«АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТІҢ ТӘУЕЛСІЗ АГЕНТТІГІ» КЕМ

НУ «НЕЗАВИСИМОЕ АГЕНТСТВО АККРЕДИТАЦИИ И РЕЙТИНГА»

INDEPENDENT AGENCY FOR ACCREDITATION AND RATING

REPORT

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

8D05401 - Mathematics
8D07103 - Thermal power engineering

D. SERIBAYEV EAST KAZAKHSTAN TECHNICAL UNIVERSITY

April 25-27, 2023

INDEPENDENT AGENCY FOR ACCREDITATION AND RATING
External Expert Commission

Addressed to
Accreditation
Council of the IAAR

«АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТІҢ ТӘУЕЛСІЗ АГЕНТТІГІ» КЕМ
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2023

CONTENT

(I) LIST OF SYMBOLS AND ABBREVIATIONS

ACU -Academicscue university council
BD– basic disciplines
BUP -basic curriculum
VMK -internal quality monitoring
GNI– internal regulatory document
GOSO– state obligatory standard of education
DP -documented procedure
DOT -distance learning technologies
UNT -unified national testing
IUP -indAndvisual curriculum
ISM -inintegrated management system
TOTHAT– credit technology of education
TOED -Tocatalog of elective disciplines
MNVO RK– Ministry of Science and Higher Education of the Republic of Kazakhstan
MOS– modular educational program
MUP– modular curriculum
NJSC "VKTU" -Hnon-commercial joint stock company "East-Kazakhstan Technical University named after D. Serikbayev"
research- research work
R&D and ID -naucho-research and innovation
NIRS– research work of students
NRK– national qualifications framework
NSC– national system of qualifications
NPA- regulations
ORC- fromsectoral qualifications framework
OOD -general education disciplines
OP- educational program
PD -Pprofiling disciplines
PC -Ppersonal computer
teaching staff– teaching staff
RTO- The Republic of Kazakhstan
RUP (Syllabus) -Rworking curriculum
RUP -Rworking curriculum
QMS- Quality Management System
SRO- independent work of students
SROP– independent work of students under the guidance of a teacher
TUP -typenew curriculum
UVP– educational support staff
UMR -studybno-methodical work
FBIP -Faculty of Basic Engineering Training
ShTAiTE -wstake of nuclear and traditional energy technologies
EUMM– electronic educational methodical materials

(II) INTRODUCTION

In accordance with the order No. 39-23-OD dated April 24, 2023. Independent agency for accreditation and rating from April 25 to April 27, 2023, an external expert commission assessed the conformity of educational programs 8D05401 - Mathematics 8D07103 - Thermal power engineering East Kazakhstan Technical University named after D. Serikbayev to the standards of specialized accreditation of the IAAR (dated June 16, 2020 No. 57-20-OD, sixth edition) in a hybrid format.

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

The composition of the WEC:

1. **Chairman**EEC IAAR – Andrey Tamyarov, Candidate of Technical Sciences, Associate Professor, Ulyanovsk State Technical University; Off-line participation
2. **Foreign expert IAAR**– Korolev Konstantin Yurievich, Ph.D. in Economics, Associate Professor, Russian Academy of National Economy and Public Administration under the President of the Russian Federation (RANEPA); Online participation
3. **Foreign expert IAAR**– Voropaev Viktor Viktorovich, Ph.D., Yanka Kupala State University of Grodno (Grodno, Republic of Belarus); Online participation
4. **Foreign expert IAAR**– Mammadova Leyla Vasif kyzy, Azerbaijan University of Architecture and Civil Engineering (Baku, Republic of Azerbaijan); Online participation
5. **IAAR Expert**– Aikenova Dina Maratovna, PhD, expert of the II category (Astana, Republic of Kazakhstan); Online participation
6. **IAAR Expert**– Abishev Medeu Yerzhanovich, Doctor of Physical and Mathematical Sciences, Professor, Al-Farabi Kazakh National University (Almaty, Republic of Kazakhstan); Off-line participation
7. **IAAR Expert**– Kushebina Gulnara Malikovna, PhD in Economics, Esil University (Astana, Republic of Kazakhstan); Off-line participation
8. **IAAR Expert**– Arzaeva Maya Zhetkergenovna, PhD in Economics, Associate Professor, Kazakh National Agrarian Research University (Almaty, Republic of Kazakhstan); Online participation
9. **IAAR Expert**– Balkhanov Baizhan Nurbaevich, Ph.D., Professor, Innovative Eurasian University (Pavlodar, Republic of Kazakhstan); Off-line participation
10. **IAAR Expert**– Mursalimova Elmira Askarovna, Ph.D., Kazakh National Agrarian Research University (Almaty, Republic of Kazakhstan); Online participation
11. **IAAR Expert**-Dzhetpisbayeva Ainur Zhenisbekkyzy, PhD, Kazakh National Research Technical University. K.I. Satpaev (Almaty, Republic of Kazakhstan); Online participation
12. **IAAR Expert**– Turtkarayeva Gulnara Bayanovna, Ph.D., Associate Professor, Sh. Ualikhanov Kokshetau University (Kokshetau, Republic of Kazakhstan); Off-line participation
13. **IAAR Expert**-Korobkov Maxim Sergeevich, PhD, Gumarbek Daukeev Almaty University of Energy and Communications (Almaty, Republic of Kazakhstan); Off-line participation
14. **IAAR Expert Employer**– Pilipenko Yury Alexandrovich, Chairman of the International Association of Producers of Goods and Services “Expobest” (Almaty, Republic of Kazakhstan); Online participation
15. **IAAR Expert Employer**– Pitrakov Vladimir Yurievich, director of the Pavlodar regional branch of JSC "UAPF" (Pavlodar, Republic of Kazakhstan); Online participation
16. **IAAR Student Expert**– Cəbiyeva Maya Rövşən qızı (Jabiyeva Maya Rovshan kyzy), a 4th year student of the educational program 050813 Social work of the Baku State University (Baku, Republic of Azerbaijan); Online participation
17. **IAAR Student Expert**– Abilova Indira Tolegenkyzy, 1st year student of the

educational program 7M01511 Informatics of the Eurasian National University named after L.N. Gumilyov (Astana, Republic of Kazakhstan); Online participation

18. **IAAR Student Expert**– Nauryzbaev Sultan, 3rd year student of the educational program 6B04109 State financial management of the Kazakh National University named after al-Farabi, member of the Alliance of Students of Kazakhstan ASK (Almaty, Republic of Kazakhstan); Online participation

19. **IAAR Student Expert**– Makazhanov Timur Bolatovich, student of the 1st year of the educational program 7M07303 Cadastre of the Kazakh Agrotechnical University named after S. Seifullin (Astana, Republic of Kazakhstan); Online participation

20. **IAAR Student Expert**-Islyamgali Nursultan Arturuly, 1st year student of the educational program 6B05101 Biology and Agriculture of Atyrau University named after Kh. Dosmukhamedov (Atyrau, Republic of Kazakhstan); Online participation

21. **IAAR Student Expert**- Mustafina Mergul Oralbekovna, doctoral student of the first year of study of the educational program 8D05401 of the East Kazakhstan University named after S. Amanzholov (Ust-Kamenogorsk, Republic of Kazakhstan); Off-line participation

22. **EEC coordinator**-Kydyrmina Nurgul Alimovna, IAAR Project Manager (Astana, Republic of Kazakhstan). Off-line participation

(III) REPRESENTATION OF EDUCATIONAL ORGANIZATION

Institution “East-Kazakhstan Technical University named after. D. Serikbaev" was established in 1996 on the basis of the Ust-Kamenogorsk Construction and Road Institute.

East Kazakhstan Technical University. D. Serikbayeva carries out educational activities in accordance with the state license No. 12016669, issued by the KKSON MES RK on 02.11.2012.

The university implements 98 undergraduate, graduate and PhD educational programs, 15 innovative programs.

The university trains personnel in such areas of education as:

- Engineering, manufacturing and construction industries,
- Business, management and law,
- Information and Communication Technologies,
- Agriculture and bioresources,
- Services.

The basic areas of training are:

- Geology and mining,
- Metallurgy and enrichment,
- Ecology and life safety,
- Mechanics and metalworking,
- Architecture and construction,
- Information and communication technologies,
- Energy.

The contingent of students is about 5000 people, the share of undergraduates and doctoral students is 8.8%. The employment of graduates is 96%.

The university has 2 faculties, 7 schools, a Foundation faculty, a military department, a Smart Engineering competence center, 34 laboratories, a scientific library, the Altyn Altai Museum, and 5 branches in production.

According to the results of the National Ranking of the Leading Technical Universities of Kazakhstan - 2022, D. Serikbayev EKTU took 2nd place among 11 technical universities in Kazakhstan.

In the Webometrics Ranking of World Universities, the university ranks 4622 among 32064 universities in the world (it ranks 7th among 129 universities in Kazakhstan).

In the QS Asia University Rankings 2023, D. Serikbayev EKTU takes 301-350 positions throughout Asia, 12 among 32 Kazakh universities.

The quality management system of the university is certified for compliance with international standards ISO 9001:2015, ESG-2015.

The policy, rules for decision-making that guide D. Serikbayev EKTU in its activities are defined in the Strategic Development Program of NJSC “D. Serikbayev EKTU” for 2023-2025” (approved by the Decision of the Board of Directors dated 26.01.2023, protocol No. 1).

The University implements joint education in 11 EPs and provides external and internal academic mobility for students and teaching staff.

(IV) DESCRIPTION OF THE PREVIOUS ACCREDITATION PROCEDURE

Educational programs 8D05401 Mathematics, 8D07103 Thermal power engineering are accredited by the IAAR for the first time.

(V) DESCRIPTION OF THE EEC VISIT

The work of the EEC was carried out on the basis of the approved Program of the visit of the expert commission for specialized accreditation of educational programsEast Kazakhstan Technical University named after D. Serikbayev from April 25 to April 27, 2023.

In order to coordinate the work of the EEC, on April 21, 2023, an on-line kick-off meeting was held, during which powers were distributed among the members of the commission, the schedule of the visit was specified, and agreement was reached on the choice of examination methods.

To obtain objective information about the quality of educational programs and the entire infrastructure of the university, to clarify the content of self-assessment reports, meetings were held with the rector, vice-rectors of the university in areas of activity, heads of structural divisions, heads of departments, teachers, students, graduates, employers. A total of 70 representatives took part in the meetings (Table 1).

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

Participant category	Quantity
Rector	1
Vice-Rector's Corps	6
Heads of structural divisions	16
Deans	eleven
Heads of departments	eleven
teachers	6
Students, undergraduates, doctoral students	9
Graduates	6
Employers	4
Total	70

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

Members of the EEC visited the practice bases of accredited programs: the Department of Mathematics of the VKU. S. Amanzholova,Bahrain Higher College, "Faculty of Basic Engineering Training", "School of Nuclear and Conventional Energy Technologies".

EEC members were unable to attend training sessions, due to their absence, however, the organization and implementation were studied: in OP 8D05401 Mathematics and EP 8D07103 Thermal Power Engineering - research work of doctoral students, including an internship and a doctoral dissertation;

In accordance with the accreditation procedure, a survey of 6 teachers, 9 students of accredited EPs, including junior and senior students, was conducted.

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

As part of the planned program, recommendations for improving the accredited educational programs of the East Kazakhstan Technical University named after D. Serikbayev,

developed by the EEC based on the results of the examination, were presented at a meeting with the management on April 27, 2023.

(VI) COMPLIANCE WITH SPECIALIZED ACCREDITATION STANDARDS

6.1. Standard "Management of the educational program"

✓ *The university must demonstrate the development of the goal and development strategy of the EP based on the analysis of external and internal factors with the wide involvement of various stakeholders.*

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

✓ *The university demonstrates the development of a culture of quality assurance.*

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

✓ *The management of the EP ensures the transparency of the development plan for the development of the EP based on an analysis of its functioning, the real positioning of the university and the focus of its activities on meeting the needs of students, the state, employers and other stakeholders.*

✓ *The EP management demonstrates the functioning of the mechanisms for the formation and regular review of the EP development plan and monitoring its implementation, assessing the achievement of learning goals, meeting the needs of students, employers and society, making decisions aimed at continuous improvement of the EP.*

✓ *The EP management should involve representatives of stakeholder groups, including employers, students and teaching staff, in the formation of the EP development plan.*

✓ *The management of the EP must demonstrate the individuality and uniqueness of the EP development plan, its consistency with the national development priorities and the development strategy of the educational organization.*

✓ *The university must demonstrate a clear definition of those responsible for business processes within the EP, the distribution of staff duties, and the delimitation of the functions of collegial bodies.*

✓ *The management of the EP ensures the coordination of the activities of all persons involved in the development and management of the EP, and its continuous implementation, and also involves all interested parties in this process.*

✓ *The EP management must ensure the transparency of the management system, the functioning of the internal quality assurance system, including its design, management and monitoring, and the adoption of appropriate decisions.*

✓ *The management of the EP should carry out risk management.*

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

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

✓ *The management of the EP must demonstrate its openness and accessibility for students, teaching staff, employers and other interested parties.*

✓ *The management of the EP confirms the completion of training in education management programs.*

✓ *The management of the EP should strive to ensure that the progress made since the last external quality assurance procedure is taken into account when preparing for the next procedure.*

Evidence

The EEC notes that the goals and strategies for the development of accredited EPs are formulated based on an assessment of the demand for educational programs, which are determined by the interest of potential employers, applicants, the potential of the university, the requirements of the state and society as a whole.

The content of the objectives of the EP is reviewed regularly, at least once every 3 years, taking into account the development of science, technology and economics, and is carried out according to the results of external and internal monitoring. Changes to educational programs are carried out at the stages of adjusting the content of goals, the structure of the program, designing curricula and correcting disciplines based on the proposals of stakeholders. The main external experts are the heads of educational institutions and enterprises (PhD doctor, Bahrain Higher College Nurizinova M.K., head of the Department of Mathematics of the S. Amanzholov East Kazakhstan State University, engineer of the plant LLP "Ust-Kamenogorsk

CHP" Karimov E.K., director LLP "Oblgradproekt" Temekov A.O., head of the production and technical department of LLP "Sogrinskaya CHPP" Panteleev M.A.).

The development strategy of the EP is formed on the basis of the development strategy of the faculty and the Strategic Development Program of the NJSC "EKTU named after D. Serikbaev", approved by the decision of the Board of Directors of the NJSC "EKTU named after D. Serikbayev" (Minutes No. 4 of 12/28/2020).

The developed plan for the development of the EP is reviewed by employers in order to improve and improve the content. So, the expert of the development strategy of EP 8D05401 Mathematics was the doctor of PhD KazNU named after. Al-Farabi Kasenova S.E., Doctor of PhD, teacher of mathematics and statistics of the Higher College of Bahrain Nurizinova M.K.

The University develops cooperation with research institutes, leading scientists of the country and abroad. For example, in the 2020-2021 academic year. in OP 8D05401 Mathematics was involved Doctor of Physical and Mathematical Sciences, Professor, Corresponding Member of NIA RK Temirbekov N.M. for the lecture "Modern methods of mathematical modeling of applied problems". According to OP 8D07103 Thermal Power Engineering, the university cooperates with the branch of the National Nuclear Center of the Republic of Kazakhstan "Institute of Atomic Energy". As practitioners, both domestic and foreign scientists are invited to give lectures under the program "Attracting foreign scientists and consultants to leading universities in Kazakhstan." The content of the disciplines is adjusted taking into account the opinions of the leading scientists of the country, near and far abroad. Information about the content of the EP is available on the official website (https://www.ektu.kz/educationalprograms.aspx).

The functioning of the mechanism for regular review of the EP Development Plan, monitoring its implementation, risk management and decision-making aimed at continuous improvement of the EP, as well as the analysis and implementation of innovative proposals are reflected in the minutes of the meeting of the Academic Council. Information about the decisions of the Academic and Scientific Councils is presented on the website (https://www.ektu.kz/educationalactivities/ums.aspx,https://www.ektu.kz/abouttheuniversity/academic_council.aspx).

The quality management system of the university is documented and maintained in accordance with the requirements of MS ISO 9001.

The EP guidance is open and accessible to students, teaching staff, employers and other interested parties. There is a reception schedule, the rector's blog, it is possible to address work questions in working mode without an appointment.

The results of the survey of students during the visit of the EEC showed that students are satisfied with the academic workload and the requirements for the student (“completely satisfied” - 71.2%, “not satisfied” - 1.1%), also 83.6% and 83.1% fully satisfied with the quality of the educational program in general and the quality of teaching in general, respectively.

The results of the survey of teaching staff showed that 38.6% consider the level of involvement of teaching staff in the process of making managerial and strategic decisions to be very good, 3.5% consider this indicator to be relatively poor. On the question of satisfaction with participation in managerial decision-making - 71.9% of the teaching staff are completely satisfied, also 68.4% are completely satisfied with the activities of the university administration, 70.2% are completely satisfied with the management of changes in the activities of the university, while 1.8% are not satisfied.

Analytical part

Experts note that the development of EP at the university is carried out through the current strategic program documents, as well as legislative and regulatory legal acts, taking into account the priority tasks for the development of the Kazakhstani education system.

Internal quality assurance is carried out through the participation of schools in internal audits of the integrated quality management system, as well as in various surveys of students,

teaching staff, and employers. The results of the analysis of inspections and audits are presented in the form of acts, certificates, memos, reports and are considered at meetings of the collegiate bodies of the EKTU (Board of Directors, Academic Council, IMS Coordinating Council, Academic Council, etc.).

The study of the materials of the self-assessment report, meetings with representatives of employers (when visiting the practice bases) and the results of visiting the planned practice bases confirmed the participation of interested parties in the development of the EP Development Plan, the content of the EP and membership in the collegial management bodies of the EP. The dialogue of stakeholders among themselves, the teaching staff and the management of the EP ensures the representativeness of the participants on the development and management of the educational program, and also demonstrates the openness and accessibility of the management of the EP. During the visit of the EEC and the study of the materials of the educational and methodological support of the EP, it was revealed that the leadership of the EP and teachers systematically improve their professional qualifications, including the program management in education.

The university has developed, approved and is implementing its own Quality Assurance Policy (approved on December 15, 2022), which is specified in internal regulatory documents and is an integral element of the strategic management of the university, the basis for planning and organizing all areas of the university, including educational and scientific - research activities.

At the same time, the WEC notes the lack of communication between research, teaching and learning, while the leadership of scientific research is carried out by professors from other universities.

Students, teaching staff, employers take part in the process of forming EP development plans. The university has fundamental documents at the level of general management. At the same time, there is insufficient work on risk management and analysis of the effectiveness of decisions aimed at improving the EP.

The Commission notes that for the accredited EP, some work has been done to strengthen the documentation of all the main business processes governing the implementation of the EP, an analysis of information on the implementation of the EP has been carried out by considering these issues at meetings of the departments, faculty, Academic and Scientific Council.

Students of accredited EPs actively work in collegiate and advisory bodies. Students of EP 8D05401 Mathematics are members of the Academic Council of the Faculty of Basic Engineering Training (protocol No. 1 of 09/16/2022), the Academic Committee for the Development of EP (Order No. 548-P of 12/30/2022).

Strengths/best practice in EP8D05401 - Mathematics,8D07103 - Thermal power engineering:

- the presence of a large list of certificates confirming the advanced training of teaching staff in the field of quality management, while passing courses are noted both in domestic and foreign centers and universities.

Recommendations for the OP8D05401 - Mathematics,8D07103 - Thermal power engineering:

- develop a plan for implementation in the educational processpurposeful use in the educational process of textbooks and teaching aids published by the teaching staff based on the results of research, including scientific developments, in syllabuses for the taught disciplines (term: constantly);

- develop a procedure for analyzing the identified possible risks with the identification of specific measures to prevent or minimize each of them (Deadline 01.09.2023).

Conclusions of the EEC according to the criteria:

According to the standard "Management of the educational program" educational programs8D05401 Mathematics,8D07103 Thermal power engineeringhave 1 strong, 15 satisfactory and 1 suggesting improvement.

