "Land Management" are tested for plagiarism according to the Procedure for the verification of works by the Anti-Plagiaristic Internet System StrikePlagiarism (Regulations on the conduct of inspection of final works for the subject of plagiarism P 029-03-16.01.03-2017). http://strikeplagiarism.com/en/.

Table 9. Foundation of educational and educational literature

Name of specialties	***The library fund (ODD, PD, DB)***	***Number of textbooks, teaching methodical and scientific literature***		
		on kaz. language	***on rus. language***	***in English. language***
5B075200 Engineering systems and networks	17960	6985	10975	
6M075200 Engineering systems and networks	4997	1536	3461	
5B075900 Metallurgy	56742	19676	37041	322
5B090300 Land management	8151	3280	4871	
Materials and technology of new materials	17251	6439	10812	2

All students on 5B075200, 6M075200 "Engineering systems and networks", 5B070900 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials", 5B090300 "Land Management" have their own login and password for access to educational Internet resources.

The university has its own website, oriented both to external stakeholders and to students (New educational portal). On the main page of the website of the university information is posted with announcements about the activities, upcoming and ongoing time at the present university with a view to wide and rapid notification of interested persons. All relevant information concerning the educational achievements of students and teaching materials of the teaching staff is of a closed nature. Trained on his personal page in the university's educational portal has access to information on the subjects studied.

Questioning of students, conducted during the visit of the NAEC VEK, showed that satisfaction:

- the availability of library resources is 86.5%;
- the existing educational resources of the university - 76.9%;
- Availability and accessibility of computer classes and Internet resources - 36.5%.

Analytical part

As a result of a visual inspection by the EEC members of the facilities of the material base, it should be noted that in order to ensure the educational process of accredited EPs, the university has all the necessary educational and material assets. Auditor and laboratory facilities, classrooms correspond to the established norms and rules. At the same time, the commission notes that the following questions regarding this standard are not fully reflected in the self-report and were not confirmed during the visit of the EEC.

The University provides academic support to students in the process of mastering the OT by providing them with information and reference materials that provide a holistic view of the rules of internal regulations, the principles of academic regulation, the format of educational programs, the trajectory of studying academic disciplines, the academic calendar.

However, the university should improve technical capabilities for people with disabilities, supplement the number of specialized literature in the areas of training, especially in electronic format.

According to the results of interviewing, acquaintance with various documentation, material and technical base and information and methodical resources of the university and departments, questioning of students and teaching staff, the EEC of IAAR notes the following:

Strengths / best practices:

- availability of a fund for educational, methodological and scientific literature on general education, basic and profiling disciplines on paper and electronic media, periodicals, access to scientific databases;
- compliance with safety requirements in the training process is ensured, including safety regulations and passports for specialized cabinets and laboratories.

EEC recommendations

1. To continue the work aimed at supporting and social protection of various groups of students on accredited FP, in particular, students with disabilities, as well as providing access to education for socially vulnerable segments of the population.

2. Continue work on the systematic replenishment of the library fund with professional literature in the context of accredited educational programs, including in electronic format.

Conclusions of the EEC on the standard "Educational resources and student support systems":

- accredited educational programs 5B075200 and 6M075200 - "Engineering systems and networks", 5B070900 - "Metallurgy", 5B090300 - "Land management", 5B071000 - "Material science and technology of new materials" have 3 - strong, 4 - satisfactory, 2 - .

6.9 Standard "Public Awareness"

✓ *The information published by the university within the framework of the EP should be accurate, objective, relevant and should include:*

- *Implemented programs, indicating the expected results of the training;*
- *information on the possibility of assigning qualifications at the end of the EP;*
- *information on teaching, training, evaluation procedures;*
- *information on passing scores and educational opportunities provided to students;*
- *information on employment opportunities for graduates.*

✓ *The EP management should use a variety of ways to disseminate information, including the media, information networks to inform the general public and stakeholders.*

✓ *Public information should provide support and explanation of national development programs of the country and the system of higher and postgraduate education.*

✓ *The university should publish on its Web resource audited financial statements, including in the context of the EP.*

✓ *The university should demonstrate the reflection on the web resource of information that characterizes the university in general and in the context of educational programs.*

✓ *An important factor is the availability of adequate and objective information about the TS of the EP, in the context of personalities.*

✓ *Informing the public about cooperation and interaction with partners within the framework of the EP, including with scientific / consulting organizations, business partners, social partners and educational organizations is an important factor.*

✓ *The institution should place information and links to external resources based on the results of external evaluation procedures.*

✓ *An important factor is the participation of the university and implemented OT in various external evaluation procedures.*

The Evidence

Placement of information on educational programs and curricula, work programs of training courses, subjects, disciplines (modules), annual calendar training schedules, achievements of the country, university, institute is carried out in the traditional order on information stands of departments, institutes and structural subdivisions of the university, and also published in the university newspaper "RAS", in printed and informational publications such as Kazpravda, Egemen Kazakhstan, Economics, President Zhanne Haly, Higher School of Kazakhstan, Oyytu-Tyrb

Given the popularity and role played by social networks in the lives of modern people, the university identifies accounts in social networks as important tools for informing the public and building a dialogue with it. Among them the main are:

1) The official website of the university is a universal information tool containing all the basic information on the organization of the educational process, the composition and structure of the university, major events, graduates, etc.

2) Accounts in social networks: in the contact, Youtube, Facebook (University), Instagram.

To assess the educational achievements, students are provided with various forms of control and attestation - current monitoring of academic performance, intermediate and final certification of trainees (the periodicity and duration of which is carried out in accordance with the requirements of the law). (Http://edu.kaznitu.kz/#!/107/journal-teacher) with curricula, academic calendar and professional training programs developed on the basis of state general education standards of higher education and approved by the university's academic council.

The interested persons can receive information on the processes of forming and implementing the development plan for the EP from the public sources of the University (http://kaznitu.kz/), as well as submitting an official request to the office and receiving an official response within a specified time frame.

NJK KazNRTU named after K.I. Satpayev provides information security through network

security systems, data encryption, access security (key, certificate, password). Any information that is not public is considered to be information subject to the information security policy of the University and is provided with the necessary means of protection. Information systems used at the University constitute a common software platform from systems of narrow specialization (automation, security, storage, transmission, data backup).

Confirmation of the development of the culture of quality assurance at the university is the success in achieving target quality assurance indicators, the results of external assessments. Among the main achievements:

- KazNRTU named after K.I. Satpaev was the first in Kazakhstan to pass and re-confirm the International Institutional Assessment in the European Association of Universities (EUA) for the International Evaluation Program (IEP, International Evaluation Program, 2010, 2014);

- KazNRTU named after K.I. Satpaeva occupies a leading position in the ranking of universities in Kazakhstan on academic indicators of training specialists among technical universities, is the leader in technical sciences and technology according to the results of the rating of educational programs of universities held by the NAC RK (now the Center for the Bologna process and academic mobility) in the period from 2011 and 2015 .