6.2. Information Management and Reporting Standard

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

✓ *The EP guidance demonstrates the systematic use of processed, adequate information to improve the internal quality assurance system.*

✓ *The management of the EP demonstrates the presence of a reporting system that reflects the activities of all structural units and departments within the EP, including an assessment of their performance.*

✓ *The university must determine the frequency, forms and methods for assessing the management of the EP, the activities of collegial bodies and structural divisions, top management.*

✓ *The university must demonstrate a mechanism for ensuring the protection of information, including the identification of persons responsible for the reliability and timeliness of the analysis of information and the provision of data.*

✓ *The university demonstrates the involvement of students, employees and teaching staff in the processes of collecting and analyzing information, as well as making decisions based on them.*

✓ *The management of the EP must demonstrate the existence of mechanisms for communication with students, employees and other stakeholders, including conflict resolution.*

✓ *The university must ensure the measurement of the degree of satisfaction with the needs of students, teaching staff and staff within the framework of the EP and demonstrate evidence of the elimination of identified shortcomings.*

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

✓ *The information collected and analyzed by the university within the framework of the EP should take into account: key performance indicators; the dynamics of the contingent of students in the context of forms and types; academic performance, student achievement and dropouts; satisfaction of students with the implementation of the EP and the quality of education at the university; availability of educational resources and support systems for students; employment and career growth of graduates.*

✓ *Students, teaching staff and staff must document their consent to the processing of personal data.*

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

Evidence

The university uses modern information and communication technologies and software tools to automate the processes of collecting, analyzing and managing information. For information support of the main processes of operational and strategic management of the university, the official website is usedhttps://www.ektu.kzand educational portalhttps://www.do.ektu.kz/,Where are the regulations located?

The management of the EP demonstrated the systematic use of processed, adequate information to improve the internal quality assurance system. The regular reporting of the university includes annual reports of structural divisions at various levels, the results of which are merged into the annual report of the university on the work done by the university with the invitation of representatives of the general public, teaching staff, students, employees, employers, graduates and other interested parties.

The members of the EEC established the existence of periodicity, forms and methods for assessing the management of the EP, the activities of collegial bodies and structural divisions, and the university management. Activities for the implementation of the educational process are carried out in accordance with internal regulatory documents, in particular the Academic Policy and the Regulations for the implementation of the educational process.

Any changes in the EP development plan and plans to change it are brought to the attention of students and employers through the EKTU website, electronic means of communication (e-mail, media) and distribution of printed information. Implemented electronic document management Directum(https://servicedesk.ektu.kz/), uniquesystemanalysis and

visualization of E-Monitoring data.

Within the framework of accredited EPs, management implements a mechanism for communication with teachers, university staff and students. There is a conflict resolution mechanism. The psychological climate is characterized by a benevolent and creative atmosphere.

Feedback from employers, questionnaires, surveys are used as sources of information about consumer satisfaction with the level of educational services. The information obtained from these sources of information is used in the analysis by the university management and in the implementation of corrective actions. Based on the processing and analysis of information, specific decisions are made, action plans are developed to improve performance, the results are drawn up in the form of reports and considered by the coordinating council.

Educational resources and other mechanisms of the student support system are freely available and meet the needs.

Questioning of students, conducted during the visit of the EEC, showed that students are completely satisfied (85.9%) with relations with the dean's office (school, faculty, department). The level of accessibility of the dean's office and the accessibility and responsiveness of the management, students also consider very good (84.7% and 83.6%, respectively, are completely satisfied, 0.6% are dissatisfied with the latter).

A survey among the teaching staff showed that in the matter of management's attention to the content of the EP, 63.2% were completely satisfied, 36.8% were satisfied. 54.4% are completely satisfied with the level of feedback from the teaching staff with the management, 45.6% are satisfied. High satisfaction was also noted in the attitude of the university administration to the teaching staff (75.4% are completely satisfied, while 1.8% are not satisfied). They are also generally satisfied with the terms of remuneration (45.6% are completely satisfied, 50.9% are satisfied, 1.8% are not satisfied). In general, 91.2% and 96.5%, respectively, are completely satisfied with the relationship with direct management and colleagues at the faculty of teaching staff.

Analytical part

EEC notes that the university is implementing information management processes, including the collection and analysis of information. An effective mechanism for interaction with the public is the constant meetings of the leadership of the university and employees of faculties / schools with representatives of partner enterprises, education departments, directors and representatives of secondary schools, colleges.

In the process of familiarization with the documentation of the university and a conversation with the management, it was revealed that the university is actively working on the informatization of management activities, however, during the analysis of the format of the work being done to ensure the documentary consent of students, teaching staff and employees to the processing of personal data, it was noted that in the provision of the procedure, attention is not focused on this issue. Consent to data processing is given by a mark in the corresponding "cell" on the page for filling out the main documents. The process of processing documents is not carried out without setting the named marker, however, for the transparency of the process, more detailed information on the requirements for the transfer of personal information and explicit references to the relevant regulatory documents are missing.

The analysis of the WEC of information management and reporting within the framework of the implemented EPs of the university showed a clear coherence of the regular reporting mechanism, reflecting all levels of the structure.

The quality assurance commission operating at the university at schools / faculties annually evaluates and develops recommendations for improving the quality of the EP in the relevant direction.

The university has developed regulations to prevent corruption offenses and negative consequences on conflict resolution issues: AS NJSC "VKTU" 064 Anti-corruption standard (01.02.2021), PR NJSC "VKTU" 044 Rules for resolving conflicts of interest (14.01.2023) , K

NJSC "VKTU" 059 Code of academic integrity of students (03/09/2021), etc.

Library and bibliographic processes are carried out on the basis of the Irbis 64+ automated library system, an electronic catalog system and a repository are functioning. To ensure the book circulation process, a proprietary system with RFID marking of each printed book has been introduced. The main part of the information is available through the educational portal developed by NJSC VKTU.

Strengths/best practice in EP*8D05401 - Mathematics,8D07103 - Thermal power engineering*:

- According to this standard, EPs have no strengths.

Recommendations for the OP*8D05401 Mathematics,8D07103 Thermal power engineering*:

- the management of the university, by the end of 2023, to develop and implement "attention markers";

- the management of the university, by the end of 2023, to develop mechanisms and on an ongoing basis to introduce the practice of stimulating and attractiveness of the process of obtaining feedback from students and teaching staff to assess the level of satisfaction with the main processes in the activities of the university.

Conclusions of the EEC according to the criteria:

According to the standard "Information Management and Reporting" educational programs8D05401 Mathematics,8D07103 Thermal power engineeringhave 17 satisfactory positions.

6.3. Standard "Development and approval of the educational program"

- ✓ *The university must demonstrate the existence of a documented procedure for the development of the EP and its approval at the institutional level.*
- ✓ *The university must demonstrate the compliance of the developed EP with the established goals and planned learning outcomes.*
- ✓ *The management of the EP should determine the influence of disciplines and professional practices on the formation of learning outcomes.*
- ✓ *The university demonstrates the presence of a model of a graduate of the EP, which describes the learning outcomes and personal qualities.*
- ✓ *The qualification awarded upon completion of the EP must be clearly defined, explained and correspond to a certain level of the NSC, QF-EHEA.*
- ✓ *The management of the EP should demonstrate the modular structure of the program based on ECTS, ensure that the structure of the content of the EP corresponds to the goals set, with a focus on achieving the planned learning outcomes for each graduate.*
- ✓ *The management of the EP should ensure that the content of academic disciplines and learning outcomes correspond to each other and to the level of education (bachelor's, master's, doctoral studies).*
- ✓ *The management of the EP must demonstrate the conduct of external reviews of the EP.*
- ✓ *The management of the EP must provide evidence of the participation of students, teaching staff and other stakeholders in the development and quality assurance of the EP.*
- ✓ *The management of the EP must demonstrate the uniqueness of the educational program, its positioning in the educational market (regional/national/international). ⁄An important factor is the possibility of preparing students for professional certification.*
- ✓ *An important factor is the presence of a joint (s) and / or two-degree EP with foreign universities*

Evidence

The University develops and approves EP 8D05401 - Mathematics and 8D07103 - Thermal Power Engineering in accordance with the requirements of state regulations and intra-university regulations (VND). The named EPs were developed in accordance with the mission of NJSC "VKTU" (the current version was approved by the decision of the Board of Directors of NJSC "VKTU" dated January 26, 2023, protocol No. 1) and the strategic development program

(the current version for 2023-2025 was approved by the decision of the Board of Directors of NAO " VKTU" dated January 26, 2023, protocol No. 1). The main goals and objectives of EP 8D05401 - Mathematics and 8D07103 - Thermal Power Engineering accurately reflect the key goal of the development of the university: "...advanced training of engineers capable of creating and developing new technological frontiers to achieve international leadership ...".

OP 8D05401 - Mathematics and 8D07103 - Thermal power engineering have a documented procedure for development and approval, prescribed in the following GRD: P NJSC "VKTU" 030-I-2022 Designing the educational program of NJSC "VKTU named after D. Serikbaev" (the current version is approved by the Member of the Board - Vice-Rector for academic issues of Zh. Konurbayeva dated 06.12.2022); P NJSC "VKTU" 050-II-2023 Regulations on the head of the educational program at NJSC "VKTU named after D. Serikbaev" (the current version was approved by the Member of the Board - Vice-Rector for Academic Affairs Zh. Konurbayeva dated 11.01.2023). Also, the procedures for the development of the EP, including the requirements of the GNR that determine the development algorithm, contain links to the main GNR of the university for quality assurance: "Policy in the field of quality and quality assurance" (approved by the Chairman of the Board - Rector of NJSC "VKTU named after D.I.

According to the GNR, the university has adopted a modular system for studying disciplines, the algorithm for developing new EPs has the requirement to comply with the State Educational Standard, NSC, NQF, professional standards, Dublin descriptors and QF-EHEA. So, based on the data from the self-report and according to the supporting documents presented in the annexes, for graduates of EP 8D05401 - Mathematics and 8D07103 - Thermal Power Engineering, a qualification corresponding to level 8 of the NQF was determined. The learning outcomes are clearly defined in accordance with the QF-EHEA requirements. The modular system is based on the ECTS system. The structure and content of disciplines (Syllabus) include mandatory requirements for describing learning outcomes in accordance with the competency map.

The algorithm for developing the EP is precisely and in detail defined in the VND, it implies the following sequential procedures: preparation of the EP passport, development of a graduate model with the development of the EP concept and the graduate's qualification characteristics, development of a competency map, mapping of the training module, formation of the EP EP, preparation of information about the EP disciplines (information is briefly presented on the website of the university: according to OP 8D05401 - Mathematics at the linkhttps://www.ektu.kz/educationalprograms/educationalprogramdetail.aspx?Code=6692, according to OP 8D07103 - Thermal power engineering at the link:https://www.ektu.kz/educationalprograms/educationalprogramdetail.aspx?Code=6769).

The design and updating of the EP is carried out by the Academic Committee (AC), at whose meetings all key stakeholders are present and directly participate in the development and adjustment of the EP: the head of the EP, representatives of the employer, teaching staff, representatives from students. Based on the results of the discussion, the EP undergoes a mandatory examination, which is regulated in the relevant provisions of the GRR. The submitted supporting documents for the self-report contain expert opinions based on the results of the external examination of the EP (for EP 8D05401 - Mathematics, scanned copies of expert opinions are presented: from the head of the department "Mathematics" of the EKSU named after S. Amanzholov E. Yergaliev dated 31.08.2018, from the head of the department "Mathematics" VKU named after S. Amanzholov E.A. Malgazhdarov dated 14.09.2022 ; from the Head of the Group of the Laboratory for Testing Reactor Fuel of the Branch "Institute of Atomic Energy" of the NNC RK, Doctor PhD G.A. Vatyuk; for OP 8D07103 - Thermal power engineering, scanned copies of expert opinions were submitted: from the director of Oblgradproekt LLP Temekov A.O., from the station engineer on duty at Ust-Kamenogorsk CHPP LLP Karimov E.K., from the professor of the department. "thermal power" Toraigyrov University E.V. Prikhodko, from the head of the department. "Heat power engineering" NJSC

"Kazakh Agrotechnical Research University" doctor PhD Mergalimova A.K. Koyanbaev). The participation of teaching staff in the development and updating of the EP is confirmed by the answers to the questionnaire during the visit of the EEC (the indicators “completely satisfied”, “good” and “excellent” are more than 50%). Dr. PhD G.A. Vatyuk; for OP 8D07103 - Thermal power engineering, scanned copies of expert opinions were submitted: from the director of Oblgradproekt LLP Temekov A.O., from the station engineer on duty at Ust-Kamenogorsk CHPP LLP Karimov E.K., from the professor of the department. "thermal power" Toraigyrov University E.V. Prikhodko, from the head of the department. "Heat power engineering" NJSC "Kazakh Agrotechnical Research University" doctor PhD Mergalimova A.K. Koyanbaev). The participation of teaching staff in the development and updating of the EP is confirmed by the answers to the questionnaire during the visit of the EEC (the indicators “completely satisfied”, “good” and “excellent” are more than 50%). Dr. PhD G.A. Vatyuk; for OP 8D07103 - Thermal power engineering, scanned copies of expert opinions were submitted: from the director of Oblgradproekt LLP Temekov A.O., from the station engineer on duty at Ust-Kamenogorsk CHPP LLP Karimov E.K., from the professor of the department. "thermal power" Toraigyrov University E.V. Prikhodko, from the head of the department. "Heat power engineering" NJSC "Kazakh Agrotechnical Research University" doctor PhD Mergalimova A.K. Koyanbaev). The participation of teaching staff in the development and updating of the EP is confirmed by the answers to the questionnaire during the visit of the EEC (the indicators “completely satisfied”, “good” and “excellent” are more than 50%). from the director of "Oblgradproekt" LLP Temekov A.O., from the duty engineer of the station of "Ust-Kamenogorsk CHP" LLP Karimov E.K., from the professor of the department. "thermal power" Toraigyrov University E.V. Prikhodko, from the head of the department. "Heat power engineering" NJSC "Kazakh Agrotechnical Research University" doctor PhD Mergalimova A.K. Koyanbaev). The participation of teaching staff in the development and updating of the EP is confirmed by the answers to the questionnaire during the visit of the EEC (the indicators “completely satisfied”, “good” and “excellent” are more than 50%). from the director of "Oblgradproekt" LLP Temekov A.O., from the duty engineer of the station of "Ust-Kamenogorsk CHP" LLP Karimov E.K., from the professor of the department. "thermal power" Toraigyrov University E.V. Prikhodko, from the head of the department. "Heat power engineering" NJSC "Kazakh Agrotechnical Research University" doctor PhD Mergalimova A.K. Koyanbaev). The participation of teaching staff in the development and updating of the EP is confirmed by the answers to the questionnaire during the visit of the EEC (the indicators “completely satisfied”, “good” and “excellent” are more than 50%). "Heat power engineering" NJSC "Kazakh Agrotechnical Research University" doctor PhD Mergalimova A.K. Koyanbaev). The participation of teaching staff in the development and updating of the EP is confirmed by the answers to the questionnaire during the visit of the EEC (the indicators “completely satisfied”, “good” and “excellent” are more than 50%). "Heat power engineering" NJSC "Kazakh Agrotechnical Research University" doctor PhD Mergalimova A.K. Koyanbaev). The participation of teaching staff in the development and updating of the EP is confirmed by the answers to the questionnaire during the visit of the EEC (the indicators “completely satisfied”, “good” and “excellent” are more than 50%).

An important place in the development and implementation of the EP is allocated to industrial and pedagogical practice. The OO has a documented procedure for organizing, controlling, reporting and passing all types of practices.

During the period of preparation of the self-assessment report and at the time of the visit of the EEC to the OO, there were no ongoing double-degree and joint EP programs with foreign universities in the considered EP 8D05401 - Mathematics and 8D07103 - Thermal Power Engineering.

A survey of students during the visit of EEC experts showed that 83.6% were completely satisfied with the quality of the educational program as a whole, 81.9% were completely satisfied with the quality of study programs in the EP, and 0.6% were dissatisfied. 78% and 73.4%, respectively, fully agree with the high level of the course program and its content; 0.6% of

respondents do not agree with the good structuring of the course content.

The survey of teaching staff showed that, in general, satisfaction is at a high level. Including the content of the EP meets the scientific and professional interests and needs of 73.7% of the respondents at a very good level. 61.4% and 73.7% of teaching staff confirm that they can fully use their strategies and methods in the educational process. 50.9% believe that the quality and content of EPs meet the expectations of the labor market and employers very well.

Analytical part

The University demonstrates the presence of all the required organizational procedures in the formation of the EP and its implementation. Documented in all GNIs, the relationship with the goals, mission and development policy of the university is monitored. The modular structure of the EP is quite transparent, available to all those interested on the official website of the university.

As a result of the analysis of the reporting data and the results of the EEC visit, it was not established whether there was a discussion, analysis of the possibilities and benefits of introducing joint EPs and double-degree EPs with foreign universities. The demonstrated cooperation agreements and the declared intentions are of a general uncertain character.

In the passport of the accredited EPs and in the graduate model, the qualification level according to the NQF (level 8) is determined. At the same time, the content of a number of major disciplines of OP 8D07103 Thermal Power Engineering contains sections and topics that form skills and competencies that duplicate master's level programs. For example, in the self-assessment report and in the syllabuses of the disciplines “Modern methods for reducing emissions from boiler units”, “Technological processes of thermal power plants in terms of environmental impact”, learning outcomes are noted that may correspond to the results of RO-5, but are not sufficient to achieve the goal EP in the development of "...innovative thinking, obtaining knowledge about advanced resource-efficient technologies for the development of the national scientific and technical school of thermal power engineering ...",

The uniqueness and positioning of EP 8D07103 Thermal power engineering in the educational market of the national and international level did not find documentary confirmation of the analysis of the real positioning and assessment of the competitiveness of the EP.

The university has 12 centers of competence and technology transfer, 5 branches of production representatives on the territory of the university. During the visit of the EEC, the implementation of its own IT developments was noted. At the same time, there are no specific examples of the possibilities for preparing students in EP 8D07103 for professional certification in the field of thermal power engineering.

Strengths / best practice in OP 8D05401 - Mathematics and OP 8D07103 - Thermal power:

- According to this standard, EPs have no strengths.

***Recommendations for the OP*8D05401 Mathematics,8D07103 Thermal power engineering**

- in order to develop joint EPs and double-degree EPs, as well as to increase the uniqueness of the EP, the EP management, by the end of 2023, together with national and foreign partners in the profile, discuss the possibilities of creating a new learning trajectory and / or developing internship programs, advanced training courses.

Additional recommendations for EP 8D07103 - Thermal power engineering

- The management of the EP, by the end of 2023, to identify the necessary directions for changing the content of the disciplines and replacing / updating the list of disciplines of the DB and PD categories, including the disciplines of the sections of mathematical modeling, overview and calculation-methodical nature on the topics of innovative technologies, taking into account the specifics of the discipline at based on the results of the survey and survey of all interested

persons;

- The management of the EP during the calendar year (until April 2024) to organize work to study the possibility of developing an integrated scientific direction "modern issues of materials science in ensuring the reliability of the heat and power sector / innovative areas of materials science in the heat power industry / breakthrough materials science technologies for heat power facilities" based on its own infrastructure and taking into account the capabilities of key stakeholders (having production sites and / or laboratories) to separate this area into a separate trajectory and position it as an indicator of the uniqueness of the EP.

- To the Technology Commercialization Office, the leadership of the School of Nuclear and Conventional Energy Technologies and the EP until the end of 2023. analyze and prepare a list of relevant areas of professional certification in the field of thermal power engineering and / or related fields based on the existing infrastructure of the university,

- By the end of 2023, the leadership of the School of Nuclear and Conventional Energy Technologies should organize a discussion of the intensive development of the scientific direction "energy audit and energy inspections of industrial sector facilities" and prepare a program plan for the university to enter the register of legal entities operating in this area.

Conclusions of the EEC according to the criteria:

According to the standard "Development and approval of the educational program", the educational program 8D05401 - Mathematics has 9 satisfactory positions, 3 positions require improvement.

According to the standard "Development and approval of the educational program", the educational program 8D07103 - Telpoenergetics has 8 satisfactory positions, 4 positions require improvement.

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

✓ *The university must ensure the revision of the structure and content of the EP, taking into account changes in the labor market, the requirements of employers and the social demand of society.*

✓ *The university must demonstrate the existence of a documented procedure for monitoring and periodic evaluation in order to achieve the goal of the EP and continuously improve the EP.*

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

- *the content of the program in the context of the latest achievements of science and technology in a particular discipline;*
- *changes in the needs of society and the professional environment;*
- *workload, performance and graduation of students;*
- *the effectiveness of student assessment procedures;*
- *needs and degree of satisfaction of students;*
- *compliance of the educational environment and the activities of support services with the goals of the EP.*

✓ *The management of the EP should publish information about changes to the EP, inform interested parties about any planned or undertaken actions within the framework of the OP.*

✓ *Support services should identify the needs of various groups of students and the degree of their satisfaction with the organization of training, teaching, assessment, mastering the EP in general.*

Evidence

The study of internal regulatory documents, minutes of meetings of collegiate bodies, the results of questioning teachers, the results of meetings and interviews confirmed that the university monitors and periodically evaluates the EP.

The educational programs implemented at the university have clearly defined goals that are consistent with the mission of the university, the National Qualifications System. Information about EPs, their content and a description of core competencies through learning outcomes are available on the university website.

Students and employers participate in the development and evaluation of educational

programs. The interests of employers in EP 8D05401 Mathematics are represented by educational organizations, research institutes, such as the Nazarbayev Intellectual School of Chemistry and Biology, Al-Farabi Kazakh National University, East Kazakhstan University. S.Amanzholova; according to OP 8D07103 Thermal power engineering - Ust-Kamenogorsk CHPP LLP, Oblgradproekt LLP, Sogrinskaya CHPP LLP, RSE NNC RK ME RK, universities and colleges of Kazakhstan implementing educational programs in the field of thermal power engineering. All incoming information is carefully analyzed, and appropriate measures are taken by the university management.

Evaluation of the expected results of the implementation of the EP is carried out by questioning and feedback from students. The results of monitoring and periodic evaluation of educational programs make it possible to purposefully improve the content of the studied disciplines, teaching methods, teaching strategy and study of subjects, which enhances the practical orientation of the study program, taking into account the requirements of the labor market.

The results of the survey of students during the EEC visit showed that in terms of the clarity of procedures for taking disciplinary measures, the requirements of the teaching staff for the student, informing the requirements in order to successfully complete this EP, the objectivity of assessing knowledge, skills and other educational achievements, the level of student satisfaction is high (respectively, the share “completely satisfied”: 79.7%, 79.1%, 86.4%, 79.1%). Students fully agree with the objectivity of assessing knowledge, skills and other educational achievements (62.7% completely agree, 3.4% disagree); with the timeliness of assessing the educational achievements of students (63.8% completely agree, 1.7% disagree).

Questioning of teaching staff showed that on key issues the level of satisfaction is generally high. So, on the issue of compliance of the EP in terms of the content and quality of implementation with the expectations of the labor market and employers, 50.9% consider the level to be “very good”, 49.1% - “good”. When asked how the administration of the university perceives criticism in their address, 24.6% believe that it is perceived "very well", 50.9% - "good". Most of the comments left in the category of choosing this particular university - a significant part of those who left comments, consider NJSC "VKTU" a promising and strong university. Also, 77.2% were fully satisfied with the procedure for supporting and recognizing the comments and proposals proposed by the teaching staff, 21.1% were partially satisfied. 70.2% are fully satisfied with the management of changes in the activities of the university, 28.1% are partially satisfied, 1.8% are not satisfied.

Analytical part

During the visit of the EEC, accredited educational programs were studied, which were developed in accordance with intra-university methodological recommendations and meet general regulatory requirements. WITHThe contents of the programs are designed to meet the changing needs of society, thereby ensuring their relevance.However, the content of educational programs does not take into account the latest achievements of science in specific disciplines.

The commission notes that the university has developed a system for determining the effectiveness and efficiency of the implementation of the EP, however, it has not fully developed a criteria-based assessment for specific indicators in correlation with the development strategy of the university. When agreeing on the project of the EP, employers take an active part by submitting their proposals. At the same time, experts note insufficient work to monitor the level of stakeholder satisfaction with the quality of EP development.

When studying the self-assessment report and during the visit of the EEC for EP 8D07103 - Thermal power engineering, it is noted that the processes of monitoring and developing the EP trajectories were not considered. Thus, the mission and development plan of the university notes the development of areas of nuclear technology with a possible EP "Nuclear Technology Materials", including the development goal taking into account the requirements of the enterprises of the region, represented (for example) by NAC Kazatomprom JSC, RSE NNC

RK, JSC "UMZ". At the same time, the existing EP trajectory and the composition of basic and major disciplines have not been changed since 2019.

Strengths/best practice in EP*8D05401 - Mathematics,8D07103 - Thermal power engineering*:

- According to this standard, EPs have no strengths.

Recommendations for the OP*8D05401 Mathematics,8D07103 Thermal power engineering*:

- before the start of the 2023-2024 academic year, include in the content of the EP and syllabuses of basic and major disciplines information about the latest achievements of science in the relevant areas and / or rework the thematic content of the disciplines, taking into account the possibility of updating the content on relevant topics;

- to be implemented by the end of 2023 and annually subsequently monitor the labor market, the internal and external environment, the requests of the teaching staff and students in order to take into account its results when developing and updating the content and structure of the EP;

- by the end of 2023 to revise the principles of reporting on the results of monitoring and evaluation of the EP in terms of assessing the needs and degree of satisfaction of students with the addition of additional items for the possibility of stimulating students, for expressing wishes, issues and ideas, as well as concretizing feedback on this basis and forming more point correlating actions.

***Additional recommendations for* EP 8D07103 Thermal Power Engineering**:

- the leadership of the SNCET, by the end of 2023, to reconsider the proposed application for the modernization of equipment in accordance with letter No. 03-02-532 dated 04/27/2021. and include in the agenda for consideration at a meeting of the Academic Council of the university.

Conclusions of the EEC according to the criteria:

According to the standard «Continuous monitoring and periodic evaluation of the educational program», the educational program:

- 8D05401 Mathematics has 9 satisfactory positions, 1 position needs improvement.

- 8D07103 Thermal Power Engineering has 8 satisfactory positions, 2 positions require improvement.

6.5. Student-Centered Learning, Teaching and Assessment Standard

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

✓ *The management of the EP should ensure teaching based on modern achievements of world science and practice in the field of training, the use of various modern methods of teaching and evaluating learning outcomes that ensure the achievement of the objectives of the EP, including competencies, skills to perform scientific work at the required level.*

✓ *The management of the EP should determine the mechanisms for distributing the teaching load of students between theory and practice within the framework of the EP, ensuring the mastery of the content and achievement of the objectives of the EP by each graduate.*

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

✓ *The university must ensure that the procedures for evaluating learning outcomes are in line with the planned results and goals of the EP.*

✓ *The university must ensure the consistency, transparency and objectivity of the mechanism for assessing the learning outcomes of the EP, the publication of criteria and assessment methods in advance.*

✓ *Assessors should be proficient in modern methods for evaluating learning outcomes and regularly improve their skills in this area.*

✓ *The EP management must demonstrate the existence of a feedback system on the use of various*

teaching methods and evaluation of learning outcomes.

✓ *The management of the EP must demonstrate support for the autonomy of students with simultaneous guidance and assistance from the teacher.*

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

Evidential part

The EEC notes that the leadership of the EP adheres to the principle of student-centered learning, at the head of which are the interests of students.

All disciplines of the EP are provided with educational and methodological complexes, high-quality methodological literature. The teaching staff of the EP uses methods for evaluating learning outcomes that ensure the achievement of the goals of the EP, as well as the acquisition by students of competencies and the achievement of learning outcomes expected by the implemented EP. The teaching staff uses modern pedagogical technologies and teaching methods: case studies, problem-situational modeling, etc. The teaching staff has its own research in the field of teaching methods for EP disciplines (Uvalieva I.M., Rakhmetullina Zh.T., Mukasheva R.U., Amenova F. .S. e-curriculum «Theory of polynomials», «Probability theory and mathematical statistics in questions and tasks» and received copyright certificates). Also, as part of the combination of traditional learning with distance and online methods in the disciplines of EP 8D05401 Mathematics, online courses were developed, for example, in the discipline «Modern methods of mathematical modeling of applied problems».

In the process of teaching, modern computer technologies, electronic textbooks, training programs, multimedia technologies are used.

FBIP and SNCET implement an innovative model of continuous practical training of students. Doctoral dissertations have an innovative focus and practical significance, some of which have been introduced into production. So, the doctoral student Omarieva D.A. there is an author's certificate «Software package for parallel implementation of a fractional-differential filtering model on graphic processors». On the basis of experimental studies of the doctoral student of the EP 8D07103 Thermal Power Engineering Ybrai S.B. practical recommendations are being prepared for coal gasification technologies with the prospect of filing a patent application.

During the visit, the EEC presented documentation regulating the educational process and ensuring its student-centered nature. The knowledge assessment mechanism is reflected in internal regulatory documents: DP «Intermediate, final control and assessment of students' knowledge at the NJSC «EKTU named after D. Serikbaev», P 057 Regulations on the procedure for organizing and conducting exams in writing, etc.

The EP manual demonstrates the existence of a procedure for responding to complaints from students, in which students have the opportunity to express their opinion about the services provided to them. There is a rector's blog, "trust boxes", a booth for video, audio and written appeals, personal pages of departments.

Analytical part

The EEC notes that the university strives to improve the level of accredited EPs, uses objective means and mechanisms to improve the quality of disciplines and assess students' knowledge.

The entire educational process is aimed at student-centered learning, in connection with which, students have academic freedom in choosing an individual educational trajectory, in choosing a teacher.

In the course of the survey of students conducted within the framework of the EEC visit, the student-centered nature of training in the EP was also confirmed. Thus, the number of students who are satisfied (fully or partially) with the availability of the manual is more than 82% of the total number of respondents; Satisfaction with the availability of counseling, which is

an integral part of student-centered learning, in general is more than 80%, satisfaction with teaching methods is more than 75%, and satisfaction with informing about academic disciplines, the qualifications obtained is 85.8%.

In accordance with modern requirements and taking into account social demands, new pedagogical technologies are being introduced at the university, the material and technical base is being replenished, the level of equipping the educational process with new equipment, materials, electronic textbooks, educational and methodological and scientific literature is increasing. However, the level of available own methodological literature, on printed and electronic media, is not high, and this does not contribute to the development of our own scientific schools and methodological base. Also, the level of elaboration of own methodological materials is not sufficient, including for new facilities of the material and technical base.

The mechanism for evaluating learning outcomes is transparent. Appeal commissions are created to consider complaints from students regarding the assessment of their knowledge during examination sessions and final certification.

Educational resources and other mechanisms of the student support system are freely available and meet the needs of students. Students have the opportunity to express their opinion about the services provided to them. However, the work in the direction of preparing students for professional certification in the field of thermal power engineering or other professional fields (for example, information technology) has not been confirmed.

The analysis of the submitted documents, conversations with the university management, the leaders of the EP and teaching staff made it possible for the EEC to make sure that there is valid feedback from the administration of the university and the heads of the EP with students as part of the procedure for responding to students' complaints. The experts revealed the existence of a procedure for providing students with flexible learning paths and the possibility of its further improvement.

At the same time, the commission notes the insufficiency of the practical orientation of the disciplines, the feedback system does not provide for making decisions based on the results of ongoing sociological research.

Strengths/best practice in **EP 8D05401 - Mathematics, 8D07103 - Thermal Power Engineering:**

- According to this standard, EPs have no strengths.

Recommendations for **EP 8D05401 Mathematics, 8D07103 Thermal Power Engineering:**

- in order to increase the level of readiness of students for professional activities by the end of 2023. it is necessary to strengthen the practical orientation of the study of disciplines and consider the possibility of entering professional certification;

- to develop their own methodological base for the head of the EP together with the leading teaching staff until the end of 2023. To form a schedule for 2024 for the release of their own teaching aids and instructions for settlement work to update and replenish the fund of methodological literature for the next year. By the end of 2024, ensure the release of at least 10 methodological publications in the specialized areas of the EP and/or educational guidelines, recommendations for the implementation of practical and laboratory work (including on the basis of the existing and/or newly acquired material and technical base), and educational - guidelines for the implementation of scientific research and calculations in key scientific areas of the EP using existing and/or newly acquired specialized software products;

- develop until 01.09.2024 a decision-making algorithm based on the results of a survey of students, as well as informing them about ongoing activities.

Conclusions of the EEC according to the criteria:

According to the standard «Student-centered learning, teaching and assessment of

progress», educational programs 8D05401 Mathematics, 8D07103 Thermal Power Engineering have 9 satisfactory positions and 1 position needs to be improved.

6.6. Standard «Students»

- ✓ *The university must demonstrate the policy of forming a contingent of students and ensure transparency, publicity of the procedures governing the life cycle of students (from admission to completion).*
- ✓ *The management of the EP should provide for special adaptation and support programs for newly enrolled and foreign students.*
- ✓ *The university must demonstrate the compliance of its actions with the Lisbon Recognition Convention, including the existence and application of a mechanism for recognizing the results of academic mobility of students, as well as the results of additional, formal and non-formal education.*
- ✓ *The university should provide an opportunity for external and internal academic mobility of students, as well as assist them in obtaining external grants for education.*
- ✓ *The university should encourage students to self-education and development outside the main program (extracurricular activities).*
- ✓ *An important factor is the existence of a mechanism to support gifted students.*
- ✓ *The university must demonstrate cooperation 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 university must provide students with internship places, demonstrate the procedure for facilitating the employment of graduates, maintaining contact with them.*
- ✓ *The university must demonstrate the procedure for issuing documents to graduates confirming the qualifications received, including the achieved learning outcomes.*
- ✓ *The management of the EP must demonstrate that the graduates of the program have skills that are in demand in the labor market and that these skills are really relevant.*
- ✓ *The management of the EP must demonstrate the existence of a mechanism for monitoring the employment and professional activities of graduates.*
- ✓ *An important factor is the existence of an active alumni association.*

Evidence part

To form a contingent of students from admission to graduation, the university pursues an appropriate policy and ensures the transparency of its procedures. The policy of forming a contingent of students is consistent with the mission, vision, strategic goals of the university.

The university conducts systemic career guidance, holds open days of faculties/schools, implements the project "Vacations with benefit", organized preparatory courses in specialized subjects for applicants for master's and doctoral studies, in foreign and Kazakh languages for beginners, in preparation for international TOEFL exams ITP and Kaztest. All events are covered on the website of the university.

One of the effective forms of interaction with potential applicants is: the performance of research work by high school students; participation in the annual ISPC of students, undergraduates and young scientists «Creativity of the young - innovative development of Kazakhstan».

For students at the beginning of the academic year, an adaptation week is held, with a program of meetings with deans of faculties/schools, heads of educational programs, advisors, familiarization with educational and methodological documentation.

Simultaneously with studying in the main EP 8D05401 Mathematics, there is an opportunity to receive in-depth training. So, in 2021, doctoral students successfully completed a language course with a volume of 160 hours for postgraduate study at the American partner university of the University of Delaware, confirming a high advanced level of English proficiency.

Extracurricular and educational work is a complex system that includes sports, student self-government, amateur art, student science. There are 9 interest clubs at the university: sports clubs and sections, debate clubs «Erkin soz», «Consensus», «Soleil», clubs of poets and writers «Abay», «Pushkin», women's club «Akzhuzik», local history club «Altyn besik-Muztau»,

historical club «Zerde».

EEC notes the high level of employment of graduates: 2020 - 94%; 2021 - 96%; 2022 - 94%. All graduates of the EP 8D05401 - Mathematics are employed in their specialty, in accordance with the direction of training, the specifics of the educational program. Employment of graduates in EP 8D07103 - Thermal Power Engineering for 2022 - 100%.

To maintain the corporate spirit of graduates, the Altyn Besik Alumni Association was created.

Analytical part

The policy of forming a contingent of university students is systematic, the issues of forming a contingent and the results of admission are considered at meetings of the administration and the Academic Council. The EEC was convinced that the university carried out systematic career guidance aimed at forming a contingent of students not only in terms of quantitative indicators, but also in terms of quality. Admission and admission to the OP is accompanied by an introductory course containing information about the university and the specifics of the EP. For the adaptation of students, an orientation week is held, including: familiarization with educational and methodological documentation, including a guidebook, rules of procedure and the charter of the university.

To regulate academic mobility, a documented procedure of NJSC «EKTU» 023 Academic mobility (dated November 20, 2020) has been developed. All students are given equal opportunities and access to participation in mobility programs. At the same time, experts note that work on the participation of students in academic mobility programs has been set at an insufficient level. Thus, information on academic exchange opportunities for students is presented in the relevant section of the educational portal (https://www.do.ektu.kz/doektu/akademmobil.aspx?lang=ru), reflects only basic information about the concept of "academic mobility" and contains a link to the university's cooperation agreements with the universities of the Republic of Kazakhstan, with a note about the availability of internal academic mobility programs. An analysis of the 13 agreements presented by reference showed that all of them are standard memorandums and / or agreements on cooperation, and on the issue of academic mobility they have only a mark on the availability of such an opportunity. The mechanism, conditions and specific options for academic mobility, in particular for students at the doctoral level, are not indicated on the website and are not defined by agreements. On the web page of the Department for International Cooperation there is information about the conditions for holding competitions for scholarship programs, under the section «Academic mobility from the MES RK», but the information cannot be considered relevant. According to the supporting documents presented in the self-assessment report and additionally received during the EEC visit, there is a lack of statistics on the participation of doctoral students in accredited EPs in internal and/or external mobility programs.

The Commission recommends strengthening the work on informing students about the procedure for implementing academic mobility and the requirements for candidates, posting information on the website and in social networks.

Questioning of students, conducted during the visit of the EEC, showed that the majority of students are satisfied with the existing educational resources of the university (95.8%); accessibility of health services (87.5%).

Strengths/best practice in EP **8D05401 Mathematics, 8D07103 Thermal Power Engineering*:***

- the university demonstrates a well-structured own procedural policy that provides a transparent and convenient environment for applicants and students to inform about all processes throughout the entire life cycle from admission to completion;

- the university demonstrates significant efforts in ensuring a comfortable stay of foreign students at the university. Convenient information systems have been developed and are

functioning (the site is available in several foreign languages - English, Chinese); the Foundation program operates, which allows preparing foreign students for entering the university, including academic and language training.

Recommendations for EP **8D05401 Mathematics, 8D07103 Thermal Power Engineering:**

- the Department for International Cooperation, the heads of the SNCET and FBIP, together with the heads of the EP, by the end of 2023, develop a program for the development of academic mobility, incl. virtual, providing for the implementation in 2024 of at least 1 (one) program of internal and/or external academic mobility for accredited EPs, using the results of a student survey.

Conclusions of the EEC according to the criteria:

According to the standard «Students» educational programs 8D05401 Mathematics, 8D07103 Thermal Power Engineering have 2 strong positions, 9 satisfactory positions, 1 position needs to be improved.