- in November 2015 the university also passed and re-confirmed the national institutional assessment in the accreditation agency of NKAO (Kazakhstan);

- Educational programs in the fields of technology and technology are accredited in internationally accredited international accreditation agencies ABET (USA), ASIIN (Germany), AEER (Russia) and ENAEE, as well as in the national accreditation agency of NKAO (Kazakhstan).

Based on the results of questioning of students, the satisfaction with informing about courses, educational programs, and academic degrees is 73.1%.

Analytical part

At the same time, the commission notes that the following questions regarding this standard are not fully reflected in the self-report and were not confirmed during the visit of the EEC.

To represent the university's interests in the global network and create a holistic positive image of KazNRTU, the corporate website of the university (http://www.kazntu.kz) was created in the world community, which provides the target audience with information on various aspects of the university's activities. In addition to providing users with access to the university's information resources, the University's corporate website serves to develop scientific and educational ties with universities and potential partners, promote academic mobility of students and teachers, enhance the competitiveness and investment attractiveness of the university.

Nevertheless, an analysis of the content of the university's website made it possible to establish that the information placed on http://www.kazntu.kz and http://satbayev.university is not presented in full volume and does not reflect the results of the university's activity, in particular, there are no links for the availability of adequate and objective information about the TS of the EP in the context of personalities.

The commission also notes that the full, adequate and confirmed information on PS 5B071000 - "Material Science and Technology of New Materials" in the procedures of external evaluation is not reflected.

According to the results of interviewing, acquaintance with various documentation, material and technical base and information and methodical resources of the university and departments, questioning of students and teaching staff, the HEC of NAAR notes the following:

Strengths / best practices:

- holding conferences and forums, publishing activity on educational policy, supporting and explaining national development programs of the country and the system of higher and postgraduate education;

- using a variety of ways to disseminate information, including the media, information networks to inform the general public and stakeholders.

EEC recommendations:

1. To continue the work on improving the university's website and creating content in the state, Russian and English languages.

2. Strengthen the participation of the university and implemented by the EP 5B071000 - "Material Science and Technology of New Materials" in a variety of external evaluation procedures.

Conclusions of the EEC on the standard "Public Awareness":

- accredited educational programs 5B075200 and 6M075200 - "Engineering systems and networks", 5B070900 - "Metallurgy", 5B090300 - "Land management" have 2 - strong, 10 - satisfactory, 1 - assuming improvement position.

- accredited educational program 5B071000 - "Material Science and Technology of New Materials" has 2 - strong, 9 - satisfactory, 2 - assuming improvement of positions.

6.10 Standard "Standards in the context of individual specialties"

1. Natural sciences, engineering science and technology

The Evidence

According to the requirements of the State Technical University, the contents of the disciplines of the accredited specialties 5B0752000, 6M075200 "Engineering systems and networks", 5B0709000 "Metallurgy", 5B071000 "Materials Science and Technology of New Materials" are based on knowledge, skills and skills obtained at the previous stage of education, both in the field of fundamental natural sciences, and scientific and professional skills, and the formation of competencies.

The content of the accredited PA includes disciplines of social and political (political science, sociology, philosophy), natural and human sciences (chemistry, physical chemistry, mathematics, mathematical analysis, physics, Kazakh, Russian and foreign languages, etc.), profiling disciplines, professional and pre-diploma practice, final certification for the bachelor's degree, as well as research and teaching practice for the master's degree.

Professional practice is conducted in accordance with the standard curriculum, according to the academic calendar. The organization and conduct of professional practice at the department is carried out in accordance with the requirements of the Standard Rules for the Activity of the Organization of Higher and Postgraduate Education of the Republic of Kazakhstan (20.05.2013 No. 499). The number of credits of professional practice corresponds to the specialty TUP. The departments "Engineering systems and networks", "Metallurgy and mineral processing", "Metallurgical processes, heat engineering and technology of special materials", "Technical physics and materials science", concluded contracts for professional practice, which defined the duties of the department, the basic enterprise and students.

At the departments "Engineering systems and networks", "Metallurgy and mineral processing", "Metallurgical processes, heat engineering and technology of special materials", there are experienced teachers-production workers who have a long working experience at the enterprises.

On the chair "Engineering systems and networks": Head of the department Alimova K.K.

has experience working at the State Design Institute "Sevgrazhdanproekt" in Petropavlovsk as a design engineer (1996-2005); professor of the department Kasymbekov Zh.K. He was Deputy Director of the Kazakh Institute of Water Economy (1972-2004); associate professor Unaspekov BA has an operational experience of more than 7 years for the position of the Head of Operations Department of the State Enterprise "Almatygaz"; Associate Professor Sidorova NV Has an operational experience more than 3 years on a post of the main expert of Open Company "Hydroeco"; associate professor Botantayeva BS has more than 28 years of experience as Chief Project Engineer at the Kazgiprovodkhoz Institute; assistant professor of the chair Nurpeisova K.M. has experience in the Kazakh branch of "PromtransNIIproekt" (Almaty) for more than 5 years as a senior engineer; lecturer of the department of ISIS Auelbekov S.Sh. has experience in the Institute of Experimental Biology at the Academy of Sciences of the USSR for more than 5 years as a junior researcher.

On the chair "Metallurgy and mineral processing": Associate Professor Baimbetov B.S. has more than 2 years of experience as chief specialist of the department of industrial and technological monitoring of mining and metallurgical complex objects of the Monitoring Department of the State Property Committee and privatization of the Ministry of Finance of the Republic of Kazakhstan; Associate Professor N. Dosmukhamedov has extensive experience working in managerial positions, for example, Deputy General Director of the Foreign Economic Business Company Kazmetalleksport at the Ministry of Foreign Economic Relations of the Republic of Kazakhstan (1991-1992); Chairman of the Board of JSC "Kazakhstan International Metal Exchange" under the Ministry of Foreign Economic Relations of the Republic of Kazakhstan (1992-1994); Director General of the Scientific and Production Company "Consulting Metal Service" (1994-2012); Head of the Department M.B. Barmenshinova. has experience working in LLP "Institute of High Technologies" JSC "NAC" Kazatomprom "in positions: manager of fluoride and rare elements laboratory (2008-2009), leading manager of new materials and nanotechnologies department, experimental industrial test site (2009-2010).

On the chair "Metallurgical processes, heat engineering and technology of special materials": professor of the department Kozlov VA worked as the head of tantalum and niobium production at the Ulba Metallurgical Plant for more than 10 years (1958-1971), the head of the titanium and vanadium laboratory at the Institute of Metallurgy and Enrichment of the Academy of Sciences of the Kazakh SSR for 30 years (1971-2001), the head of the laboratory of titanium and vanadium in the National Center for complex processing of mineral raw materials of the Republic of Kazakhstan for about 15 years; Associate Professor Guseinova G.D. has a work experience of about 10 years as an engineer in the Alma-Ata design bureau of automated control systems (2 years) and Alma-Ata Experimental Mechanical Plant "Gidromash" (6 years); Assistant Professor Baimakhanov S.B. has an operational experience in the Karakhtau Mining and Chemical Combine for more than 20 years, beginning with the post of a worker of the 2nd grade to the head of the bureau of standardization of the technical department.

Analytical part

The results of the training in accordance with EP 5B0752000, 6M075200 "Engineering systems and networks", 5B0709000 "Metallurgy", 5B071000 "Material science and technology of new materials" are: the formation of competencies demanded on the labor market, the formation of readiness for professional activity, personal, professional and social development of students, contributing to socialization, the formation of a common culture of the individual.

At the same time, the commission notes that the following questions regarding this standard are not fully reflected in the self-report and were not confirmed during the visit of the EEC. EP 5B071000 - "Material Science and Technology of New Materials" does not

sufficiently use activities aimed at obtaining practical experience and skills in the specialty:

- excursions to enterprises in the field of specialization, with the exception of excursions to the AlProf plant, in the laboratory of collective use of the IMI and in a specialized testing laboratory of VTV,
- holding separate classes or whole disciplines at the enterprise of specialization,
- holding seminars to solve practical problems.

According to the results of interviewing, acquaintance with various documentation, material and technical base and information and methodical resources of the university and departments, questioning of students and teaching staff, the IAAR commission notes the following:

Strengths / best practices:

- presence of full-time teachers who have a long working experience as a staff member at enterprises in the field of specialization of the education program.
- demonstrated the implementation of the labor market analysis, gives examples of successful employment of graduates;
- the content of the disciplines of the EP is based on and includes the relationship with the content of the fundamental natural sciences, such as mathematics, chemistry, physics.

EEC recommendations:

1. Strengthen activities aimed at obtaining practical experience and skills in the specialty of EP 5B071000 - "Material Science and Technology of New Materials" in general and profiling disciplines in particular.

Conclusions of the EEC on the standard "Standards in the context of individual specialties":

- accredited educational program 5B071000 - "Material Science and Technology of New Materials" has 2 - strong, 2 - satisfactory, 1 - assuming improvement of positions.

2. Social sciences, humanities, economics, business and law, services

The Evidence

Teaching of disciplines within the framework of EP 5B090300 "Land management" is conducted on the basis of achievements of the worlds of science and practice in the field of land management.

The content of the accredited OT includes disciplines of political and social (political science, sociology, philosophy), natural and human sciences (mathematics, geography, Kazakh, Russian and foreign languages, etc.), profiling disciplines, professional and pre-diploma practice, final certification.

Professional practice is conducted in accordance with the standard curriculum, according to the academic calendar. The organization and conduct of professional practice at the department is carried out in accordance with the requirements of the Standard Rules for the Activity of the Organization of Higher and Postgraduate Education of the Republic of Kazakhstan (20.05.2013 No. 499). The number of credits of professional practice corresponds to the specialty TUP. The Department of Mine Surveying and Surveying concluded contracts for the conduct of professional practice, in which the duties of the department, the basic enterprise and students are defined.

In the department of "Mine surveying and geodesy":

Professor Baigurin Zh.D. worked as a senior mine surveyor at the Lisakovskoe Ore Mining and Processing Enterprise for about 6 years; associate professor Zemtsova AV Has a long

experience (15 years) of work in the Kazakh aerogeodetic enterprise as a senior geodzist; lecturer Kozhaev Zh.T. worked as a chief specialist in the department of topographical surveys, head of the department of topographical surveys at the Project Institute "Intranom"; lecturer Zhantueva Sh.A. has a great work experience (8 years) in the Kazakh aerogeodetic enterprise, in the Alma-Ata geodetic center as a technician-cartographer, photogrammetrist; lecturer Shalov D.D. has a long work experience in the Nukus complex expedition, in the Production Association Karakalpakstroymaterialy, in the Department for the rational use of mineral resources under the Council of Ministers of the Republic of Karakalpakstan, Almatymetrostroy, and the Granit Production Association.

Analytical part

The contents of the disciplines of the accredited specialty 5B090300 "Land Management" are based on the knowledge, skills and skills obtained at the previous stage of education, and are aimed at obtaining knowledge both in the field of fundamental natural sciences and in scientific and professional skills and competencies.

The results of the training according to EP 5B090300 "Land management" are: the formation of competencies demanded on the labor market, the formation of readiness for professional activity, personal, professional and social development of students, contributing to socialization, the formation of a common culture of the individual.

According to the results of interviewing, acquaintance with various documentation, material and technical base and information and methodical resources of the university and departments, questioning of students and teaching staff, the HEC of NAAR notes the following:

Strengths / best practices:

- the presence of full-time teachers who have a long working experience as a staff member at enterprises in the field of specialization of the education program.
- demonstrated the implementation of the labor market analysis, gives examples of successful employment of graduates;
- the content of the disciplines of the EP is based on and includes the relationship with the content of the fundamental natural sciences, such as mathematics, chemistry, physics.

EEC recommendations:

Within the framework of this Standard there are no recommendations.

Conclusions of the EEC on the standard "Standards in the context of individual specialties":

- accredited educational programs 5B075200 and 6M075200 - "Engineering systems and networks", 5B070900 - "Metallurgy", 5B090300 - "Land management" have 2 - strong, 9 - satisfactory, assuming improvement of positions.

(VII) REVIEW OF STRONG SIDES / BEST PRACTICES FOR EVERY STANDARD

The standard "Management of the educational program":

- availability of a quality assurance policy;
- the relationship between research, teaching and learning.

The standard "Information Management and Reporting":

- the periodicity, forms and methods of assessing the management of the EP, the implementation of scientific projects;
- availability of educational resources and support systems for students;
- assistance to the management of the EP providing all the necessary information in the relevant fields of science.

Standard "Development and approval of the educational program":

- participation of stakeholders in the formation of the EP;
- the complexity of the EP is clearly defined in Kazakhstan credits and ECTS;
- the "Competence Model of the Graduate", "Model of a Specialist" acting in the university reflect their influence on the formation of modern approaches to professional competence in students.

The standard "Constant monitoring and periodic evaluation of educational programs":

- monitoring and periodic evaluation of educational environments and support services for their compliance with the objectives of the EP;
- there are developed regulations and forms for conducting questionnaires and interviewing of students, teaching staff and interested parties;
- Revision of the content and structure of the EP taking into account changes in the labor market, the requirements of employers and the social demand of the society.

The standard "Student-centered learning, teaching and learning achievement":

- The institution ensures the consistency, transparency and objectivity of the mechanism for evaluating learning outcomes for each OS.

Standard "Learners":

- availability of special adaptation and support programs for newly enrolled and foreign students;
- Providing graduates with documents confirming the received qualification, including the results achieved, as well as the context, content and status of the education received and evidence of its completion.