6.7. Standard «Teaching staff»

- ✓ *The university must have an objective and transparent personnel policy in the context of the EP, including recruitment (including invited teaching staff), professional growth and development of staff, ensuring the professional competence of the entire staff.*
- ✓ *The university must demonstrate the compliance of the qualitative composition of the teaching staff with the established qualification requirements, the strategy of the university, and the objectives of the EP.*
- ✓ *The management of the EP should demonstrate the change in the role of the teacher in connection with the transition to student-centered learning and teaching.*
- ✓ *The university should provide opportunities for career growth and professional development of teaching staff, including young teachers.*
- ✓ *The university should involve in the teaching of specialists from relevant industries with professional competencies that meet the requirements of the EP.*
- ✓ *The university must demonstrate the existence of a motivation mechanism for the professional and personal development of teaching staff.*
- ✓ *The university must demonstrate the widespread use of information and communication technologies and software in the educational process by the teaching staff (for example, on-line training, e-portfolio, MOOCs, etc.).*
- ✓ *The university must demonstrate its focus on the development of academic mobility, attracting the best foreign and domestic teachers.*
- ✓ *The university must demonstrate the involvement of each teacher in promoting a culture of quality and academic integrity at the university, determine the contribution of teaching staff, including those invited, to achieving the goals of the EP.*
- ✓ *An important factor is the involvement of teaching staff in the development of the economy, education, science and culture of the region and the country*

Evidence part

The University demonstrates a transparent personnel policy in the context of all EPs, including accredited EP 8D05401 - Mathematics and 8D07103 - Thermal Power Engineering. The university has a number of internal regulations that determine the main processes of conducting personnel policy. The qualitative composition of the teaching staff complies with the requirements of the university's personnel policy, including within the framework of accredited EPs, and the requirements for compliance with the positions to be filled. The competence of the teaching staff is confirmed by the ongoing certification procedures in accordance with the IRG. The provision of teaching staff for the accredited EP 8D05401 - Mathematics and 8D07103 - Thermal Power Engineering is 100%, while the qualitative composition consists of employees with academic degrees and titles. It is also noted that according to EP 8D05401 - Mathematics, out of 9 people, 4 are the holders of the grant of the Ministry of Education and Science of the Republic of Kazakhstan «The best teacher of the university» and 1 person is a scholarship holder

of the «Bolashak» program. 7 out of 9 teachers have the main place of work of NJSC «EKTU named after D. Serikbaev». According to EP 8D07103 - Thermal Power Engineering, out of 7 people, 3 people are the holders of the grant of the Ministry of Education and Science of the Republic of Kazakhstan «The best teacher of the university», 1 person is the head of funded research, 1 person is a member of the presidium of the international STAR-NET network.

The university demonstrates an open model of informing about the composition of the teaching staff, confirming this by the presence of personal pages of the teaching staff on the official website of the university in the sections of the respective schools (for the SNCET at the link https://ektu.kz/departments/sc_tradaltenergy/employer/employers.aspx, for the FBIP at the link https://ektu.kz/departments/fbet/sub_departments/engineering_mathematics-/employer/employers.aspx).

The university adheres to a student-centered development strategy and confirms this by improving the skills of the teaching staff involved in the implementation of the EP in the field of teaching methods, in specialized areas. There is also a high level of scientific activity of the teaching staff, which is confirmed by a high level of publication activity and the presence of the Hirsch Index in most of the teaching staff, while there are teachers with an h-index equal to 9 (Dr. Sc. Erdybayeva N.K.). All teaching staff use information and communication technologies available at the university to organize the educational process, including multimedia complexes and tools for developing video lectures and conducting online courses. The University implements a policy of attracting specialists in the field of accredited EPs from among national and foreign scientists.

Active educational, methodological and scientific activities of the teaching staff are encouraged in accordance with the developed system for evaluating KPI indicators, as well as a number of IRDs. Teaching staff are motivated by cash bonuses for having a Hirsch index of 3 or more, for supervising students who are winners of SRW competitions.

The University strives to provide favorable conditions for professional development of teaching staff and personal development. As additional opportunities for advanced training, the university has programs for studying foreign languages (in particular, learning English and passing professional exams with obtaining certificates on the basis of the university).

The results of the survey of teaching staff during the work of the EEC commission showed a high level of student satisfaction with the level of qualifications and professional competencies of teachers, teaching methods and interaction with students (fully satisfied: the quality of teaching in general - 83.1%, teaching methods in general - 75.7%, objectivity and fairness of teachers - 71.2%), while in the high assessment of the teacher in terms of relevance, accessibility, competence and ability to present the material in an interesting way, the number of those who disagree was less than 12.4%.

A survey of teaching staff showed that 56.1%, 45.6% and 40.4% of respondents, respectively, gave positive answers to questions about providing opportunities for professional development, career growth and academic freedom (very good). During the survey, the opportunities for professional and personal growth of the teaching staff were also highly appreciated (56.1% and 43.9%, respectively). At the same time, 7% are not satisfied and consider the work on academic mobility and advanced training of teaching staff to be organized at a low level (35.1% and 45.6%, respectively, are completely satisfied with these indicators).

Analytical part

The university demonstrates a transparent personnel policy. The presented IRD regulate all processes affecting the teaching staff. According to the accredited EPs, the qualitative composition of the teaching staff complies with the requirements set out in the IRD. Based on the results of conversations with the teaching staff and the results of the survey, the commission of the EEC concluded that the teaching staff was highly satisfied with the working conditions at the university, at the same time, questions about the feedback from the management were not supported by confident answers.

According to EP 8D07103 - Thermal Power Engineering, the teaching staff have developments in the field of technical physics and materials science, which creates a great potential for the development of related and currently relevant issues of materials science in thermal power engineering, but requires detailing at the level of development of the EP development trajectory.

The university has developed and operates a system of encouraging teaching staff to enable them to grow in academic and research activities. In terms of R&D, the university demonstrates high performance in general (18% of the budget from funding research and R&D), however, in the structure of scientific topics, the share of specialized research in areas directly related to EP 8D05401 Mathematics and EP 8D07103 Thermal Power Engineering is practically and/or completely absent. The possibility of developing the scientific activities of their own teaching staff is based on the support of their research and development, including jointly with invited external specialists, as well as on the basis of advanced training courses. For the development of EP, it is necessary to develop unique areas supported by relevant research, including as part of the expansion of major disciplines. One of the proven practices in this direction is the involvement of specialists from the region to conduct seminars, master classes, improve the qualifications of teaching staff, conduct «guest classes» for students.

The Commission notes the insufficient implementation of the academic mobility of teaching staff of accredited EPs, despite the existence of framework agreements with national and foreign universities.

The University demonstrates a high level of use of various ICTs in the educational process. During the conversation with the teaching staff of the accredited EPs, and based on the results of the survey by the commission of the EEC, a conclusion was made about the sufficient level of competence of the teaching staff in the field of using ICT. An innovative approach in NJSC «EKTU» should be considered the developed own electronic educational platform that integrates all the tools for both the teacher and the student. Teaching staff are actively involved in the process of developing materials using on-line learning technologies, there are examples of the development of MOOCs, video materials, timely and prompt updating of e-portfolio data.

Strengths/best practice in EP **8D05401 - Mathematics and OP 8D07103 - Thermal Power engineering:**

- the presence of own developments in the creation of an electronic educational platform, the functioning of which is maintained at a high technical level. The system is capable of integrating all the key elements of the university's activities, including the tools for teaching, informing, and assessing students.

Recommendations for EP **8D05401 Mathematics and OP 8D07103 Thermal Power Engineering:**

- the leadership of the university during 2024 to expand and approve the academic mobility plan, providing for the invitation of at least 2 invited scientists, incl. one foreign, at least 2 visits of teaching staff to partner universities of Kazakhstan, and / or internship programs in foreign universities.

Additional recommendations for **EP 8D07103 Thermal Power Engineering*:***

- the leadership of the School of Nuclear and Conventional Energy Technologies to prepare a schedule for 2024 to attract external experts - specialists in the field of thermal power engineering, including from among the teachers of partner universities, scientists from research institutes, specialists from manufacturing enterprises to conduct seminars, guest lectures, master-classes on topical problems of operation of thermal power equipment and topical approaches to solving such problems in practice;

- the management of the EP, together with the leading teaching staff, draw up a list of required topics and areas of advanced training courses for the possibility of strengthening the

competencies of the leading teaching staff in specialized areas of thermal power engineering in accordance with the goals of the EP and the needs of stakeholders. The management of the School of Nuclear and Conventional Energy Technologies to consider and include a list of courses and internships in the plan for 2024 (at least 2 thematic areas).

Conclusions of the EEC according to the criteria:

According to the standard «Teaching staff» educational programs 8D05401 Mathematics, 8D07103 Thermal Power Engineering have 1 strong position, 7 satisfactory positions, 2nd position needs to be improved.

6.8. Standard «Educational resources and student support systems»

✓ *The university must guarantee the compliance of the infrastructure, educational resources, including material and technical, with the goals of the educational program.*

✓ *The management of the EP must demonstrate the sufficiency of classrooms, laboratories and other facilities equipped with modern equipment to ensure the achievement of the objectives of the EP.*

✓ *The university must demonstrate the compliance of information resources with the needs of the university and the ongoing EPs, including in the following areas: technological support for students and teaching staff in accordance with educational programs (for example, online learning, modeling, databases, data analysis programs); library resources, including a fund of educational, methodical and scientific literature on general education, basic and major disciplines on paper and electronic media, periodicals, access to scientific databases; examination of the results of research, final works, dissertations for plagiarism; access to educational Internet resources; functioning of WI-FI in its territory.*

✓ *The university must demonstrate that it creates conditions for conducting scientific research, integrating science and education, publishing the results of research work of teaching staff, staff and students.*

✓ *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 of the economy.*

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

✓ *The management of the EP should show the existence of conditions for the advancement of the student along an individual educational trajectory.*

✓ *The university must take into account the needs of different groups of students (adults, working, foreign students, as well as students with special educational needs).*

✓ *The university must ensure that the infrastructure meets the safety requirements.*

Evidence part

The university has a developed infrastructure base, which includes: the main educational and laboratory building, dormitories, a sports building with an open sports ground, and the «Prostor» summer expeditionary campus. The infrastructure of the university allows organizing educational, scientific, sports and entertainment events. The university notes the presence of a sufficient number of computer classes.

As the main specialized classroom fund for EP 8D05401 - Mathematics, 3 classrooms are allocated, which are equipped with office equipment, computer and projection equipment, the Matlab application package is installed on 10 computers. For EP 8D07103 - Thermal Power Engineering, the classrooms are equipped with office equipment, computer and projection equipment.

In the self-assessment report and during the visit of EEC experts, the university demonstrated the availability of specialized educational and laboratory complexes designed to achieve the goals of the EP, including: competence centers and technology transfer, the Veritas center of excellence, practice bases (NJSC «EKU named after S. Amanzholov» for EP 8D05401 - Mathematics, and Plasmascience LLP for EP 8D07103 - Thermal Power Engineering).

The information resources of the university meet the needs of the university and the implementation of the EP. Multimedia technologies and online learning programs are widely used in educational activities. The presence of own developments in the field of MOOCs is noted, information and educational materials are posted on social networks, on the main official website of the university, there is a developed mobile application for access to the main

information resources.

The main building houses the scientific library of NJSC «EKTU». An RFID system for paper carriers of our own design has been introduced for the convenience of issuing books to readers. The library has access to a wide range of domestic and foreign information resources, to full-text information bases.

The university creates conditions for conducting research and scientific-practical activities of teaching staff and students. The scientific activities of the teaching staff and students in the framework of initiative research projects, grant funding projects and commercial projects are regulated by a number of developed R&D. The publication activity of the teaching staff and students is supported and welcomed at the university. Publications are noted both in domestic publications and in foreign ones, including those indexed in the Scopus and Web of Science databases. The presence of own scientific and methodological materials available in the library fund is noted. Publications of teaching staff and students, as well as dissertations and qualification work, are subject to mandatory checks for the absence of plagiarism. Works are checked using subscriptions to specialized services «Antiplagiarism» and «Strike Plagiarism».

The maintenance and condition of the infrastructure of the university is provided by the Office for Infrastructure Development. The infrastructure of the university is maintained in proper condition that meets safety requirements.

The results of the survey conducted during the stay of EEC experts at the university showed: high and good satisfaction of students with the material and technical equipment of the university (percentage of fully satisfied in the categories: availability of educational materials - 78.5%, availability of library resources - 91%, dissatisfied 0.6 %, availability of computer classes - 74%, dissatisfied with 1.7%, availability and quality of Internet resources - 71.2%, dissatisfied with 1.7%, available scientific laboratories - 74.8%, dissatisfied with 1.1%). At the same time, in a free form of comments on the quality of teaching, students left several notes about the need to improve the material and technical equipment.

The survey among the teaching staff showed that most of those who took the survey were completely or partially satisfied with the level of material and technical support of the university (at the same time, only 3.5% noted frequent problems with the lack of technical equipment in the classrooms, and in a free form noted the problem of technical equipment twice, and once the problem of insufficient equipment with software products, a number of comments also note the existence of problems with the quality of the Internet connection in some classrooms). 3.5% of the surveyed teaching staff also consider the accessibility and sufficiency of providing scientific literature to the library as insufficient, while 56.1% consider this indicator to be very good. 38.6% of respondents noted that «sometimes» they faced the problem of unavailability of necessary literature in the library.

Analytical part

The university has a large territory and large areas of premises to provide diverse areas of activity for teaching staff, employees and students. Also, considerable attention is paid to the availability of infrastructure for extracurricular and creative activities. The university has established and operates at a good level the Veritas Center of Excellence, which employs 12 engineers as permanent staff. During the inspection of the main laboratories, it can be concluded that there is a high level of funding and development of areas related to materials science, construction, chemical analysis, engineering in the medical, metallurgical and machine-building sectors.

At the same time, the available material and technical equipment for the implementation of EP 8D07103 Thermal Power Engineering is represented by the scientific and educational and laboratory complexes of the SNCET, the center of competence and technology transfer in the field of energy, as well as the base of practice on the territory of Plasmascience LLP, where one can conclude that there is a predominance in the total number of equipment and educational and methodological stands of the electric power profile, and the main direction of scientific research

and, accordingly, the material and technical equipment of Plasmascience LLP, in the field of technical physics and materials science. It should be noted that there is not enough specialized heat and power equipment (there is an automated heat point, which is supposed to be integrated into the BIM system, which will allow studying the efficiency of management and automation of heat supply systems, as well as a meteorological station complex to assess the possibility of efficient use of renewable wind and solar energy on the basis of the expeditionary complex "Space").

As noted in the mission of the university, the scientific directions of its development, and confirmed in the self-assessment report and during interviews with all interested parties (including students and employers) - one of the key areas of doctoral work and research at the university is the mathematical modeling of various processes and objects, including various simulation and analytical models. The implementation of this kind of work implies at the present stage the use of specialized software and computing systems, including those for accredited EPs. Available licenses for software products cannot be considered specialized programs designed to solve problems of mathematics and heat power engineering. During the interview with students and teaching staff, EEC experts noted that teaching staff and students use a number of software systems, for example, Matlab Simulink, but for a free academic subscription. Also, students and employers in an interview pointed out the need for the university to purchase specialized software systems (for example, a representative of the RSE NNC RK noted the need for graduates to know the basic skills of software modeling of technological processes, including the ability to work with Ansys software products), and students noted the need to increase hours in disciplines devoted to mathematical modeling using modern software.

The university demonstrates the presence of a scientific library of a modern format, with a fairly good material and technical equipment and the introduction of its own developments in the process of using the printed book fund. However, there is a low supply of modern specialized literature on printed media in the field of subjects of accredited EPs. From the analysis of the available information about new arrivals to the library (https://www.ektu.kz/researchlibrary/newarrival.aspx) and from the data provided during the visit of EEC experts, it can be concluded that the book supply of accredited EPs is represented by a certain number of printed publications and publications from electronic databases available to the university by subscription, while printed publications from the list received in 2022 have publication years 1987–2021. Also, a search in the electronic catalog of the library showed that some of the basic textbooks on the profile of accredited EPs also have a publication year earlier than 2015.

The university demonstrates the required level of security for the entire infrastructure and attention to students of different categories, including those with special needs. At the same time, it is noted that during the visit of EEC experts in the main building of the university, the trajectories and ways of movement of students with special needs inside the premises and along the flights of stairs (pointers, markings) were not identified and not obvious.

Strengths / best practice in EP 8D05401 Mathematics and OP 8D07103 Thermal Power Engineering:

- According to this standard, EPs have no strengths.

Recommendations for EP 8D05401 Mathematics and 8D07103 Thermal Power Engineering:

- to the management of the EP until October 2023 prepare a list of required educational and laboratory equipment and components to ensure laboratory and practical work in major disciplines (including portable specialized devices and other specialized equipment);

- to the head of the EP together with the leading teaching staff until October 2023 develop, based on the results of the survey, an application for the purchase of software and computer systems (specialized software products) for implementation in the educational process

and for use in research and development;

- the management of the EP together with the leading teaching staff, with the support of the Department of Information Technology, to provide test access to all the requested software systems in the 2023-2024 academic year, as well as to place in the public domain information on the possibility of obtaining free access for students and researchers of universities of software products that have such free license options (subject to the profile of the EP).

Additional recommendations for EP 8D07103 Thermal Power Engineering:

- to the management of the EP until October 2023 work out an application for the development of scientific infrastructure based on the center of competence and technology transfer in the field of energy to create their own complexes for studying applied issues of thermal power engineering with the possibility of using the existing research potential of the university (for example: studying the thermophysical properties of materials for heat and power equipment, studying the thermal properties of fuels, research temperature regime of the metal of the boiler unit, etc.);

- the leadership of the university and the leadership of the SNCET should consider the prepared proposals by the end of the year and propose an implementation program for 2024. The target should be the introduction of at least 2 new teaching and laboratory and/or research stands into the educational process by the end of 2024, as well as the availability in SNCET at least 2 specialized portable devices with confirmation of their use in R&D, and/or the educational process, and/or commercial activities for projects of the heat and power profile;

- in 2024, the management of the university should provide at least test access to the specialized software systems for computer modeling Ansys and Comsol Multiphysics (or their individual modules used in the study of heat and power processes) and by the end of 2025, the availability of at least 2 specialized software systems in SNCET.

- to the management of the EP until October 2023 form an application for the purchase of specialized literature in all basic and major disciplines of the heat and power profile with the current year of issue (not earlier than 2018), including through the receipt of new literature in the state and foreign languages, and including them in syllabuses.

Conclusions of the EEC according to the criteria:

According to the standard «Educational Resources and Student Support Systems», the educational program 8D05401 - Mathematics has 10 satisfactory positions, 3 positions require improvement.

According to the standard «Educational resources and student support systems», the educational program 8D07103 - Thermal Power Engineering has 8 satisfactory positions, 5 positions require improvement.

6.9. Public Information Standard

✓ *The university guarantees that the published information is accurate, objective, up-to-date and reflects all areas of the university's activities within the framework of the educational program.*

✓ *Informing the public should include support and explanation of the national development programs of the country and the system of higher and postgraduate education.*

✓ *The management of the university should use a variety of ways to disseminate information (including the media, web resources, information networks, etc.) to inform the general public and interested parties.*

✓ *Information about the educational program is objective, up-to-date and should include:*

✓ *the purpose and planned results of the EP, the qualification to be awarded;*

✓ *information and evaluation system of educational achievements of students;*

✓ *information about academic mobility programs and other forms of cooperation with partner universities, employers;*

✓ *information about the opportunities for the development of personal and professional competencies of students and employment;*

✓ *data reflecting the positioning of the EP in the market of educational services (at the regional,*

national, international levels).

- ✓ *An important factor is the publication on open resources of reliable information about teaching staff, in the context of personalities.*
- ✓ *The university must publish audited financial statements for the EP on its own web resource.*
- ✓ *The university should post information and links to external resources based on the results of external evaluation procedures.*
- ✓ *An important factor is the placement of information about cooperation and interaction with partners, including scientific/consulting organizations, business partners, social partners and educational organizations.*

Evidence part

The university demonstrates the publication of the necessary information on accredited EPs on the official website, and also has information and news channels on social networks («Vkontakte», «YouTube», «Instagram», «Facebook», «Telegram»). The official website of the university and social networks are the main means of informing the public and all interested parties.