Standard "Teaching staff":

- the university demonstrates an objective and transparent personnel policy, which includes hiring, professional growth and development of personnel, ensuring the professional competence of the whole state;
- Conformity of the personnel potential of the TS with the development strategy of the university and the specifics of the EP;
- involvement of the teaching staff in scientific research;
- providing targeted actions to develop young teachers.

Standard "Educational resources and student support systems":

- availability of a fund of educational, methodological and scientific literature on general education, basic and profiling disciplines in paper and electronic media, periodicals, access to scientific databases;
- compliance with safety requirements in the training process is ensured, including safety regulations and passports for specialized cabinets and laboratories.

Standard "Public Awareness":

- holding conferences and forums, publishing activity on educational policy, supporting and explaining national development programs of the country and the system of higher and postgraduate education;

- using a variety of ways to disseminate information, including the media, information networks to inform the general public and stakeholders.

Standard "Standards in the context of individual specialties":

- the presence of full-time teachers who have a long working experience as a staff member at enterprises in the field of specialization of the education program.

- demonstrated the implementation of the labor market analysis, gives examples of successful employment of graduates;

- the content of the disciplines of the EP is based on and includes the relationship with the content of the fundamental natural sciences, such as mathematics, chemistry, physics.

(VIII) REVIEW OF RECOMMENDATIONS FOR IMPROVING QUALITY

1. To specify the signs of the individuality and uniqueness of accredited EPs, including taking into account the coherence of the development plan of the EP with the development strategy of the University.

2. To ensure transparency in the development of the development plan for EP 5B071000 - "Material Science and Technology of New Materials" on the basis of the analysis of its functioning, the real positioning of the university, taking into account the reform of the structure of training in this specialty and the focus of its activities to meet the needs of the state, employers, stakeholders and students .

3. To ensure more active involvement of stakeholders in the formation, revision, monitoring of plans for the development of the educational program, as well as their informing about the content of EP 5B071000 - "Material Science and Technology of New Materials".

4. On an ongoing basis, update the university's website with up-to-date information on university development and educational programs.

5. Details of information on TS, their achievements and areas of interest, and provide access to this information on the university's website.

6. Analyze the possibility of implementing a two-diploma education and enhancing internal and external academic mobility, which implies the harmonization of the content of educational programs with educational programs of leading Kazakhstan and foreign universities.

7. Demonstrate the conduct of external expertise of EP 5B071000 - "Material Science and Technology of New Materials."

8. Expand opportunities and ways of informing stakeholders about any planned or undertaken actions in relation to the EP.

9. To take into account changes in the needs of society and the professional environment of EP 5B071000 - "Material Science and Technology of New Materials".

10. Continue to develop their own TS research in the field of teaching methodology for educational disciplines accredited by the EP in the context of student-centered learning.

11. Ensure the availability of a feedback system on the use of different teaching methods and evaluation of the learning outcomes of EP 5B071000 - "Material Science and Technology of New Materials".

12. Consider the possibility of supporting the academic mobility of the students of the EP in accordance with the concluded memorandums.

13. Strengthen work on attracting graduates of accredited EPs in the work of collegiate management bodies, including in the association of graduates.

14. Strengthen the work on the conditions for motivating TSs to apply innovative methods and information and communication technologies in the educational process.

15. To continue the work aimed at supporting and social protection of various groups of students on accredited FP, in particular, students with disabilities, as well as providing access to education for socially vulnerable groups of the population.

16. Provide for systemic replenishment of the library fund with professional literature in the context of accredited educational programs, including in electronic format.

17. Continue the work on improving the university's website and creating content in the state, Russian and English languages.

18. Strengthen the participation of the university and implemented 5B071000 EP - "Material Science and Technology of New Materials" in a variety of external evaluation procedures.

19. Strengthen activities aimed at obtaining practical experience and skills in the specialty of EP 5B071000 - "Material Science and Technology of New Materials" in general and profiling disciplines in particular.

Appendix 1. Evaluation table "SPECIFICATION PROFILE PARAMETERS" (5B075200-Engineering systems and networks, 6M075200-Engineering systems and networks, 5B070900-Metallurgy, 5B090300-Land management)

№ п\ п	№ п\п	Criteria for evaluation	Position of the organization of education			
			Strong	Satisfactory	Assumes improvement	Unsatisfactory
Standard "Management of the educational program"						
1	1.	The institution should have a published quality policy.	+			
2	2.	The quality assurance policy should reflect the relationship between research, teaching and learning.	+			
3	3.	The university should demonstrate the development of a culture of quality assurance, including in the context of the EP.		+		
4	4.	Commitment to quality assurance should apply to any activities performed by contractors and partners (outsourcing), including in the implementation of joint / two-degree education and academic mobility.			+	
5	5.	The management of the EP provides transparency in the development of an EP development plan based on an analysis of its functioning, the actual positioning of the institution and the focus of its activities on meeting the needs of the state, employers, stakeholders and trainees.		+		
6	6.	The management of the EP demonstrates the functioning of the mechanisms for the formation and regular revision of the EP development plan and monitoring of its implementation, assessing the achievement of the training objectives, meeting the needs of students, employers and society, and making decisions aimed at the continuous improvement of the OS.		+		
7	7.	The management of the EP should involve representatives of stakeholder groups, including employers, trainees and TSs, in forming an EP development plan.		+		
8	8.	The management of the EP should demonstrate the individuality and uniqueness of the development plan for the EP, its coherence with national development priorities and the development strategy of the education organization.			+	
9	9.	The university should demonstrate a clear definition of those responsible for business processes within the framework of the EP, unambiguous distribution of the duties of personnel, delineation of the functions of collegial bodies.		+		

10	10.	The management should provide evidence of transparency in the management of the educational program.		+		
11	11.	The management should demonstrate the successful functioning of the internal quality assurance system of the EP, including its design, management and monitoring, their improvement, decision-making on the basis of facts.		+		
12	12.	The management of the EP shall implement risk management.			+	
13	13.	The management of the EP should ensure the participation of representatives of interested persons (employers, teaching staff, students) in the collegial bodies of management of the educational program, as well as their representativeness in making decisions on the management of the educational program.		+		
14	14.	The university should demonstrate the management of innovation within the framework of the EP, including the analysis and implementation of innovative proposals.		+		
15	15.	The management of the EP should demonstrate evidence of openness and accessibility for trainees, TS, employers and other stakeholders.		+		
16	16.	The management of the EP must receive training in educational management programs.		+		
17	17.	The management of the EP should strive to ensure that the progress achieved since the last external quality assurance procedure is taken into account when preparing for the next procedure.		+		
		Total by standard	**2**	**12**	**3**	
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.	The EP management should demonstrate the systematic use of processed, adequate information to improve the internal quality assurance system.		+		
20	3.	Within the framework of the OS there should be a system of regular reporting, reflecting all levels of the structure, including an assessment of the effectiveness and effectiveness of the departments and departments, scientific research.		+		
21	4.	The university should establish periodicity, forms and methods for evaluating the management of the EP, the activities of collegial bodies and structural units, senior management, the implementation of scientific projects.	+			
22	5.	The university should demonstrate the definition of order and ensure the protection of information, including the identification of responsible persons for the reliability and timeliness of analyzing information and		+		

		providing data.				
23	6.	An important factor is the involvement of trainees, workers and TS in the processes of information gathering and analysis, as well as decision-making on their basis.		+		
24	7.	The management of the EP should demonstrate the existence of a mechanism of communication with trainees, employees and other stakeholders, including the presence of conflict resolution mechanisms.		+		
25	8.	The institution should provide a measure of the degree of satisfaction of the needs of the teaching staff, staff and trainees within the OT and demonstrate evidence of addressing the deficiencies found.		+		
26	9.	The university should evaluate the effectiveness and effectiveness of activities, including in the context of the EP.		+		
		The information collected and analyzed by the university should take into account:				
27	10.	key performance indicators;		+		
28	11.	dynamics of the contingent of students in the context of forms and species;		+		
29	12.	level of academic achievement, student achievement and deduction;	+			
30	13.	satisfaction of students with the implementation of the OT and the quality of education in the university;	+			
31	14.	accessibility of educational resources and support systems for students;	+			
32	15.	employment and career growth of graduates.		+		
33	16.	Trainees, employees and TS must confirm documentary consent to the processing of personal data.		+		
34	17.	The management of the EP should facilitate the provision of all the necessary information in the relevant fields of science.	+			
		Total by standard	**5**	**12**	**0**	
Standard "Development and approval of educational programs"						
35	1.	The university should define and document the procedures for the development of the EP and their approval at the institutional level.		+		
36	2.	The management of the EP should ensure that the developed OT meets the set goals, including the expected learning outcomes.		+		
37	3.	The EP management should ensure that there are developed models of the graduate student who describe the results of training and personal qualities.	+			

38	4.	The management of the EP should demonstrate the conduct of external assessments of the EP.		+		
39	5.	The qualification obtained at the conclusion of the EP shall be clearly defined, clarified and consistent with a certain level of the NQF.		+		
40	6.	The management should determine the impact of disciplines and professional practices on the formation of learning outcomes.		+		
41	7.	An important factor is the possibility of training students for professional certification.			+	
42	8.	The management of the EP should provide evidence of the participation of trainees, staff and other stakeholders in the development of the EP, ensuring their quality.		+		
43	9.	The complexity of EP should be clearly defined in Kazakhstan credits and ECTS.	+			
44	10.	The management should ensure that the contents of the academic disciplines and the results of the training are provided to the level of study (bachelor's, master's, doctoral).		+		
45	11.	In the structure of the EP, various activities corresponding to the learning outcomes should be envisaged.		+		
46	12.	An important factor is the existence of joint EP with foreign educational organizations.			+	
		Total by standard	**2**	**8**	**2**	
Standard "Continuous monitoring and periodic evaluation of educational programs"						
47	1.	The institution should monitor and periodically evaluate the OD in order to achieve the goal and meet the needs of students and society. The results of these processes are aimed at the continuous improvement of the EP.	+			
		Monitoring and periodic evaluation of EP should consider:				
48	2.	the content of the programs in the light of the latest achievements of science in a specific discipline to ensure the relevance of the discipline being taught;		+		
49	3.	changes in the needs of society and the professional environment;		+		
50	4.	load, academic performance and graduation;		+		
51	5.	the effectiveness of evaluation procedures for students;		+		
52	6.	expectations, needs and satisfaction of students learning by the EP;		+		
53	7.	educational environment and support services and their compliance with the objectives of the EP.		+		
54	8.	The university and the management of the OT must provide evidence of the participation of trainees, employers and other stakeholders in the revision of the		+		

		EP.				
55	9.	All interested persons should be informed of any planned or undertaken actions in relation to the EP. All changes made to the EP shall be published.		+		
56	10.	The management of the EP should ensure that the content and structure of the EP are reviewed, taking into account changes in the labor market, the requirements of employers and the social demand of the society.	+			
		Total by standard	**2**	**8**	**0**	
Standard "Student-centered learning, teaching and assessment of progress"						
57	1.	The EP management should ensure respect and attention to different groups of learners and their needs, providing them with flexible learning paths.		+		
58	2.	The RP 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 methods of teaching the academic disciplines of the EP.			+	
60	4.	The RP management should demonstrate the availability of a feedback system on the use of different teaching methods and evaluation of learning outcomes.		+		
61	5.	The RP management should demonstrate support for the autonomy of trainees with simultaneous guidance and assistance from the teacher.		+		
62	6.	The management should demonstrate the existence of a procedure for responding to complaints from students.		+		
63	7.	The institution should ensure the consistency, transparency and objectivity of the evaluation mechanism for each training program, including an appeal.	+			
64	8.	The university should ensure that the procedures for assessing the learning outcomes of the students of the OT are consistent with the planned learning outcomes and program objectives. Criteria and methods of evaluation within the framework of the EP should be published in advance.		+		
65	9.	In the institution, the mechanisms for ensuring the learning outcomes of each graduate should be determined and the completeness of their formation ensured.		+		
66	10.	Evaluators should possess modern methods for evaluating learning outcomes and regularly improve their qualifications in this field.		+		
		Total by standard	**1**	**8**	**1**	
Standard "Learners"						
67	1.	The university should demonstrate the policy of forming a contingent of students from admission to release and ensure the transparency of its procedures. Procedures		+		

		regulating the life cycle of trainees (from admission to completion) should be identified, approved, published.				
68	2.	The management of the EP should demonstrate special adaptation and support programs for newly enrolled and foreign students.	+			
69	3.	The university should 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.	The management should demonstrate the availability and application of a mechanism to recognize the results of academic mobility of students, as well as the results of additional, formal and informal training.		+		
72	6.	The university should provide an opportunity for external and internal mobility of trainees, and also assist them in obtaining external grants for training.			+	
73	7.	The management of the EP should make the maximum amount of efforts to provide practice-based practices, facilitate the employment of graduates, and maintain communication with them.		+		
74	8.	The institution should provide the graduates with documents confirming the received qualification, including the results of the training achieved, as well as the context, content and status of the education received and evidence of its completion.	+			
75	9.	An important factor is the monitoring of the employment and professional activities of the graduates of the EP.		+		
76	10.	The EP leadership 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 active association / association of graduates.			+	
78	12.	An important factor is the availability of a support mechanism for gifted students.		+		
		Total by standard	**2**	**7**	**3**	
Standard "Teaching staff"						
79	1.	The university should have an objective and transparent personnel policy, which includes hiring, professional growth and development of personnel, which ensures the professional competence of the whole state.	+			
80	2.	The university should demonstrate the conformity of the personnel potential of the TS with the development strategy of the university and the specifics of the OS.	+			
81	3.	The management of the EP should demonstrate awareness of responsibility for its employees and providing them with favorable working conditions.	+			