The structure of the official website of the university focuses on the possibility of searching for all the necessary information for all categories of interested persons. The quality management system according to the ISO 9001:2015 standard is indicated as the main document from among the IRD regulating the policy, content and procedure for generating information on the site (the appendix to the self-assessment report contains a confirming scanned copy of certificate No. AT-288887/0, issued on February 17 2023).

On the official website, in a separate category of the structure of each school and faculty, personal pages of the teaching staff are presented (EP 8D05401 - Mathematics on the page of the composition of the department «engineering mathematics» FBIP https://www.ektu.kz/departments/fbet/sub_departments/engineering_mathematics-/employer/employers.aspx, and EP 8D07103 - Thermal Power Engineering on the page of the SNCET composition https://www.ektu.kz/departments/sc_tradaltenergy/employer/employers.aspx). You can also view personal pages of teaching staff from the general page https://www.ektu.kz/pps.aspx.

The university publishes the newspaper «For Knowledge» with its own page on the official website and social networks (https://za-znanie.ektu.kz/?lang=ru).

The publication of news is carried out promptly, the news channels are the corresponding section on the first page on the official website, in the newspaper, in social network accounts. Interaction with various media is presented in a separate section of the site (https://www.ektu.kz/PressCenter/MassMedia.aspx?lang=ru) and is covered in parallel with the news of the university.

The university demonstrates the openness and transparency of management procedures and the formation of reporting documentation. Along with the main presentation materials, the main documents are published on the official website (charter, certificates and licenses - https://www.ektu.kz/abouttheuniversity/certificateslicenses.aspx), as well as annual reports on the activities of NJSC "EKTU" (https:// www.ektu.kz/presscenter/presentationmaterial/annual-reports.aspx). Reports on the financial audit of the university are available in the public domain (financial report for 2021 is available at https://www.ektu.kz/files/TerritoryIntegrity/Audited_annual_financial_statements_2021_year.pdf).

For students, the educational portal provides a wide range of important information: vacancies from employers, a register of practice bases, as well as a page for information on academic mobility. Information is also provided on the university's accreditations and ratings of various bases.

A survey of students conducted during the visit of EEC experts showed a high level of student satisfaction with the availability of information resources (89.3% are completely satisfied with the content and information content of the website, 85.3% are completely satisfied with information support and explanation for applicants, 1.1 are dissatisfied %).

Among the teaching staff, the survey also showed that there are no questions or problems with the sufficiency of information and the quality of the information provided.

Analytical part

The university has developed and maintains its own information and communication resources in good condition. The official website of the university is quite informative, has a developed structure and can act as the main source of information for all interested categories of users.

The information provided is accurate and up-to-date. There is some difficulty in orienting at the first acquaintance with the sections of the site, however, the educational portal developed for applicants, students and teaching staff has a convenient structure and quick access to the necessary information.

Informing the public and all interested parties, including key stakeholders, on accredited EPs is carried out with sufficient quality through social networks and publications in various media.

Based on the results of the survey, conversations of EEC experts with all categories of representatives of the university, we can conclude that the IT infrastructure is high and that the work to inform the public, students and teaching staff is operational.

At the same time, the "academic mobility" tab for employees and students of the university contains very brief information about the purpose and benefits of academic mobility. At the link https://www.do.ektu.kz/doektu/akademmobil/academ_mobil.aspx you can view the list of universities and research institutes, however, specific data informing interested parties about the conditions, requirements for candidates, terms and other information were not provided and found on the site.

Strengths/best practice in EP 8D05401 Mathematics and 8D07103 Thermal Power Engineering:

- a high level of use of various information and media channels along with our own developed educational portal.

- openness and maximum availability of reporting information on the activities of the university, including the presentation of the main positions of the university in the national and international educational markets (ratings and accreditations).

Recommendations for OP 8D05401 Mathematics and 8D07103 Thermal Power Engineering:

- University management until the end of August 2023 supplement the structure of the page of the educational portal "academic mobility" (https://www.do.ektu.kz/doektu/akademmobil.aspx?lang=ru) with the information:

- a direct link to the page of the department for international cooperation with a feedback block and links to social networks;

- a tab with additional information on academic mobility, including up-to-date information on the conditions, terms and competitive selection for mobility programs.

Conclusions of the EEC according to the criteria:

According to the standard «Informing the public», the educational program 8D05401 - Mathematics has 2 strong positions, 10 satisfactory positions.

According to the standard «Informing the public», the educational program 8D07103 – Thermal Power Engineering has 2 strong positions, 9 satisfactory positions, 1 position needs to be improved.

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

Strengths / best practice in OP 8D05401 - Mathematics, 8D07103 - Thermal Power Engineering:

Standard «Management of the educational program»

- the presence of a large list of certificates confirming the advanced training of teaching staff in the field of quality management, while passing courses are noted both in domestic and foreign centers and universities.

Information Management and Reporting Standard

- According to this standard, EPs have no strengths.

Standard «Development and approval of the educational program»

- According to this standard, EPs have no strengths.

Standard «Continuous monitoring and periodic evaluation of educational programs»

- According to this standard, EPs have no strengths.

Student-Centered Learning, Teaching and Assessment Standard

- According to this standard, EPs have no strengths.

Standard «Students»

- the university demonstrates a well-structured own procedural policy that provides a transparent and convenient environment for applicants and students to inform about all processes throughout the entire life cycle from admission to completion;

- the university demonstrates significant efforts in ensuring a comfortable stay of foreign students at the university. Convenient information systems have been developed and are functioning (the site is available in several foreign languages - English, Chinese); the Foundation program operates, which allows preparing foreign students for entering the university, including academic and language training.

Standard «Teaching Staff»

- the presence of own developments in the creation of an electronic educational platform, the functioning of which is maintained at a high technical level. The system is capable of integrating all the key elements of the university's activities, including the tools for teaching, informing, and assessing students.

Standard «Educational resources and student support systems»

- According to this standard, EPs have no strengths.

Public Information Standard

- a high level of use of various information and media channels along with our own developed educational portal.

- openness and maximum availability of reporting information on the activities of the university, including the presentation of the main positions of the university in the national and international educational markets (ratings and accreditations).

(VIII) OVERVIEW OF RECOMMENDATIONS FOR IMPROVING QUALITY FOR EACH STANDARD

Recommendations for EP 8D05401 - Mathematics, 8D07103 - Thermal Power Engineering:

Standard «Management of the educational program»

- develop a plan for the introduction into the educational process of the targeted use in the educational process of textbooks and teaching aids published by the teaching staff based on the results of research, including scientific developments, in syllabuses for the taught disciplines (term: constantly);
- develop a procedure for analyzing the identified possible risks with the identification of specific measures to prevent or minimize each of them (Deadline: 01.09.2023).

Information Management and Reporting Standard

- the management of the university, by the end of 2023, to develop and implement «attention markers»- additionally emphasize visually the consent procedure in the processing of personal data, prepare additional informational links that ensure the transparency of the process;
- the management of the university, by the end of 2023, to develop mechanisms and on an ongoing basis to introduce the practice of stimulating and attractiveness of the process of obtaining feedback from students and teaching staff to assess the level of satisfaction with the main processes in the activities of the university.

Standard «Development and approval of the educational program»

- in order to develop joint EPs and double-degree EPs, as well as to increase the uniqueness of the EP, the EP management, by the end of 2023, together with national and foreign partners in the profile, discuss the possibilities of creating a new learning trajectory and/or developing internship programs, advanced training courses.

Additional recommendations for EP 8D07103 – Thermal Power Engineering

- To the management of the EP by the end of 2023. to identify the necessary directions for changing the content of the disciplines and replacing / updating the list of disciplines of the DB and PD categories, with the inclusion of disciplines of sections of mathematical modeling, review and calculation-methodical nature on the topics of innovative technologies, taking into account the specifics of the discipline based on the results of a questionnaire and a survey of all interested persons;
- The management of the EP during the calendar year (until April 2024) to organize work to study the possibility of developing an integrated scientific direction "modern issues of materials science in ensuring the reliability of the heat and power sector / innovative areas of materials science in the heat power industry/breakthrough materials science technologies for heat power facilities" based on its own infrastructure and taking into account the capabilities of key stakeholders (having production sites and/or laboratories) to separate this area into a separate trajectory and position it as an indicator of the uniqueness of the EP.
- To the Technology Commercialization Office, the leadership of the School of Nuclear and Conventional Energy Technologies and the EP until the end of 2023. analyze and prepare a list of relevant areas of professional certification in the field of thermal power engineering and/or related fields based on the existing infrastructure of the university,
- By the end of 2023, the leadership of the School of Nuclear and Conventional Energy Technologies should organize a discussion of the intensive development of the scientific direction "energy audit and energy inspections of industrial sector facilities" and prepare a program plan for the university to enter the register of legal entities operating in this area.

Standard «Continuous monitoring and periodic evaluation of educational programs»

- before the start of the 2023-2024 academic year, include in the content of the EP and syllabuses of basic and major disciplines information about the latest achievements of science in the relevant areas and/or rework the thematic content of the disciplines, taking into account the possibility of updating the content on relevant topics;

- to be implemented by the end of 2023 and annually subsequently monitor the labor market, the internal and external environment, the requests of the teaching staff and students in order to take into account its results when developing and updating the content and structure of the EP;

- by the end of 2023 to revise the principles of reporting on the results of monitoring and evaluation of the EP in terms of assessing the needs and degree of satisfaction of students with the addition of additional items for the possibility of stimulating students, for expressing wishes, issues and ideas, as well as concretizing feedback on this basis and forming more point correlating actions.

Additional recommendations for OP 8D07103 Thermal Power Engineering

- the leadership of the SNCET, by the end of 2023, to reconsider the proposed application for the modernization of equipment in accordance with letter No. 03-02-532 dated 04/27/2021. and include in the agenda for consideration at a meeting of the Academic Council of the university.

Student-Centered Learning, Teaching and Assessment Standard

- in order to increase the level of readiness of students for professional activities by the end of 2023 it is necessary to strengthen the practical orientation of the study of disciplines and consider the possibility of entering professional certification;

- to develop their own methodological base for the head of the EP together with the leading teaching staff until the end of 2023 to form a schedule for 2024 for the release of their own teaching aids and instructions for settlement work to update and replenish the fund of methodological literature for the next year. By the end of 2024, ensure the release of at least 10 methodological publications in the specialized areas of the EP and/or educational guidelines, recommendations for the implementation of practical and laboratory work (including on the basis of the existing and/or newly acquired material and technical base), and educational - guidelines for the implementation of scientific research and calculations in key scientific areas of the EP using existing and / or newly acquired specialized software products;

- develop until 01.09.2024 a decision-making algorithm based on the results of a survey of students, as well as informing them about ongoing activities.

Standard «Students»

- the Department for International Cooperation, the heads of the SNCET and FBIP, together with the heads of the EP, by the end of 2023, develop a program for the development of academic mobility, incl. virtual, providing for the implementation in 2024 of at least 1 (one) program of internal and/or external academic mobility for accredited EPs, using the results of a student survey.

Standard «Teaching Staff»

- the leadership of the university during 2024 to expand and approve the academic mobility plan, providing for the invitation of at least 2 invited scientists, incl. one foreign, at least 2 visits of teaching staff to partner universities of Kazakhstan, and/or internship programs in foreign universities.

Additional recommendations for OP 8D07103 Thermal power engineering

- the leadership of the School of Nuclear and Conventional Energy Technologies to

prepare a schedule for 2024 to attract external experts - specialists in the field of thermal power engineering, including from among the teachers of partner universities, scientists from research institutes, specialists from manufacturing enterprises to conduct seminars, guest lectures, master-classes on topical problems of operation of thermal power equipment and topical approaches to solving such problems in practice;

- the management of the EP, together with the leading teaching staff, draw up a list of required topics and areas of advanced training courses for the possibility of strengthening the competencies of the leading teaching staff in specialized areas of thermal power engineering in accordance with the goals of the EP and the needs of stakeholders. The management of the School of Nuclear and Conventional Energy Technologies to consider and include a list of courses and internships in the plan for 2024 (at least 2 thematic areas).

Standard «Educational resources and student support systems»

- to the management of the EP until October 2023 prepare a list of required educational and laboratory equipment and components to ensure laboratory and practical work in major disciplines (including portable specialized devices and other specialized equipment);

- to the head of the EP together with the leading teaching staff until October 2023 develop, based on the results of the survey, an application for the purchase of software and computer systems (specialized software products) for implementation in the educational process and for use in research and development;

- the management of the EP together with the leading teaching staff, with the support of the Department of Information Technology, to provide test access to all the requested software systems in the 2023-2024 academic year, as well as to place in the public domain information on the possibility of obtaining free access for students and researchers of universities of software products that have such free license options (subject to the profile of the EP).

Additional recommendations for EP 8D07103 Thermal power engineering

- to the management of the EP until October 2023. work out an application for the development of scientific infrastructure based on the center of competence and technology transfer in the field of energy to create their own complexes for studying applied issues of thermal power engineering with the possibility of using the existing research potential of the university (for example: studying the thermophysical properties of materials for heat and power equipment, studying the thermal properties of fuels, research temperature regime of the metal of the boiler unit, etc.);

- the leadership of the university and the leadership of the SNCET should consider the prepared proposals by the end of the year and propose an implementation program for 2024. The target should be the introduction of at least 2 new teaching and laboratory and/or research stands into the educational process by the end of 2024, as well as the availability in SNCET at least 2 specialized portable devices with confirmation of their use in R&D, and/or the educational process, and/or commercial activities for projects of the heat and power profile;

- in 2024, the management of the university should provide at least test access to the specialized software systems for computer modeling Ansys and Comsol Multiphysics (or their individual modules used in the study of heat and power processes) and by the end of 2025, the availability of at least 2 specialized software systems in SNCET.

- to the management of the EP, by October 2023, to form an application for the purchase of specialized literature in all basic and major disciplines of the heat and power profile with the current year of issue (not earlier than 2018), including through the receipt of new literature in the state and foreign languages, and the inclusion them into syllabuses.

«Public Information» Standard

- the leadership of the university until the end of August 2023. supplement the structure of the page of the educational portal "academic mobility" (https://www.do.ektu.kz/doektu/akademmobil.aspx?lang=ru) with the information:

- a direct link to the page of the department for international cooperation with a feedback block and links to social networks;

- a tab with additional information on academic mobility, including up-to-date information on the conditions, terms and competitive selection for mobility programs.

(IX) REVIEW OF RECOMMENDATIONS FOR THE DEVELOPMENT OF EDUCATIONAL ORGANIZATION

During the visit, the members of the external expert commission did not form recommendations for the development of the organization of education that go beyond the limits of ompliance with the IAAR standards.

(X) RECOMMENDATION TO THE ACCREDITATION BOARD

The external expert commission made a unanimous decision to recommend to the Accreditation Council of the IAAR the educational program 8D05401 - Mathematics of the non-profit joint stock company "East Kazakhstan Technical University named after D. Serikbayev" to be accredited for a period of 5 (five) years, and the educational program 8D07103 - Thermal power engineering to be accredited for a period of 3 (three) of the year.

Annex 1. EVALUATION TABLE "Conclusion of the external expert commission"

for EP 8D05401 - Mathematics

p/n	p/n	Criteria for evaluation	Position of the educational organization			
			Strong	Satisfactory	Assumes improvement	Unsatisfactory
Standard «Management of the educational program»						
1	1.	The university must demonstrate the development of the goal and development strategy of the EP based on the analysis of external and internal factors with the wide involvement of various stakeholders		+		
2	2.	The quality assurance policy should reflect the relationship between research, teaching and learning		+		
3	3.	The university demonstrates the development of a culture of quality assurance		+		
4	4.	Commitment to quality assurance should apply to any activity performed by contractors and partners (outsourcing), including the implementation of joint/double-degree education and academic mobility		+		
5	5.	The management of the EP ensures the transparency of the development plan for the development of the EP based on an analysis of its functioning, the real positioning of the university and the focus of its activities on meeting the needs of students, the state, employers and other stakeholders		+		
6	6.	The EP management demonstrates the functioning of the mechanisms for the formation and regular revision of the EP development plan and monitoring its implementation, assessing the achievement of learning goals, meeting the needs of students, employers and society, making decisions aimed at continuous improvement of the EP		+		
7	7.	The EP management should involve representatives of stakeholder groups, including employers, students and teaching staff in the formation of the EP development plan		+		
8	8.	The EP management must demonstrate the individuality and uniqueness of the EP development plan, its consistency with national development priorities and the development strategy of the educational organization		+		
9	9.	The university must demonstrate a clear definition of those responsible for business processes within the framework of the EP, the distribution of staff duties, and the delimitation of the functions of collegial bodies		+		
10	10.	The management of the EP ensures the coordination of the activities of all persons involved in the development and management of the EP, and its continuous implementation, and also involves all interested parties in this process		+		
11	11.	The EP management must ensure the transparency of the management system, the functioning of the internal quality assurance system,		+		

		including its design, management and monitoring, and the adoption of appropriate decisions				
12	12.	The management of the EP should carry out risk management			+	
13	13.	The management of the EP should ensure the participation of representatives of interested parties (employers, teaching staff, students) in the collegiate management bodies of the educational program, as well as their representativeness in making decisions on the management of the educational program		+		
14	14.	The university must demonstrate innovation management within the EP, including the analysis and implementation of innovative proposals		+		
15	15.	The management of the EP must demonstrate its openness and accessibility for students, teaching staff, employers and other interested parties		+		
16	16.	The management of the EP confirms the completion of training in education management programs	+			
17	17.	The management of the EP should strive to ensure that the progress made since the last external quality assurance procedure is taken into account when preparing for the next procedure		+		
		Total by standard	**1**	**15**	**1**	
		«Information Management and Reporting» Standard				
18	1.	The university must ensure the functioning of the system for collecting, analyzing and managing information based on modern information and communication technologies and software		+		
19	2.	The EP guidance demonstrates the systematic use of processed, adequate information to improve the internal quality assurance system		+		
20	3.	The EP management demonstrates the presence of a reporting system that reflects the activities of all structural units and departments within the EP, including an assessment of their performance		+		
21	4.	The university must determine the frequency, forms and methods for assessing the management of the EP, the activities of collegial bodies and structural divisions, top management		+		
22	5.	The university must demonstrate a mechanism for ensuring the protection of information, including determining the persons responsible for the reliability and timeliness of the analysis of information and the provision of data		+		
23	6.	The university demonstrates the involvement of students, employees and teaching staff in the processes of collecting and analyzing information, as well as making decisions based on them		+		
24	7.	The EP management must demonstrate the existence of communication mechanisms with students, employees and other stakeholders, including conflict resolution		+		
25	8.	The university must ensure the measurement of the degree of satisfaction with the needs of students, teaching staff and staff within the framework of the EP and demonstrate evidence of the elimination of identified shortcomings		+		
26	9.	The university should evaluate the effectiveness and efficiency of activities in the context of the EP		+		
The information collected and analyzed by the university within the framework of the EP should take into account:						
27	10.	key performance indicators		+		
28	11.	the dynamics of the contingent of students in the context of forms and types		+		
29	12.	academic performance, student achievement and dropout		+		
30	13.	satisfaction of students with the implementation of the EP and the quality of education at the university		+		
31	14.	availability of educational resources and support systems for students		+		
32	15.	employment and career growth of graduates		+		

33	16.	Students, teaching staff and staff must document their consent to the processing of personal data		+		
34	17.	The management of the EP should contribute to the provision of the necessary information in the relevant fields of science		+		
		Total by standard		**17**		
		Standard «Development and approval of the educational program»				
35	1.	The university must demonstrate the existence of a documented procedure for the development of the EP and its approval at the institutional level		+		
36	2.	The university must demonstrate the compliance of the developed EP with the established goals and planned learning outcomes		+		
37	3.	The EP management should determine the influence of disciplines and professional practices on the formation of learning outcomes		+		
38	4.	The university demonstrates the presence of a model of a graduate of the EP, which describes the learning outcomes and personal qualities		+		
39	5.	The qualification awarded upon completion of the EP must be clearly defined, explained and correspond to a certain level of NQF, QF-EHEA		+		
40	6.	The management of the EP must demonstrate the modular structure of the program based on ECTS, ensure that the structure of the content of the EP corresponds to the goals set, with a focus on achieving the planned learning outcomes for each graduate		+		
41	7.	The management of the EP should ensure that the content of academic disciplines and learning outcomes correspond to each other and the level of education (bachelor's, master's, doctoral studies)		+		
42	8.	The management of the EP must demonstrate the conduct of external reviews of the EP		+		
43	9.	The management of the EP must provide evidence of the participation of students, teaching staff and other stakeholders in the development and quality assurance of the EP		+		
44	10.	The EP management must demonstrate the uniqueness of the educational program, its positioning in the educational market (regional / national / international)			+	
45	11.	An important factor is the possibility of preparing students for professional certification			+	
46	12.	An important factor is the presence of a joint (s) and / or two-degree EP with foreign universities			+	
		Total by standard		**9**	**3**	
		Standard «Continuous monitoring and periodic evaluation of the educational program»				
47	1.	The university must ensure the revision of the structure and content of the EP, taking into account changes in the labor market, the requirements of employers and the social demand of society		+		
48	2.	The university must demonstrate the existence of a documented procedure for monitoring and periodic evaluation in order to achieve the goal of the EP and continuously improve the EP		+		
		Monitoring and periodic evaluation of the EP should consider:				
49	3.	the content of the program in the context of the latest achievements of science and technology in a particular discipline			+	
50	4.	changing needs of society and the professional environment		+		
51	5.	workload, performance and graduation of students		+		
52	6.	effectiveness of student assessment procedures		+		
53	7.	needs and satisfaction of students		+		
54	8.	compliance of the educational environment and the activities of support services with the goals of the EP		+		

55	9.	The management of the EP should publish information about changes to the EP, inform interested parties about any planned or undertaken actions within the EP		+		
56	10.	Support services should identify the needs of various groups of students and the degree of their satisfaction with the organization of training, teaching, assessment, mastering the EP in general		+		
		Total by standard		**9**	**1**	
«Student-Centered Learning, Teaching and Assessment» Standard						
57	1.	The management of the EP should ensure respect and attention to the various groups of students and their needs, providing them with flexible learning paths		+		
58	2.	The management of the EP should ensure teaching on the basis of modern achievements of world science and practice in the field of training, the use of various modern methods of teaching and evaluating learning outcomes that ensure the achievement of the objectives of the EP, including competencies, skills to perform scientific work at the required level		+		
59	3.	The management of the EP should determine the mechanisms for distributing the teaching load of students between theory and practice within the framework of the EP, ensuring the development of the content and achievement of the objectives of the EP by each graduate		+		
60	4.	An important factor is the presence of own research in the field of teaching methods of EP disciplines			+	
61	5.	The university must ensure that the procedures for evaluating learning outcomes correspond to the planned results and goals of the EP		+		
62	6.	The university must ensure the consistency, transparency and objectivity of the mechanism for assessing the learning outcomes of the EP, the publication of criteria and methods for assessing learning outcomes in advance		+		
63	7.	Assessors must be familiar with modern methods for assessing learning outcomes and regularly improve their skills in this area.		+		
64	8.	The management of the EP must demonstrate the existence of a feedback system on the use of various teaching methods and the assessment of learning outcomes		+		
65	9.	The management of the EP must demonstrate support for the autonomy of learners while providing guidance and assistance from the teacher.		+		
66	10.	The management of the EP must demonstrate the existence of a procedure for responding to complaints from students		+		
		Total by standard		**9**	**1**	
Standard «Students»						
67	1.	The university must demonstrate the policy of forming a contingent of students and ensure transparency, publicity of the procedures governing the life cycle of students (from admission to completion)	+			
68	2.	The management of the EP should provide for special adaptation and support programs for newly enrolled and foreign students	+			
69	3.	The university must demonstrate the compliance of its actions with the Lisbon Recognition Convention, including the existence and application of a mechanism for recognizing the results of academic mobility of students, as well as the results of additional, formal and non-formal education		+		
70	4.	The university should provide an opportunity for external and internal academic mobility of students, as well as assist them in obtaining external grants for study			+	
71	5.	The university should encourage students to self-education and development outside the main program (extracurricular activities)		+		
72	6.	An important factor is the existence of a mechanism to support gifted students.		+		

73	7.	The university must demonstrate cooperation 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		+		
74	8.	The university must provide students with internship places, demonstrate the procedure for facilitating the employment of graduates, maintaining contact with them		+		
75	9.	The university must demonstrate the procedure for issuing documents to graduates confirming the qualifications received, including the achieved learning outcomes		+		
76	10.	The management of the EP must demonstrate that program graduates have skills that are in demand in the labor market and that these skills are really relevant		+		
77	11.	The management of the EP must demonstrate the existence of a mechanism for monitoring the employment and professional activities of graduates		+		
78	12.	An important factor is the existence of an active alumni association / association		+		
		Total by standard	**2**	**9**	**1**	
Standard «Teaching Staff»						
79	1.	The university must have an objective and transparent personnel policy in the context of the EP, including recruitment (including invited teaching staff), professional growth and development of staff, ensuring the professional competence of the entire staff		+		
80	2.	The university must demonstrate the compliance of the qualitative composition of the teaching staff with the established qualification requirements, the strategy of the university, and the goals of the EP		+		
81	3.	The management of the EP should demonstrate the change in the role of the teacher in connection with the transition to student-centered learning and teaching		+		
82	4.	The university should provide opportunities for career growth and professional development of teaching staff, including young teachers		+		
83	5.	The university should involve in the teaching of specialists from relevant industries with professional competencies that meet the requirements of the EP			+	
84	6.	The university must demonstrate the presence of a motivation mechanism for the professional and personal development of teaching staff		+		
85	7.	The university must demonstrate the widespread use of information and communication technologies and software in the educational process by the teaching staff (for example, on-line training, e-portfolio, MEPs, etc.)	+			
86	8.	The university must demonstrate the focus on the development of academic mobility, attracting the best foreign and domestic teachers			+	
87	9.	The university must demonstrate the involvement of each teacher in promoting a culture of quality and academic integrity at the university, determine the contribution of teaching staff, including those invited, to achieving the goals of the EP		+		
88	10.	An important factor is the involvement of teaching staff in the development of the economy, education, science and culture of the region and the country		+		
		Total by standard	**1**	**7**	**2**	
Standard «Educational resources and student support systems»						
89	1.	The university must guarantee the compliance of the infrastructure, educational resources, including material and technical, with the goals of the educational program		+		

90	2.	The management of the EP must demonstrate the sufficiency of classrooms, laboratories and other facilities equipped with modern equipment to ensure the achievement of the objectives of the EP			+	
The university must demonstrate the compliance of information resources with the needs of the university and the EPs being implemented, including in the following areas:						
91	3.	technological support for students and teaching staff in accordance with educational programs (for example, online learning, modeling, databases, data analysis programs)		+		
92	4.	library resources, including a fund of educational, methodical and scientific literature on general education, basic and major disciplines on paper and electronic media, periodicals, access to scientific databases		+		
93	5.	examination of the results of research, final works, dissertations for plagiarism		+		
94	6.	access to educational Internet resources		+		
95	7.	functioning of WI-FI in its territory		+		
96	8.	The university must demonstrate that it creates conditions for conducting scientific research, integrating science and education, publishing the results of research work of teaching staff, staff and students		+		
97	9.	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 of the economy			+	
98	10.	The management of the EP must demonstrate the existence of procedures for supporting various groups of students, including information and counseling		+		
99	11.	The management of the EP should show the existence of conditions for the advancement of the student along an individual educational trajectory		+		
100	12.	The university must take into account the needs of different groups of students (adults, working, foreign students, as well as students with special educational needs)			+	
101	13	The university must ensure that the infrastructure meets the safety requirements		+		
		Total by standard		**10**	**3**	
«Public Information» Standard						
102	1.	The university guarantees that the published information is accurate, objective, up-to-date and reflects all areas of the university's activities within the framework of the educational program		+		
103	2.	Informing the public should include support and explanation of the national development programs of the country and the system of higher and postgraduate education		+		
104	3.	The university management should use a variety of ways to disseminate information (including the media, web resources, information networks, etc.) to inform the general public and interested parties	+			
Information about the educational program is objective, up-to-date and should include:						
105	4.	the purpose and planned results of the EP, the qualification to be awarded		+		
106	5.	information and the system for assessing the educational achievements of students		+		
107	6.	information about academic mobility programs and other forms of cooperation with partner universities, employers		+		
108	7.	information about the opportunities for the development of personal and professional competencies of students and employment		+		
109	8.	data reflecting the positioning of the EP in the market of educational services (at the regional, national, international levels)		+		
110	9.	An important factor is the publication on open resources of reliable information about teaching staff, in the context of personalities		+		

111	10.	The university must publish audited financial statements for the EP on its own web resource		+		
112	11.	The university must post information and links to external resources based on the results of external evaluation procedures	+			
113	12.	An important factor is the placement of information about cooperation and interaction with partners, including scientific / consulting organizations, business partners, social partners and educational organizations		+		
Total by standard			**2**	**10**		
TOTAL			**6**	**95**	**12**	

for EP 8D07103 - Thermal power engineering

p/n	**p/n**	**Criteria for evaluation**	**Position of the educational organization**			
			Strong	**Satisfactory**	**Assumes improvement**	**Unsatisfactory**
Standard «Management of the educational program»						
1	18.	The university must demonstrate the development of the goal and development strategy of the EP based on the analysis of external and internal factors with the wide involvement of various stakeholders		+		
2	19.	The quality assurance policy should reflect the relationship between research, teaching and learning		+		
3	20.	The university demonstrates the development of a culture of quality assurance		+		
4	21.	Commitment to quality assurance should apply to any activity performed by contractors and partners (outsourcing), including the implementation of joint/double-degree education and academic mobility		+		
5	22.	The management of the EP ensures the transparency of the development plan for the development of the EP based on an analysis of its functioning, the real positioning of the university and the focus of its activities on meeting the needs of students, the state, employers and other stakeholders		+		
6	23.	The EP management demonstrates the functioning of the mechanisms for the formation and regular revision of the EP development plan and monitoring its implementation, assessing the achievement of learning goals, meeting the needs of students, employers and society, making decisions aimed at continuous improvement of the EP		+		
7	24.	The EP management should involve representatives of stakeholder groups, including employers, students and teaching staff in the formation of the EP development plan		+		
8	25.	The EP management must demonstrate the individuality and uniqueness of the EP development plan, its consistency with national development priorities and the development strategy of the educational organization		+		
9	26.	The university must demonstrate a clear definition of those responsible for business processes within the framework of the EP, the distribution of staff duties, and the delimitation of the functions of collegial bodies		+		
10	27.	The management of the EP ensures the coordination of the activities of all persons involved in the development and management of the EP, and its continuous implementation, and also involves all interested		+		

		parties in this process				
11	28.	The EP management must ensure the transparency of the management system, the functioning of the internal quality assurance system, including its design, management and monitoring, and the adoption of appropriate decisions		+		
12	29.	The management of the EP should carry out risk management			+	
13	30.	The management of the EP should ensure the participation of representatives of interested parties (employers, teaching staff, students) in the collegiate management bodies of the educational program, as well as their representativeness in making decisions on the management of the educational program		+		
14	31.	The university must demonstrate innovation management within the EP, including the analysis and implementation of innovative proposals		+		
15	32.	The management of the EP must demonstrate its openness and accessibility for students, teaching staff, employers and other interested parties		+		
16	33.	The management of the EP confirms the completion of training in education management programs	+			
17	34.	The management of the EP should strive to ensure that the progress made since the last external quality assurance procedure is taken into account when preparing for the next procedure		+		
		Total by standard	**1**	**15**	**1**	
		«Information Management and Reporting» Standard				
18	10.	The university must ensure the functioning of the system for collecting, analyzing and managing information based on modern information and communication technologies and software		+		
19	11.	The EP guidance demonstrates the systematic use of processed, adequate information to improve the internal quality assurance system		+		
20	12.	The EP management demonstrates the presence of a reporting system that reflects the activities of all structural units and departments within the EP, including an assessment of their performance		+		
21	13.	The university must determine the frequency, forms and methods for assessing the management of the EP, the activities of collegial bodies and structural divisions, top management		+		
22	14.	The university must demonstrate a mechanism for ensuring the protection of information, including determining the persons responsible for the reliability and timeliness of the analysis of information and the provision of data		+		
23	15.	The university demonstrates the involvement of students, employees and teaching staff in the processes of collecting and analyzing information, as well as making decisions based on them		+		
24	16.	The EP management must demonstrate the existence of communication mechanisms with students, employees and other stakeholders, including conflict resolution		+		
25	17.	The university must ensure the measurement of the degree of satisfaction with the needs of students, teaching staff and staff within the framework of the EP and demonstrate evidence of the elimination of identified shortcomings		+		
26	18.	The university should evaluate the effectiveness and efficiency of activities in the context of the EP		+		
The information collected and analyzed by the university within the framework of the EP should take into account:						
27	10.	key performance indicators		+		
28	11.	the dynamics of the contingent of students in the context of forms and types		+		
29	12.	academic performance, student achievement and dropout		+		
30	13.	satisfaction of students with the implementation of the EP and the quality of education at the university		+		

31	14.	availability of educational resources and support systems for students		+		
32	15.	employment and career growth of graduates		+		
33	16.	Students, teaching staff and staff must document their consent to the processing of personal data		+		
34	17.	The management of the EP should contribute to the provision of the necessary information in the relevant fields of science		+		
		Total by standard		**17**		
Standard «Development and approval of the educational program»						
35	13.	The university must demonstrate the existence of a documented procedure for the development of the EP and its approval at the institutional level		+		
36	14.	The university must demonstrate the compliance of the developed EP with the established goals and planned learning outcomes		+		
37	15.	The EP management should determine the influence of disciplines and professional practices on the formation of learning outcomes		+		
38	16.	The university demonstrates the presence of a model of a graduate of the EP, which describes the learning outcomes and personal qualities		+		
39	17.	The qualification awarded upon completion of the EP must be clearly defined, explained and correspond to a certain level of NQF, QF-EHEA		+		
40	18.	The management of the EP must demonstrate the modular structure of the program based on ECTS, ensure that the structure of the content of the EP corresponds to the goals set, with a focus on achieving the planned learning outcomes for each graduate		+		
41	19.	The management of the EP should ensure that the content of academic disciplines and learning outcomes correspond to each other and the level of education (bachelor's, master's, doctoral studies)			+	
42	20.	The management of the EP must demonstrate the conduct of external reviews of the EP		+		
43	21.	The management of the EP must provide evidence of the participation of students, teaching staff and other stakeholders in the development and quality assurance of the EP		+		
44	22.	The EP management must demonstrate the uniqueness of the educational program, its positioning in the educational market (regional / national / international)			+	
45	23.	An important factor is the possibility of preparing students for professional certification			+	
46	24.	An important factor is the presence of a joint (s) and / or two-degree EP with foreign universities			+	
		Total by standard		**8**	**4**	
Standard «Continuous monitoring and periodic evaluation of the educational program»						
47	11.	The university must ensure the revision of the structure and content of the EP, taking into account changes in the labor market, the requirements of employers and the social demand of society		+		
48	12.	The university must demonstrate the existence of a documented procedure for monitoring and periodic evaluation in order to achieve the goal of the EP and continuously improve the EP		+		
Monitoring and periodic evaluation of the EP should consider:						
49	13.	the content of the program in the context of the latest achievements of science and technology in a particular discipline			+	
50	14.	changing needs of society and the professional environment		+		
51	15.	workload, performance and graduation of students		+		
52	16.	effectiveness of student assessment procedures		+		
53	17.	needs and satisfaction of students			+	

54	18.	compliance of the educational environment and the activities of support services with the goals of the EP		+		
55	19.	The management of the EP should publish information about changes to the EP, inform interested parties about any planned or undertaken actions within the EP		+		
56	20.	Support services should identify the needs of various groups of students and the degree of their satisfaction with the organization of training, teaching, assessment, mastering the EP in general		+		
		Total by standard		**8**	**2**	
«Student-Centered Learning, Teaching and Assessment» Standard						
57	11.	The management of the EP should ensure respect and attention to the various groups of students and their needs, providing them with flexible learning paths		+		
58	12.	The management of the EP should ensure teaching on the basis of modern achievements of world science and practice in the field of training, the use of various modern methods of teaching and evaluating learning outcomes that ensure the achievement of the objectives of the EP, including competencies, skills to perform scientific work at the required level		+		
59	13.	The management of the EP should determine the mechanisms for distributing the teaching load of students between theory and practice within the framework of the EP, ensuring the development of the content and achievement of the objectives of the EP by each graduate		+		
60	14.	An important factor is the presence of own research in the field of teaching methods of EP disciplines			+	
61	15.	The university must ensure that the procedures for evaluating learning outcomes correspond to the planned results and goals of the EP		+		
62	16.	The university must ensure the consistency, transparency and objectivity of the mechanism for assessing the learning outcomes of the EP, the publication of criteria and methods for assessing learning outcomes in advance		+		
63	17.	Assessors must be familiar with modern methods for assessing learning outcomes and regularly improve their skills in this area.		+		
64	18.	The management of the EP must demonstrate the existence of a feedback system on the use of various teaching methods and the assessment of learning outcomes		+		
65	19.	The management of the EP must demonstrate support for the autonomy of learners while providing guidance and assistance from the teacher.		+		
66	20.	The management of the EP must demonstrate the existence of a procedure for responding to complaints from students		+		
		Total by standard		**9**	**1**	
Standard «Students»						
67	13.	The university must demonstrate the policy of forming a contingent of students and ensure transparency, publicity of the procedures governing the life cycle of students (from admission to completion)	+			
68	14.	The management of the EP should provide for special adaptation and support programs for newly enrolled and foreign students	+			
69	15.	The university must demonstrate the compliance of its actions with the Lisbon Recognition Convention, including the existence and application of a mechanism for recognizing the results of academic mobility of students, as well as the results of additional, formal and non-formal education		+		
70	16.	The university should provide an opportunity for external and internal academic mobility of students, as well as assist them in obtaining external grants for study			+	
71	17.	The university should encourage students to self-education and development outside the main program (extracurricular activities)		+		

72	18.	An important factor is the existence of a mechanism to support gifted students.		+		
73	19.	The university must demonstrate cooperation 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		+		
74	20.	The university must provide students with internship places, demonstrate the procedure for facilitating the employment of graduates, maintaining contact with them		+		
75	21.	The university must demonstrate the procedure for issuing documents to graduates confirming the qualifications received, including the achieved learning outcomes		+		
76	22.	The management of the EP must demonstrate that program graduates have skills that are in demand in the labor market and that these skills are really relevant		+		
77	23.	The management of the EP must demonstrate the existence of a mechanism for monitoring the employment and professional activities of graduates		+		
78	24.	An important factor is the existence of an active alumni association / association		+		
		Total by standard	**2**	**9**	**1**	
Standard «Teaching Staff»						
79	11.	The university must have an objective and transparent personnel policy in the context of the EP, including recruitment (including invited teaching staff), professional growth and development of staff, ensuring the professional competence of the entire staff		+		
80	12.	The university must demonstrate the compliance of the qualitative composition of the teaching staff with the established qualification requirements, the strategy of the university, and the goals of the EP		+		
81	13.	The management of the EP should demonstrate the change in the role of the teacher in connection with the transition to student-centered learning and teaching		+		
82	14.	The university should provide opportunities for career growth and professional development of teaching staff, including young teachers		+		
83	15.	The university should involve in the teaching of specialists from relevant industries with professional competencies that meet the requirements of the EP			+	
84	16.	The university must demonstrate the presence of a motivation mechanism for the professional and personal development of teaching staff		+		
85	17.	The university must demonstrate the widespread use of information and communication technologies and software in the educational process by the teaching staff (for example, on-line training, e-portfolio, MEPs, etc.)	+			
86	18.	The university must demonstrate the focus on the development of academic mobility, attracting the best foreign and domestic teachers			+	
87	19.	The university must demonstrate the involvement of each teacher in promoting a culture of quality and academic integrity at the university, determine the contribution of teaching staff, including those invited, to achieving the goals of the EP		+		
88	20.	An important factor is the involvement of teaching staff in the development of the economy, education, science and culture of the region and the country		+		
		Total by standard	**1**	**7**	**2**	
Standard «Educational resources and student support systems»						