82	4.	The management of the EP should demonstrate the changing role of the teacher in connection with the transition to student-centered learning.		+		
83	5.	The university should determine the contribution of the PPS of the EP to the implementation of the development strategy of the university, and other strategic documents.		+		
84	6.	The university should provide opportunities for career development and professional development of the PPS EP.		+		
85	7.	The management of the EP should involve practitioners in the relevant sectors in the teaching.		+		
86	8.	The management of the RP should provide targeted actions for the development of young teachers.	+			
87	9.	The university should demonstrate the motivation for the professional and personal development of the teachers of the EP, including the promotion of both the integration of research and education, and the use of innovative teaching methods.		+		
88	10.	An important factor is the active use of TS information and communication technologies in the educational process (for example, on-line training, e-portfolio, MEP, etc.).		+		
89	11.	An important factor is the development of academic mobility within the framework of the EP, attracting the best foreign and domestic teachers.		+		
90	12.	An important factor is the involvement of the TS of the EP in the life of society (the role of teaching staff in the education system, the development of science, the region, the creation of a cultural environment, participation in exhibitions, creative competitions, charity programs, etc.).		+		
		Total by standard	**4**	**8**	**0**	
Standard "Educational resources and student support systems"						
91	1.	The management should demonstrate the adequacy of the material and technical resources and infrastructure.			+	
92	2.	The EP management should demonstrate the existence of support procedures for different groups of learners, including information and counseling.		+		
		The management of the EP should demonstrate the correspondence of information resources to the specifics of the EP, including compliance:				
93	3.	technological support of students and teaching staff in accordance with educational programs (for example, online training, modeling, databases, data analysis programs);		+		
94	4.	library resources, including the fund of educational, methodological and scientific literature on general educational, basic and profiling disciplines on paper and electronic media, periodicals, access to scientific	+			

		databases;				
95	5.	examination of the results of research, final works, dissertations on plagiarism;	+			
96	6.	functioning WI-FI in the territory of the organization of education.		+		
97	7.	The university should strive to ensure that the training equipment and software used to develop the EP are similar to those used in the relevant industries.		+		
98	8.	The institution must ensure that it meets safety requirements in the learning process.	+			
99	9.	The university should strive to take into account the needs of different groups of students in the context of the EP (adults, working, foreign students, as well as students with disabilities).			+	
		Total by standard	**3**	**4**	**2**	
Standard "Public Awareness"						
		The information published by the university within the framework of the EP should be accurate, objective, relevant and should include:				
100	1.	Implemented programs, indicating the expected learning outcomes;		+		
101	2.	information on the possibility of assigning qualifications at the end of the EP;	+			
102	3.	information on teaching, training, evaluation procedures;		+		
103	4.	information on passing scores and educational opportunities provided to students;	+			
104	5.	information on job opportunities for graduates.		+		
105	6.	The management should use a variety of ways to disseminate information (including media, web resources, information networks etc.) to inform the general public and interested parties.		+		
106	7.	Informing the public should provide support and explanation of national development programs of the country and the system of higher and postgraduate education.		+		
107	8.	The university should publish audited financial statements on its own web resource.		+		
108	9.	The university should demonstrate the reflection on the web resource of information characterizing the university in general and in the context of the EP.		+		
109	10.	An important factor is the availability of adequate and objective information about the TS EP, in the context of personalities.			+	
110	11.	An important factor is informing the public about cooperation and interaction with partners within the framework of the EP, including with scientific / consulting organizations, business partners, social		+		

		partners and educational organizations.				
111	12.	The university should post information and links to external resources based on the results of external evaluation procedures.		+		
112	13.	An important factor is the participation of the university and implemented OT in various external evaluation procedures.		+		
		Total by standard	**2**	**10**	**1**	
Standards in the context of individual specialties						
TECHNICAL SCIENCES AND TECHNOLOGIES						
		Educational programs in the areas of "Engineering science and technology", such as "Engineering systems and networks", "Metallurgy", etc., should meet the following requirements:				
113	1.	In order to familiarize students with the professional environment and relevant issues in the field of specialization, as well as to acquire skills on the basis of theoretical training, the education program should include disciplines and activities aimed at obtaining practical experience and skills in the specialty in general and in the relevant disciplines in particular, in t .ch:		+		
114	2.	- excursions to enterprises in the field of specialization (factories, workshops, research institutes, laboratories, training facilities, etc.),	+			
115	3.	- holding separate classes or whole disciplines at the enterprise of specialization,	+			
116	4.	- Conducting seminars to solve practical problems relevant to enterprises in the field of specialization, etc.		+		
117	5.	Teaching staff involved in the education program should include full-time teachers who have a long-term experience of working as a staff member at enterprises in the field of specialization of the education program.		+		
SERVICES						
		Educational programs in the areas of "Services", such as "Land Management" should meet the following requirements:				
118	6.	The management of the EP should demonstrate that the teaching within the program is conducted on the basis of modern achievements of world science and practice in the field of specialization, as well as using modern and advanced teaching methods;		+		
119	7.	The management should ensure that students have access to the most up-to-date and up-to-date data (statistics, news, scientific results) in the field of paper specialization (newspapers, statistical collections, textbooks) and electronic media;		+		
120	8.	The objectives, respectively, and the results of training should be aimed at obtaining specific skills for the trainees in demand on the labor market;		+		

121	9.	The EP management should demonstrate that the graduates of the program have these skills and that these skills are really in demand in the market;		+		
122	10.	The EP should include a significant number of disciplines and activities aimed at providing students with practical experience in applying theoretical knowledge, such as production practice, training in enterprises, participation in lectures and seminars of practicing specialists, etc .;		+		
123	11.	The management should demonstrate the analysis of the labor market and give examples of successful employment of graduates.		+		
		Total by standard	**2**	**9**		
		TOTAL	**25**	**86**	**12**	

Appendix 2. Evaluation table "SPECIFICATION PROFILE PARAMETERS" (5B071000-Material Science and Technology of New Materials)

№ п\п	№ п\п	Criteria for evaluation	Position of the organization of education			
			Strong	Satisfactory	Assumes improvements	Unsatisfactory
Standard "Management of the educational program"						
1	18.	The institution should have a published quality policy.	+			
2	19.	The quality assurance policy should reflect the relationship between research, teaching and learning.	+			
3	20.	The university should demonstrate the development of a culture of quality assurance, including in the context of the EP.		+		
4	21.	Commitment to quality assurance should apply to any activities performed by contractors and partners (outsourcing), including in the implementation of joint / two-degree education and academic mobility.			+	
5	22.	The management of the EP provides transparency in the development of an EP development plan based on an analysis of its functioning, the actual positioning of the institution and the focus of its activities on meeting the needs of the state, employers, stakeholders and trainees.			+	
6	23.	The management of the EP demonstrates the functioning of the mechanisms for the formation and regular revision of the EP development plan and monitoring of its implementation, assessing the achievement of the training objectives, meeting the needs of students, employers and society, and making decisions aimed at the continuous improvement of the OS.		+		
7	24.	The management of the EP should involve representatives of stakeholder groups, including employers, trainees and TSs, in forming an EP development plan.			+	
8	25.	The management of the EP should demonstrate the individuality and uniqueness of the development plan for the EP, its coherence with national development priorities and the development strategy of the education organization.			+	
9	26.	The university should demonstrate a clear definition of those responsible for business processes within the framework of the EP, unambiguous distribution of the duties of personnel, delineation of the functions of collegial bodies.		+		

10	27.	The management should provide evidence of transparency in the management of the educational program.		+		
11	28.	The management should demonstrate the successful functioning of the internal quality assurance system of the EP, including its design, management and monitoring, their improvement, decision-making on the basis of facts.		+		
12	29.	The management of the EP shall implement risk management.			+	
13	30.	The management of the EP should ensure the participation of representatives of interested persons (employers, teaching staff, students) in the collegial bodies of management of the educational program, as well as their representativeness in making decisions on the management of the educational program.			+	
14	31.	The university should demonstrate the management of innovation within the framework of the EP, including the analysis and implementation of innovative proposals.		+		
15	32.	The management of the EP should demonstrate evidence of openness and accessibility for trainees, TS, employers and other stakeholders.		+		
16	33.	The management of the EP must receive training in educational management programs.		+		
17	34.	The management of the EP should strive to ensure that the progress achieved since the last external quality assurance procedure is taken into account when preparing for the next procedure.		+		
		Total by standard	**2**	**9**	**6**	
Standard "Information Management and Reporting"						
18	18.	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	19.	The EP management should demonstrate the systematic use of processed, adequate information to improve the internal quality assurance system.		+		
20	20.	Within the framework of the OS there should be a system of regular reporting, reflecting all levels of the structure, including an assessment of the effectiveness and effectiveness of the departments and departments, scientific research.		+		
21	21.	The university should establish periodicity, forms and methods for evaluating the management of the EP, the activities of collegial bodies and structural units, senior management, the implementation of scientific projects.	+			
22	22.	The university should demonstrate the definition of order and ensure the protection of information, including the identification of responsible persons for the reliability and timeliness of analyzing information and		+		

		providing data.				
23	23.	An important factor is the involvement of trainees, workers and TS in the processes of information gathering and analysis, as well as decision-making on their basis.		+		
24	24.	The management of the EP should demonstrate the existence of a mechanism of communication with trainees, employees and other stakeholders, including the presence of conflict resolution mechanisms.		+		
25	25.	The institution should provide a measure of the degree of satisfaction of the needs of the teaching staff, staff and trainees within the OT and demonstrate evidence of addressing the deficiencies found.		+		
26	26.	The university should evaluate the effectiveness and effectiveness of activities, including in the context of the EP.		+		
		The information collected and analyzed by the university should take into account:				
27	27.	key performance indicators;		+		
28	28.	dynamics of the contingent of students in the context of forms and species;		+		
29	29.	level of academic achievement, student achievement and deduction;	+			
30	30.	satisfaction of students with the implementation of the OT and the quality of education in the university;	+			
31	31.	accessibility of educational resources and support systems for students;	+			
32	32.	employment and career growth of graduates.		+		
33	33.	Trainees, employees and TS must confirm documentary consent to the processing of personal data.		+		
34	34.	The management of the EP should facilitate the provision of all the necessary information in the relevant fields of science.	+			
		Total by standard	**5**	**12**	**0**	
Standard "Development and approval of educational programs"						
35	13.	The university should define and document the procedures for the development of the EP and their approval at the institutional level.		+		
36	14.	The management of the EP should ensure that the developed OT meets the set goals, including the expected learning outcomes.		+		
37	15.	The EP management should ensure that there are developed models of the graduate student who describe the results of training and personal qualities.	+			

38	16.	The management of the EP should demonstrate the conduct of external assessments of the EP.			+	
39	17.	The qualification obtained at the conclusion of the EP shall be clearly defined, clarified and consistent with a certain level of the NQF.		+		
40	18.	The management should determine the impact of disciplines and professional practices on the formation of learning outcomes.		+		
41	19.	An important factor is the possibility of training students for professional certification.			+	
42	20.	The management of the EP should provide evidence of the participation of trainees, staff and other stakeholders in the development of the EP, ensuring their quality.		+		
43	21.	The complexity of EP should be clearly defined in Kazakhstan credits and ECTS.	+			
44	22.	The management should ensure that the contents of the academic disciplines and the results of the training are provided to the level of study (bachelor's, master's, doctoral).		+		
45	23.	In the structure of the EP, various activities corresponding to the learning outcomes should be envisaged.		+		
46	24.	An important factor is the existence of joint EP with foreign educational organizations.			+	
		Total by standard	**2**	**7**	**3**	
Standard "Continuous monitoring and periodic evaluation of educational programs"						
47	11.	The institution should monitor and periodically evaluate the OD in order to achieve the goal and meet the needs of students and society. The results of these processes are aimed at the continuous improvement of the EP.	+			
		Monitoring and periodic evaluation of EP should consider:				
48	12.	the content of the programs in the light of the latest achievements of science in a specific discipline to ensure the relevance of the discipline being taught;		+		
49	13.	changes in the needs of society and the professional environment;			+	
50	14.	load, academic performance and graduation;		+		
51	15.	the effectiveness of evaluation procedures for students;		+		
52	16.	expectations, needs and satisfaction of students learning by the EP;		+		
53	17.	educational environment and support services and their compliance with the objectives of the EP.		+		
54	18.	The university and the management of the OT must provide evidence of the participation of trainees, employers and other stakeholders in the revision of the		+		

		EP.				
55	19.	All interested persons should be informed of any planned or undertaken actions in relation to the EP. All changes made to the EP shall be published.		+		
56	20.	The management of the EP should ensure that the content and structure of the EP are reviewed, taking into account changes in the labor market, the requirements of employers and the social demand of the society.		+		
		Total by standard	**1**	**8**	**1**	
Standard "Student-centered learning, teaching and assessment of progress"						
57	11.	The EP management should ensure respect and attention to different groups of learners and their needs, providing them with flexible learning paths.		+		
58	12.	The RP management should ensure the use of various forms and methods of teaching and learning.		+		
59	13.	An important factor is the availability of our own research in the field of methods of teaching the academic disciplines of the EP.			+	
60	14.	The RP management should demonstrate the availability of a feedback system on the use of different teaching methods and evaluation of learning outcomes.			+	
61	15.	The RP management should demonstrate support for the autonomy of trainees with simultaneous guidance and assistance from the teacher.		+		
62	16.	The management should demonstrate the existence of a procedure for responding to complaints from students.		+		
63	17.	The institution should ensure the consistency, transparency and objectivity of the evaluation mechanism for each training program, including an appeal.	+			
64	18.	The university should ensure that the procedures for assessing the learning outcomes of the students of the OT are consistent with the planned learning outcomes and program objectives. Criteria and methods of evaluation within the framework of the EP should be published in advance.		+		
65	19.	In the institution, the mechanisms for ensuring the learning outcomes of each graduate should be determined and the completeness of their formation ensured.		+		
66	20.	Evaluators should possess modern methods for evaluating learning outcomes and regularly improve their qualifications in this field.		+		
		Total by standard	**1**	**7**	**2**	
Standard "Learners"						
67	13.	The university should demonstrate the policy of forming a contingent of students from admission to release and ensure the transparency of its procedures. Procedures		+		