89	1.	The university must guarantee the compliance of the infrastructure, educational resources, including material and technical, with the goals of the educational program			+	
90	2.	The management of the EP must demonstrate the sufficiency of classrooms, laboratories and other facilities equipped with modern equipment to ensure the achievement of the objectives of the EP			+	
The university must demonstrate the compliance of information resources with the needs of the university and the EPs being implemented, including in the following areas:						
91	3.	technological support for students and teaching staff in accordance with educational programs (for example, online learning, modeling, databases, data analysis programs)		+		
92	4.	library resources, including a fund of educational, methodical and scientific literature on general education, basic and major disciplines on paper and electronic media, periodicals, access to scientific databases		+		
93	5.	examination of the results of research, final works, dissertations for plagiarism		+		
94	6.	access to educational Internet resources		+		
95	7.	functioning of WI-FI in its territory		+		
96	8.	The university must demonstrate that it creates conditions for conducting scientific research, integrating science and education, publishing the results of research work of teaching staff, staff and students			+	
97	9.	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 of the economy			+	
98	10.	The management of the EP must demonstrate the existence of procedures for supporting various groups of students, including information and counseling		+		
99	11.	The management of the EP should show the existence of conditions for the advancement of the student along an individual educational trajectory		+		
100	12.	The university must take into account the needs of different groups of students (adults, working, foreign students, as well as students with special educational needs)			+	
101	13	The university must ensure that the infrastructure meets the safety requirements		+		
		Total by standard		**8**	**5**	
«Public Information» Standard						
102	1.	The university guarantees that the published information is accurate, objective, up-to-date and reflects all areas of the university's activities within the framework of the educational program		+		
103	2.	Informing the public should include support and explanation of the national development programs of the country and the system of higher and postgraduate education		+		
104	3.	The university management should use a variety of ways to disseminate information (including the media, web resources, information networks, etc.) to inform the general public and interested parties	+			
Information about the educational program is objective, up-to-date and should include:						
105	4.	the purpose and planned results of the EP, the qualification to be awarded		+		
106	5.	information and the system for assessing the educational achievements of students		+		
107	6.	information about academic mobility programs and other forms of cooperation with partner universities, employers			+	
108	7.	information about the opportunities for the development of personal and professional competencies of students and employment		+		
109	8.	data reflecting the positioning of the EP in the market of educational services (at the regional, national, international levels)		+		

110	9.	An important factor is the publication on open resources of reliable information about teaching staff, in the context of personalities		+		
111	10.	The university must publish audited financial statements for the EP on its own web resource		+		
112	11.	The university must post information and links to external resources based on the results of external evaluation procedures	+			
113	12.	An important factor is the placement of information about cooperation and interaction with partners, including scientific / consulting organizations, business partners, social partners and educational organizations		+		
Total by standard			**2**	**9**	**1**	
TOTAL			**6**	**90**	**17**	

Annex 2. PROGRAM OF THE VISIT TO THE EDUCATIONAL INSTITUTION

AGREED
Chairman of the Board - Rector
_____S.G. Rakhmetullina
April 11, 2023

APPROVED
Director General of the National Institution "Independent Agency for Accreditation and Rating"
_____A.B. Zhumagulova
April 11, 2023

PROGRAM OF THE VISIT OF THE EXTERNAL EXPERT COMMISSION OF THE INDEPENDENT ACCREDITATION AND RATING AGENCY (IAAR) TO NJSC "EAST KAZAKHSTAN TECHNICAL UNIVERSITY NAMED AFTER D. SERIKBAYEV" (SPECIALIZED AND PRIMARY SPECIALIZED ACCREDITATION)

Date of the hybrid visit: April 25 - 27, 2023

The program was developed taking into account the time of Ust-Kamenogorsk

Cluster	Educational program
Cluster 1. Specialized accreditation	1) 6B04107 Social media marketing (joint educational program with the International University of Information Technologies) 2) 7M04107 Social media marketing (joint educational program with the International University of Information Technologies)
Cluster 2. Primary specialized accreditation	3) 6B07109 Medical engineering (Medical technology) (joint educational program with Semey Medical University) 4) 7M04102 Technological entrepreneurship (joint educational program with Karaganda University of Kazpotrebsoyuz)
Cluster 3. Primary	5) 6B04109 Public financial management 6) 6B11202 Innovative safety management of natural and man-made emergencies
Cluster 4. Primary specialized accreditation	7) 6B07312 Land cadastre and land management 8) 7M11301 Organization of transportation, traffic and transport operation
Cluster 5. Specialized accreditation	9) 6B07309 BIM - technologies in design 10) 7M07312 Land cadastre and land management
Cluster 6. Specialized accreditation	11) 8D05401 Mathematics 12) 8D07103 Thermal power engineering

Date and time (time Ust-Kamenogorsk, GMT+6)	EEC work with target groups	Position and last name, first name, patronymic of target group participants	Location of the procedure / Form of contact
		April 21, 2023	
15.00-16.00	**Preliminary meeting of the EEC** *(discussion of key issues and the program of the visit)*	*External IAAR experts*	Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (only for VEC)
		Day 1: April 25, 2023	
10.00-10.30	**Distribution of responsibility of experts, solution of organizational issues**	*External IAAR experts*	**Auditorium G-1-139** (19 Serikbaev St.) Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (only for VEC)
10.30-11.00	**Interview with the Chairman of the Board - Rector** *(The interview will be organized in a hybrid format: on-/off-line)*	*Chairman of the Board - Rector of the NJSC "VKTU named after D. Serikbaev"* - Rakhmetullina Saule Zhadygerovna, Ph.D., Associate Professor	**Auditorium G-1-101** (19 Serikbaev St.) Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662
11.00-11.15	**Technical break**	*External IAAR experts*	Auditorium G-1-101

11.15-11.45	**Interviews with Members Vice-Rector Boards** *(The interview will be organized in a hybrid format: on-/off-line)*	*1. Member of the Board - Vice-Rector for Academic Affairs of the NJSC "VKTU named after D. Serikbaev"* - Konurbaeva Zhadyra Tusupkanovna, Ph.D., Associate Professor *2. Member of the Board - Vice-Rector for Research and Digitalization of NJSC "VKTU named after D. Serikbaev"* - Denisova Natalya Fedorovna, Ph.D., Associate Professor	**Auditorium G-1-101** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662
		3. Member of the Board - Vice-Rector of Planning and Economic Activities of NJSC "VKTU named after D. Serikbaev" - Beisembaeva Galiya Mustapaevna, Ph.D.	
11.45-12.00	**Interviews with vice-rectors of partner universities** *(The interview will be organized in a hybrid format: on-/off-line)*	*1. Vice-Rector for Academic and Educational Activities of the International University of Information Technologies* - Mustafina Akkyz Kurakovna, Ph.D., Associate Professor *2. Vice-Rector for Academic Affairs and Strategic Development of the Karaganda University of Kazpotrebsoyuz* - Nakipova Gulmira Ermekovna, Doctor of Economics, Professor *3. Vice-rector for academic and educational work of NAO "Semey Medical University"* - Smailova Zhanargul Kayyrgalievna, Ph.D.	**Auditorium G-1-101** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662
12.00-12.15	**Technical break**	*External IAAR experts*	**Auditorium G-1-101**

12.15-13.00	**Interviews with heads of structural divisions** (The interview will be organized in a hybrid format: on-/off-line)	*1. Head of the department for academic activities* - Asiya Khasenovna Mashekenova, Ph.D. *2. Head of the Department of Organization and Monitoring of the Educational Process* – Denisova Oksana Kasymovna, Ph.D., Associate Professor *3. Acting Head of the Registrar's Office* - Zhayzhatyrova Meruert Sabyrovna *4. Director of the Career Center* - Trofimenko Svetlana Alexandrovna *5. Head of the Admissions Committee* - Muslimova Gulnar Ersainovna, Ph.D. *6. Director of the Department of Research and Development* - Uazyrkhanova Gulzhaz Keneskhankyzy, PhD, Associate Professor *7. Head of the Center "POSTGRADUATE"* - Ivashchenko Elena Nikolaevna, Ph.D. *8. Head of the Department for International Cooperation* - Mukhamadiev Tair Anuarbekuly	**Auditorium G-1-101** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662

		9. Head of the Department for International Cooperation - Mukhamadiev Tair Anuarbekuly *10. Head of the department for recruitment and development of personnel* - Daniyarova Karlygash Manashevna *11. Head of the department for social and cultural activities and youth policy* - Zhanabaeva Gulnara Nurtasovna *12. Chief accountant* - Any Natalya Viktorovna *13. Head of the Development Strategy and Quality Assurance Department* - Anop Daria Kamilievna, Ph.D., Associate Professor *14. Head of the Center for Information Policy and Media Communication (Media Center)*– Kasymova Karlygash Kanatovna *14. Head of Infrastructure Development Department* - Edigenov Ulan Bulatovich *15. Head of the library* - Tleubekova Nazimgul Ernazarovna *16. Head of Support and Information Technology Department* - Zuev Vitaly Nikolaevich	
13.00-13.15	**Work of HEC**	*External IAAR Experts*	**Room G-1-139** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (only for HEC)
13.15-14.15	**Lunch**	*External IAAR Experts*	**cafe “Гранат”**
14.15-14.30	**Technical break**	*External IAAR Experts*	**Room G-1-139** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (only for VEC)

14.30-15.00	**Interviews with deans / directors of institutes (schools)** (The interview will be organized in a hybrid format: on-/off-line)	*1. Deputy Dean of the Faculty of Basic Engineering Training* - Aringozhina Zarina Yerzhanovna *2. Dean of the School of Information Technologies and Intelligent Systems* - Saule Kumargazhanova Kumargazhanova, Candidate of Technical Sciences, Associate Professor *3. Dean of the School of Business and Entrepreneurship* - Zakimova Alfiya Manarbekovna, Ph.D. *4. Dean of the School of Nuclear and Conventional Energy Technologies* - Akaev Aibek Muratbekovich, PhD *5. Dean of the School of Metallurgy and Mineral Processing* - Zhanar Sagidoldinovna Onalbayeva, PhD *6. Acting Dean of the School of Architecture and Construction* - Ayazhan Kalelkhanovna Aytkazina *7. Deputy Dean of the School of Geosciences* Asylkhanova Zhanna Alexandrovna *8. Deputy Dean of the School of Mechanical Engineering* - Baigereev Samat Rakimgalievich, PhD	**Room G-1-101** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662
15.00-15.10	**Interviews with deans / directors of institutes (schools) of the partner university** (The interview will be organized in a hybrid format: on-/off-line)	*1. Dean of the Faculty of Digital Transformations of the International University of Information Technologies* - Mukhamadieva Ardak Gabitovna *2. Dean of the Faculty of Economics, Management and Entrepreneurship of the Karaganda University of Kazpotrebsoyuz* - Gimranova Galia Ilyasovna, Candidate of Economics, Professor *3. Dean of the School of Public Health, Dentistry, Pharmacy and Nursing NJSC Semey Medical University* - Kairkhanova Ynkar Akimzhanovna, PhD	**Room G-1-101** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662
15.10-15.25	**Technical break**	*External IAAR Experts*	**Room G-1-101**

15.25-16.05	**Interviews with heads of departments, heads of EP (in parallel)** (The interview will be organized in a hybrid format: on-/off-line)	**Heads of EP clusters 1, 2, 3, 6:** 1. *Head of EP 6B04107 Social media marketing, OP 6B04109 State financial management* - Gulzhan Alpekovna Baitikenova 2. *Head of EP 7M04107 Social media marketing, EP 7M04102 Technological entrepreneurship* - Rakhimberdinova Madina Umargalievna, PhD, associate professor 3. *Head of EP 6B07109 Medical engineering (Medical equipment*) - Orazova Araylym Zhanbolatkyzy 4. *Head of EP 6B11202 Innovative safety management of natural and man-made emergencies* - Idrisheva Zhanat Kabylbekovna, Ph.D., assoc. Professor 5. *Head of EP 8D05401 Mathematics* - Rakhmetullina Zhenisgul Toleukhanovna, Ph.D. 6. *Head of EP 8D07103 Thermal power engineering* 7. Segeda Tamara Aleksandrovna, Ph.D., Associate Professor 8. *Head. Department of "Foreign Languages"* Khasenova Lira Nurlanovna **Head department of partner universities:** 10. *Head. Department of "Media Communications and History of Kazakhstan" MUIT* - Niyazgulova Aigul Askarbekovna, Ph.D. 11. *Head. Department of Economics and Entrepreneurship of the KarU Kazpotrebsoyuz* - Nevmatulina Karina Anvarovna, PhD 12. *Head. Department of Physiological Disciplines named after Honored Scientist of the Republic of Kazakhstan T.A. Nazarova NJSC "SMU"* - Rakhyzhanova Saule Oryngazievna, Ph.D. 13. *Head. Head of the Department of Biochemistry and Chemical Disciplines of NJSC "SMU"* – Olzhaeva Rauza Romanovna, Ph.D.	**Room G-1-101** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (session room Zoom 1)

		Heads of OP clusters 4, 5 **1.** *Head of EP 6B07312 Land Cadastre and Land Management* - Yulia Dmitrievna Gusarenko 2. *Head of OP 7M11301 Organization of transportation, traffic and transport operation* - Konarbayeva Gulnur Nurlybekovna 3. *Head of EP 6B07309 BIM - technologies in design* - Makhiev Bekbolat Espulovich, Ph.D., associate professor 4. *Head of EP 7M07312 Land Cadastre and Land Management* - Rakhymberdina Marzhan Yesenbekovna, PhD, Associate Professor	Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (session room Zoom 2)
16.05-16.20	**Technical break**	*External IAAR experts*	**Room G-1-101**
16.20-17.00	**Interview with EP teachers** (The interview will be organized in a hybrid format: on-/off-line)	**Clusters 1, 2, 3, 6** (Appendix No. 1 List of teaching staff for interviews)	**Room G-1-101** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (session room Zoom 1)
		Clusters 4, 5 (Appendix No. 1 List of teaching staff for interviews)	Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (session room Zoom 1)
17.00-17.15	**Technical break**	*External IAAR experts*	**Room G-1-139**

17.15-18.30	**Questioning of the teaching staff (in parallel)**	*All teachers of the assessed EP (Appendix No. 1.1 List of teaching staff for questioning)*	*A link to participate in the survey will be sent to the teacher's email address personally.*
17.15-18.00	**Visual inspection of the OO (Inspection of objects off-line by participating experts)**	**Cluster 2, 6** **Cluster 3** 6B11202 Innovative safety management of natural and man-made emergencies	Route attached
		Cluster 3 Video clip (10-15 minute video about the infrastructure of OP 6B04109 Public financial management: auditoriums, halls, laboratories, sports halls, etc.) **Cluster 1, 4, 5** Videos (10-15-minute video about the infrastructure of the EP: classrooms, halls, laboratories, sports and other halls)	Watching videos **Room G-1-139** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662
18.00-18.30	**Results of the first day of the EEC**	*External IAAR Experts*	**Room G-1-139** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (VEC only)
18.30-19.30	**Dinner**	*External IAAR Experts*	**Café "Бриг"**
Day 2: April 26, 2023			
10.00-10.20	**Work of HEC**	*External IAAR Experts*	**Room G-1-139** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (VEC only)

10.20-11.00	**Interviews with students** (The interview will be organized in a hybrid format: on-/off-line)	**Clusters 1, 2, 3, 6** (Appendix No. 2 List of students)	**Room G-1-101** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (session room Zoom 1)
		Clusters 4, 5 (Appendix No. 2 List of students)	Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (session room Zoom 2)
11.00-11.15	**Technical break**	*External IAAR Experts*	**Room G-1-139**
11.15-12.00	**Questioning of students of the EP (in parallel)**	**All students of the assessed EP (**Appendix No. 2.1 List of EP students for questioning) (Ensure the participation of at least 40% of the contingent of EP students)	*A link to participate in the survey will be emailed to the student personally.*
11.15-13.00	**Working with documents (**documents are uploaded to cloud folders) **and attending teaching staff classes** according to the schedule Appendix 1.A "Extract from the class schedule of OP clusters" with links to ZOOM (attending off-line classes by participating experts in the traditional format)	**Cluster 1** Cloud Link: https://drive.google.com/drive/folders/1utfAq-IMTP1jwQdzDCiSNT-rRPhC2k ?usp=share_link **Cluster 2** Cloud Link: https://drive.google.com/drive/folders/1HxHWwE-anIoIoRdazqHSKR5JvPfL3zwQ?usp=share_link **Cluster 3** Cloud link: https://drive.google.com/drive/folders/1ASMxu_n3L3FOC0ViKCq4FnMOZmmEb7AA?usp=share_link k **Cluster 4** Cloud link: https://drive.google.com/drive/folders/17HLpZpM AvS23OAGAG-QNsjvWppmECKkE?usp=share_link **Cluster 5** Cloud link: https://drive.google.com/drive/folders/1H21ZWiha AGK1NVBp_Oh9r0QdqZYZW43r?usp=share_link	Посещение занятий согласно графика **Аудитория Г-1-139** Подключиться к конференции Zoom https://us02web.zoom.us/j/4941240662 Идентификатор конференции: 494 124 0662

		Cluster 6 Cloud link: https://drive.google.com/drive/folders/1Cde4NtJvSKbnbZvN9uK2B6bI0x4XQuTe?usp=share_link	
13.00-14.00	**Lunch**	*External IAAR Experts*	**Café "Гранат"**
14.00-16.00	**Visiting the bases of EP practices (in parallel)**	**Cluster 2, 6** **Cluster 3** (6B11202 Innovative safety management for natural and man-made emergencies) (Appendix 4.1 List of Practice Bases)	Route through the practice bases
		Cluster 3 Link to the video (10-15-minute video about the practice bases financial management) OP 6B04109 Statefinancial management **Clusters 1, 4, 5** Link to the video (10-15-minute video about the practice bases financial management)	Watch videos on practice bases **Room G-1-139** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662
14.00-16.00	**Working with documents** (documents are uploaded to cloud folders) **and attending teaching staff classes on a schedule**	**Cluster 1** Cloud link: https://drive.google.com/drive/folders/1utfAq-IMTP1jwQdzDCiSNT-rRPhC2k ?usp=share_link **Cluster 2** Cloud Link: https://drive.google.com/drive/folders/1HxHWwE-anIoIoRdazqHSKR5JvPfL3zwQ?usp=share_link **Cluster 3** Cloud link: https://drive.google.com/drive/folders/1ASMxu_n3L3FOC0ViKCq4FnMOZmmEb7AA?usp=share_link k **Cluster 4** Cloud link: https://drive.google.com/drive/folders/17HLpZpM AvS23OAGAG-QNsjvWppmECKkE?usp=share_link **Cluster 5** Cloud link: https://drive.google.com/drive/folders/1H21ZWiha	**Room G-1-139** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662