		regulating the life cycle of trainees (from admission to completion) should be identified, approved, published.				
68	14.	The management of the EP should demonstrate special adaptation and support programs for newly enrolled and foreign students.	+			
69	15.	The university should demonstrate the conformity of its actions to the Lisbon Recognition Convention.		+		
70	16.	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	17.	The management should demonstrate the availability and application of a mechanism to recognize the results of academic mobility of students, as well as the results of additional, formal and informal training.		+		
72	18.	The university should provide an opportunity for external and internal mobility of trainees, and also assist them in obtaining external grants for training.			+	
73	19.	The management of the EP should make the maximum amount of efforts to provide practice-based practices, facilitate the employment of graduates, and maintain communication with them.		+		
74	20.	The institution should provide the graduates with documents confirming the received qualification, including the results of the training achieved, as well as the context, content and status of the education received and evidence of its completion.	+			
75	21.	An important factor is the monitoring of the employment and professional activities of the graduates of the EP.		+		
76	22.	The EP leadership should actively encourage students to self-education and development outside the main program (extracurricular activities).			+	
77	23.	An important factor is the existence of an active association / association of graduates.			+	
78	24.	An important factor is the availability of a support mechanism for gifted students.		+		
		Total by standard	**2**	**7**	**3**	
Standard "Teaching staff"						
79	13.	The university should have an objective and transparent personnel policy, which includes hiring, professional growth and development of personnel, which ensures the professional competence of the whole state.	+			
80	14.	The university should demonstrate the conformity of the personnel potential of the TS with the development strategy of the university and the specifics of the OS.	+			
81	15.	The management of the EP should demonstrate awareness of responsibility for its employees and providing them with favorable working conditions.	+			

82	16.	The management of the EP should demonstrate the changing role of the teacher in connection with the transition to student-centered learning.		+		
83	17.	The university should determine the contribution of the PPS of the EP to the implementation of the development strategy of the university, and other strategic documents.		+		
84	18.	The university should provide opportunities for career development and professional development of the PPS EP.		+		
85	19.	The management of the EP should involve practitioners in the relevant sectors in the teaching.		+		
86	20.	The management of the RP should provide targeted actions for the development of young teachers.	+			
87	21.	The university should demonstrate the motivation for the professional and personal development of the teachers of the EP, including the promotion of both the integration of research and education, and the use of innovative teaching methods.		+		
88	22.	An important factor is the active use of TS information and communication technologies in the educational process (for example, on-line training, e-portfolio, MEP, etc.).		+		
89	23.	An important factor is the development of academic mobility within the framework of the EP, attracting the best foreign and domestic teachers.		+		
90	24.	An important factor is the involvement of the TS of the EP in the life of society (the role of teaching staff in the education system, the development of science, the region, the creation of a cultural environment, participation in exhibitions, creative competitions, charity programs, etc.).			+	
		Total by standard	**4**	**7**	**1**	
Standard "Educational resources and student support systems"						
91	1.	The management should demonstrate the adequacy of the material and technical resources and infrastructure.			+	
92	2.	The EP management should demonstrate the existence of support procedures for different groups of learners, including information and counseling.		+		
		The management of the EP should demonstrate the correspondence of information resources to the specifics of the EP, including compliance:				
93	3.	technological support of students and teaching staff in accordance with educational programs (for example, online training, modeling, databases, data analysis programs);		+		
94	4.	library resources, including the fund of educational, methodological and scientific literature on general educational, basic and profiling disciplines on paper and electronic media, periodicals, access to scientific	+			

		databases;				
95	5.	examination of the results of research, final works, dissertations on plagiarism;	+			
96	6.	functioning WI-FI in the territory of the organization of education.		+		
97	7.	The university should strive to ensure that the training equipment and software used to develop the EP are similar to those used in the relevant industries.		+		
98	8.	The institution must ensure that it meets safety requirements in the learning process.	+			
99	9.	The university should strive to take into account the needs of different groups of students in the context of the EP (adults, working, foreign students, as well as students with disabilities).			+	
		Total by standard	**3**	**4**	**2**	
Standard "Public Awareness"						
		The information published by the university within the framework of the EP should be accurate, objective, relevant and should include:				
100	1.	Implemented programs, indicating the expected learning outcomes;		+		
101	2.	information on the possibility of assigning qualifications at the end of the EP;	+			
102	3.	information on teaching, training, evaluation procedures;		+		
103	4.	information on passing scores and educational opportunities provided to students;	+			
104	5.	information on job opportunities for graduates.		+		
105	6.	The management should use a variety of ways to disseminate information (including media, web resources, information networks etc.) to inform the general public and interested parties.		+		
106	7.	Informing the public should provide support and explanation of national development programs of the country and the system of higher and postgraduate education.		+		
107	8.	The university should publish audited financial statements on its own web resource.		+		
108	9.	The university should demonstrate the reflection on the web resource of information characterizing the university in general and in the context of the EP.		+		
109	10.	An important factor is the availability of adequate and objective information about the TS EP, in the context of personalities.			+	
110	11.	An important factor is informing the public about cooperation and interaction with partners within the framework of the EP, including with scientific / consulting organizations, business partners, social		+		

		partners and educational organizations.				
111	12.	The university should post information and links to external resources based on the results of external evaluation procedures.		+		
112	13.	An important factor is the participation of the university and implemented OT in various external evaluation procedures.			+	
		Total by standard	**2**	**9**	**2**	
Standards in the context of individual specialties						
TECHNICAL SCIENCES AND TECHNOLOGIES						
		Educational programs in the areas of "Engineering science and technology", such as "Material science and technology of new materials," etc., should meet the following requirements:				
113	1.	In order to familiarize students with the professional environment and relevant issues in the field of specialization, as well as to acquire skills on the basis of theoretical training, the education program should include disciplines and activities aimed at obtaining practical experience and skills in the specialty in general and in the relevant disciplines in particular, in t .ch:			+	
114	2.	- excursions to enterprises in the field of specialization (factories, workshops, research institutes, laboratories, training facilities, etc.),	+			
115	3.	- holding separate classes or whole disciplines at the enterprise of specialization,	+			
116	4.	- Conducting seminars to solve practical problems relevant to enterprises in the field of specialization, etc.		+		
117	5.	Teaching staff involved in the education program should include full-time teachers who have a long-term experience of working as a staff member at enterprises in the field of specialization of the education program.		+		
		Total by standard	**2**	**2**	**1**	
		TOTAL	**24**	**72**	**21**	