		AGK1NVBp_Oh9r0QdqZYZW43r?usp=share_link **Cluster 6** Cloud link: https://drive.google.com/drive/folders/1Cde4NtJvSKbnbZvN9uK2B6bI0x4XQuTe?usp=share_link	
16.00-16.15	**Technical break**	*External IAAR Experts*	**Room G-1-139**
16.15-17.00	**Interviews with graduates of the OP** (The interview will be organized in a hybrid format: on-/off-line)	*Graduates of OP **Clusters 1, 5, 6*** *(Appendix No. 3 List of graduates of the OP)*	**Room G-1-101** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (session room Zoom 1)
17.00-17.10	**Technical break**	*External IAAR Experts*	**Room G-1-101**
17.10-17.50	**Interviews with OP employers** (The interview will be organized in a hybrid format: on-/off-line)	*Employers of OP **Clusters 1, 5, 6*** *(Appendix No. 4 List of employers of the OP)*	**Room G-1-101** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (session room Zoom 1)
16.15-17.50	**Individual work of EEC experts (in parallel)**	*External IAAR Experts* **clusters 2, 3, 4** continue working with documents	**Room G-1-139** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (session room Zoom 2)
17.50-20.00	**EEC work: summing up the results of the second day and discussing the parameters of the**	*External IAAR Experts*	**Room G-1-139** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (VEC only)

	profiles (recording is ongoing)		
20.00-21.00	**Dinner**	*External IAAR Experts*	**Café "Бриг"**
День 3-ий: 27 апреля 2023 года			
10.00-11.30	**Work of the EEC: development and discussion of recommendations (recorded)**	*External IAAR Experts*	**Room G-1-139** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (only for VEC)
11.30-11.45	**Technical break**	*External IAAR Experts*	**Room G-1-139**
11.45-13.00	**EEC work: development and discussion of recommendations**	*External IAAR Experts*	**Room G-1-139** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (only for VEC)
13.00-14.00	**Lunch**	*External IAAR Experts*	**Café "Гранат"**
14.00-15.45	**EEC work: decision-making by voting** (recorded)	*External IAAR Experts*	**Room G-1-139** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (only for VEC)
15.45-16.00	**Technical break**	*External IAAR Experts*	**Room G-1-139**
16.00-16.30	**Final meeting of the EEC with the leadership of the university**	*University management, EP leaders, IAAR external experts*	**Room G-1-101** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662

16.30-18.00	**Summing up the work of the EEC**	*External IAAR Experts*	**Room G-1-139** Join a Zoom meeting https://us02web.zoom.us/j/4941240662 Meeting ID: 494 124 0662 (only for VEC)
18.00-19.00	**Dinner**	*External IAAR Experts*	**Café "Бриг"**
Выезд off-line экспертов *28 апреля 2023 года*			

Annex 3. RESULTS OF THE PPP QUESTIONNAIRE

1. Total number of profiles: 57

2. Position

Professor	10 people	17,5%
Assistant professor	11 people	19,3 %
Aga Okytushy (Senior teacher)	18 people	31,6 %
Okytushy (Teacher)	11 people	19,3 %
Head department	3 people	5,3 %
Associate Professor	2 people	3,4 %
Head of the Central Committee of Ecology and Belarusian Railways	1 person	1,8 %
Acting Associate Professor	1 person	1,8 %

3. Academic degree, academic title

Honored Worker of the Republic of Kazakhstan	0 чел	0 %
Ph.D	3 чел	5,3 %
PhD	20 чел	35,1%
Master	17 чел	29,8 %
PhD	13 чел	22,9 %
Professor	1 чел	1,8 %
Assistant professor	8 чел	14 %
No	4 чел	7 %
Associate Professor	1 чел	1,8 %

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4. Work experience

Less than 1 year	1 person	1,8 %
1 year - 5 years	7 people	12,3 %
Over 5 years	49 people	86 %

№	Questions	Very good	Good	Relatively bad	Bad	Very bad	Didn't answer
6	To what extent does the content of the educational program meet your scientific and professional interests and needs?	42 people (73.7%)	15 people (26.3%)	0 people (0%)	0 people (0%)	0 people (0%)	-
7	How do you assess the opportunities provided by the university for the professional development of	32 people (56.1%)	25 people (43.9%)	0 people (0%)	0 people (0%)	0 people (0%)	-

	teaching staff						
8	How do you assess the opportunities provided by the university for the career growth of teaching staff	26 people (45.6%)	30 people (52.6%)	1 person (1.8%)	0 people (0%)	0 people (0%)	-
9	How do you assess the degree of academic freedom of teaching staff	23 people (40.4%)	33 people (57.9%)	1 person (1.8%)	0 people (0%)	0 people (0%)	-
	To what extent can teachers use their own						
10	• • Strategies	35 people (61.4%)	22 people (38.6%)	0 people (0%)	0 people (0%)	0 people (0%)	-
11	• • Methods	42 people (73.7%)	15 people (26.3%)	0 people (0%)	0 people (0%)	0 people (0%)	-
12	• • Innovation in the learning process	40 people (70.2%)	17 people (29.8%)	0 people (0%)	0 people (0%)	0 people (0%)	-
13	How do you assess the work on the organization of medical care and disease prevention at the university?	39 people (68.4%)	16 people (28.1%)	2 people (3.5%)	0 people (0%)	0 people (0%)	-
14	How does the management of the educational institution pay attention to the content of the educational program?	36 people (63.2%)	21 people (36.8%)	0 people (0%)	0 people (0%)	0 people (0%)	-
15	How do you assess the sufficiency and availability of the necessary scientific and educational literature in the library?	32 people (56.1%)	23 people (40.4%)	2 people (3.5%)	0 people (0%)	0 people (0%)	-
16	Assess the level of conditions created that take into account the needs of different groups of students?	29 people (50.9%)	28 people (49.1%)	0 people (0%)	0 people (0%)	0 people (0%)	-
	Assess the accessibility of the guide						
17	• • Students	40 people (70.2%)	17 people (29.8%)	0 people (0%)	0 people (0%)	0 people (0%)	-
18	• • Teachers	40 people (70.2%)	16 people (28.1%)	1 person (1.8%)	0 people (0%)	0 people (0%)	-
19	Assess the involvement of teaching staff in the process of making managerial and strategic decisions	22 people (38.6%)	33 people (57.9%)	2 people (3.5%)	0 people (0%)	0 people (0%)	-
20	How is the innovation activity of teaching staff encouraged?	22 people (38.6%)	34 people (59.6%)	1 person (1.8%)	0 people (0%)	0 people (0%)	-
21	Assess the level of feedback from teaching staff with	31 people	26 people	0 people	0 people	0 people	-

	management	(54.4%)	(45.6%)	(0%)	(0%)	(0%)	
22	What is the level of stimulation and involvement of young professionals in the educational process?	25 people (43.9%)	31 people (54.4%)	0 people (0%)	1 person (1.9%)	0 people (0%)	-
23	Evaluate the created opportunities for professional and personal growth for each teacher and employee	32 people (56.1%)	23 people (40.4%)	1 person (1.8%)	1 person (1.9%)	0 people (0%)	-
24	Assess the adequacy of recognition of the potential and abilities of teachers	25 people (43.9%)	32 people (56.1%)	0 people (0%)	0 people (0%)	0 people (0%)	-
	How is the work done						
25	• • Academic mobility	20 people (35.1%)	33 people (57.9%)	4 people (7%)	0 people (0%)	0 people (0%)	-
26	• • On advanced training of teaching staff	26 people (45.6%)	27 people (47.4%)	4 people (7%)	0 people (0%)	0 people (0%)	-
	Evaluate the support of the university and its management						
27	• • Research initiatives of teaching staff	26 people (45.6%)	31 people (54.4%)	0 people (0%)	0 people (0%)	0 people (0%)	-
28	• • Development of new educational programs / academic disciplines / methods	30 people (52.6%)	27 people (47.4%)	0 people (0%)	0 people (0%)	0 people (0%)	-
	Assess the level of ability of teaching staff to combine teaching						
29	• • With scientific research	25 people (43.9%)	29 people (50.9%)	3 people (5.3%)	0 people (0%)	0 people (0%)	-
30	• • With practical activities	21 people (36.8%)	31 people (54.4%)	5 people (8.8%)	0 people (0%)	0 people (0%)	-
31	Assess the extent to which students' knowledge obtained at this university corresponds to the realities of the requirements of the modern labor market	31 people (54.4%)	26 people (45.6%)	0 people(0%)	0 people (0%)	0 people (0%)	-
32	How does the leadership and administration of the university perceive criticism?	14 people (24.6%)	43 people (75.4%)	0 people (0%)	0 people (0%)	0 people (0%)	-
33	Assess how your workload meets your expectations and abilities	21 people (36.8%)	29 people (50.9%)	7 people (12.3%)	0 people (0%)	0 people (0%)	-
34	Evaluate the focus of educational programs /	25 people	32 people	0 people(	0 people	0 people	-

	curricula on the formation of students' skills and abilities to analyze the situation and make forecasts	(43.9%)	(56.1%)	0%)	(0%)	(0%)	
35	Assess how the educational program in terms of content and quality of implementation meets the expectations of the labor market and employers	29 people (50.9%)	28 people (49.1%)	0 people (0%)	0 people (0%)	0 people (0%)	-

36. Why do you work in this university?

1. The leading technical university of the country, which is the center of advanced engineering education.
2. It is possible to teach in English
3. I am a graduate of this university
4. Strong and promising university
5. Like teaching activities and the opportunity to engage in research
6. Good pay and the possibility of personal growth, as well as the implementation of scientific interests
7. Zhaksy zhalaky, zhaksy zhұmys shart-zhagdayy
8. My native university, I opened the specialty "Urban cadastre" in this university, the university creates all the conditions for teaching, scientific activities.
9.Akparattyk technologylarmen tygyz baylanysy, kyzmettik өsuge zhagdai zhasaluy, bilim berudin practitioners bagytynyn basimdygy

37. How often do you have workshops and lectures with practitioners in your course?

Өte zhii (very often)	11 people	19.3%
Live (often)	31 people	54.4%
Keide (sometimes)	14 people	24.6%
Өte sirek (very rare)	1 person	1.8%
Muldem bolmaidy (never)	0 people	0%

38. How often do invited teachers (domestic and foreign) participate in the learning process?

Өte zhii (very often)	20 people	35,1 %
Live (often)	28 people	49,1 %
Keide (sometimes)	9 people	15,8 %
Өte sirek (very rare)	0 people	0 %
Muldem bolmaidy (never)	0 people	0 %

39. How often do you encounter the following problems in your work: (please give an answer in each line)

Lack of classrooms	Often	Sometimes	Never	No answer
Unbalanced study load by semesters	0 people (0%)	24 people (42.1%)	33 people (57.9%)	-
Unavailability of necessary literature in the library	3 people (5.3%)	38 people (66.7%)	16 people (28.1%)	-
Overcrowding of study groups (too many students in the group)	0 people (0%)	22 people (38.6%)	35 people (61.4%)	-
Inconvenient schedule	0 people (0%)	7 people (12, %)	50 people (87.7%)	-
Inappropriate conditions for	0 people (0%)	25 people	32 people	-

classes in classrooms		(43.9%)	(56.1%)	
No internet access/poor internet	0 people (0%)	20 people (35.1%)	37 people (64.9%)	-
Students' lack of interest in learning	0 people (0%)	26 people (45.6%)	31 people (54.4%)	-
Untimely receipt of information about events	0 people (0%)	26 people (45.6%)	31 people (54.4%)	-
Lack of technical facilities in classrooms	0 people (0%)	12 people (21.1%)	45 people (78.9%)	-
Other problems	2 people (3.5%)	35 people (61.4%)	20 people (35.1%)	-
Lack of classrooms	• No • No problem • No obvious problems • Technical equipment • There are no problems, if any, they are solved privately, very quickly and all the needs of the teacher regarding the educational process are satisfied • Masele zhok • There are none • No problem • zhok • None • There are no problems • No warm water in winter to wash hands • Insufficient equipment with software products • Bari zhaksy • Rather lengthy approval of documents in the Directum system • There are no special technical and organizational problems • there are no unsolvable problems. Everything is solved gradually, or on-line, as needed. • Kazakh tilindegi mamandandyrylgan adebietterdin az boluy • Punder boyinsha keide kazaksha okulyktardyn zhetispeushiligi • Oku barysynda koldanylatyn kazaksha adebietterdin azdygy • Kazakh tilinde adebietterdin azdygy • Not all classrooms have excellent Internet access • Technical equipment • No problem • a lot of paper work that can be converted into electronic form • Lack of computer classrooms • It is advisable to install graphic tablets connected to a PC and a projector in lecture halls • Difficulties in acquiring the necessary materials for scientific work through the state. purchase • no problem. • There are no special problems, something happens in small things • Weak internet in some classrooms • Would like 13 wages • Solved as they occur • The growth in the number of students does not keep pace with material support, it is necessary to address the issues of the classroom fund • Aytarlykтai masele zhok. • Student zhatakhananyn bolmauy			

40. There are many different sides and aspects in the life of the university, which in one way or another affect every teacher and employee. Rate how satisfied you are:

Question	Completely satisfied	Partially satisfied	Not satisfied	Difficult to answer

The attitude of the university management towards you	43 people (75.4%)	13 people (22.8%)	1 person (1.8%)	0 people (0%)
Relationships with direct management	52 people (91.2%)	5 people (8.8%)	0 people (0%)	0 people (0%)
Relationships with colleagues in the department	55 people (96.5%)	2 people (3.5%)	0 people (0%)	0 people (0%)
Participation in management decision making	41 people (71.9%)	14 people (24.6%)	0 people (0%)	2 people (3.5%)
Relations with students	55 people (96.5%)	2 people (3.5%)	0 people (0%)	0 people (0%)
Recognition of your successes and achievements by the administration	44 people (77.2%)	12 people (21.1%)	1 person (1.8%)	0 people (0%)
Support for your suggestions and comments	44 people (77.2%)	12 people (21.1%)	0 people (0%)	1 person (1.8%)
The activities of the administration of the university	39 people (68.4%)	17 people (29.8%)	0 people (0%)	1 person (1.8%)
Terms of pay	26 people (45.6%)	29 people (50.9%)	1 person (1.8%)	1 person (1.8%)
Working conditions, list and quality of services provided at the university	47 people (82.5%)	9 people (15.8%)	0 people (0%)	1 person (1.8%)
Occupational health and safety	48 people (84.2%)	9 people (15.8%)	0 people (0%)	0 people (0%)
Management of changes in the activities of the university	40 people (70.2%)	16 people (28.1%)	1 person (1.8%)	0 people (0%)
Providing a social package: rest, sanatorium treatment, etc.	22 people (38.6%)	26 people (45.6%)	4 people (7%)	5 people (8.8%)
Organization and quality of food at the university	42 people (73.2%)	15 people (26.3%)	0 people (0%)	0 people (0%)
Organization and quality of medical care	44 people (77.2%)	12 people (21.1%)	1 person (1.8%)	0 people (0%)

Annex 4. RESULTS OF STUDENT QUESTIONNAIRE

Questionnaire for students

Total number of profiles: 177

6B04107 Social media marketing	8	4.52%
7M04107 Social media marketing	2	1.13%
6B07109 Medical engineering (Medical equipment)	eleven	6.21%
7M04102 Technology Entrepreneurship	4	2.26%
6B04109 Public financial management	27	15.25%
6B11202 Innovative safety management of natural and man-made emergencies	10	5.65%
6B07312 Land cadastre and land management	84	47.46%
7M11301 Organization of transportation, traffic and transport operation	4	2.26%
6B07309 BIM - technologies in design	6	3.39%
7M07312 Land cadastre and land management	13	7.34%
8D05401 Mathematics	2	1.13%
8D07103 Thermal power engineering	6	3.39%

Floor:

Male	60.5
Female	39.5

Rate how satisfied you are:

Questions	Completely satisfied	Partially satisfied	Partially dissatisfied	Not satisfied	I'm at a loss answer

1. Relations with the dean's office(school, faculty, department)	85.9	4.1			
2. The level of accessibility of the dean's office(schools, faculties, departments)	84.7	3.6	1.7		
3. Management accessibility and responsiveness(university, school, faculty, department)	83.6	4.7	1.1	.6	
4. Availability of academic counseling	80.2	8.7			.1
5. Support with educational materials in the learning process	78.5	8.1	3.4		
6. Availability of personal counseling	73.4	9.3	5.6	.6	.1
7. Relationship between student and teacher	78.5	8.7	2.8		
8. The activities of the financial and administrative services of the educational institution	70.6	2.6	3.4	.1	.3
9. Availability of health services	73.4	9.7	2.3	.6	
10. qualitymedical care at the university	69.5	2	1.7	.7	.1
11. The level of availability of library resources	91	.3	1.1	.6	
12. The quality of services provided in libraries and reading rooms	87	0.2	1.7	.1	
13. Existing educational resources of the university	86.4	1.3	1.7		.6
14. Availability of computer classes	74	9.2	3.4	.7	.7
15. Availability and quality of Internet resources	71.2	0.9	5.1	.7	.1
16. The content and information content of the website of educational organizations in general and faculties (schools) in particular	89.3	.6	1.1		
17. Study rooms, auditoriums for large groups	77.4	7.5	2.8	.7	.6
18. Lounges for students (if any)	76.3	7.4	1.7	.6	
19. Clarity of disciplinary procedures	79.7	5.8	1.7		.8
20. The quality of the educational program as a whole	83.6	4.7	1.7		
21. The quality of study programs in the EP	81.9	6.9	0.6	.6	
22. Teaching methods in general	75.7	0.9	1.7	.7	
23. Quick response to feedback from teachers on the educational process	79.7	7.5	1.7		.1
24. Overall quality of teaching	83.1	5.2	1.7		
25. Academic load / requirements for the student	71.2	1.5	5.6	.1	.6
26. The requirements of the teaching staff for the student	79.1	5.2	2.3		.4
27. Information support and clarification before entering the university of the rules for admission and the strategy of the educational program (specialty)	85.3	0.7	2.3	.1	.6
28. Informing the requirements in order to successfully complete this educational program (specialty)	86.4	1.3	1.7	.6	
29.The quality of examination materials (tests and examination questions, etc.)	80.8	7.5	0.6		.1
30. Objectivity in assessing knowledge, skills and other educational achievements	79.1	6.5	2.2	.2	

31. Available computer classes	73.5	2	1.7	.7	.1
32. Available scientific laboratories	74.8	7.8	2.3	.1	
33. Objectivity and fairness of teachers	71.2	2	5.1		.7
34. Informing students about courses, educational programs and the academic degree received	85.8	.6	2.3	.6	.7
35. Providing students with a hostel	76.2	1.3	2.3		0.2

How much do you agree with:

Statement	Full consent	Agree	Partially agree	Disagree	Complete disagreement	Didn't answer

36. The course program was clearly presented	8	7.5	.5			
37. Course content is well structured	3.4	9.8	.2	.6		
38. Key terms adequately explained	8.9	7.7	.4			
39. The material proposed by the teacher is relevant and reflects the latest achievements of science and practice	7.8	6	.2			
40. The teacher uses effective teaching methods	4.4	5.4	.9	.7	.6	
41. The teacher owns the material being taught	4	2.6	.4			
42. The lecturer's presentation is clear	8.4	5.4	.2			
43. The teacher presents the material in an interesting way	1.5	3.2	2.4	.3	.6	
44. Objectivity in assessing knowledge, skills and other educational achievements	2.7	4.3	.6	.4		
45. The timeliness of assessing the educational achievements of students	3.8	6.6	.9	.7		
46. The teacher meets your requirements and expectations for professional and personal development	3.3	7.7	.3	.7		
47. The teacher stimulates the activity of students	3.9	3.7	1.3	.1		
48. The teacher stimulates the creative thinking of students	9.8	6.6	1.3	.7	.6	
49. Appearance and manners of the teacher are adequate	2.3	5.4	.7	.6		
50. The teacher has a positive attitude towards students	7.8	2.6	.6			
51. The system for assessing educational achievements (seminars, tests, questionnaires, etc.) reflects the content of the course	1.7	4.9	.8	.6		
52. Evaluation criteria used by the teacher are clear and accessible	2.3	2.6	.1			
53. The teacher objectively evaluates the achievements of students	5.5	4.3	.6	.6		
54. The teacher speaks a professional language	5.6	1.5	.3	.6		
55. The organization of education provides sufficient opportunities for sports and other leisure activities.	1.2	1.5	.6	.1	.6	
56. Facilities and equipment for students are safe, comfortable and modern	8.9	0.9	.5	.1	.6	
57. The library is well equipped and has a sufficient fund of scientific, educational and methodical literature	9.1	6.9	.8	.1		
58. Equal opportunities for mastering the EP and personal development are provided to all students	6.8	9.8	.1	.3		

Other concerns regarding the quality of teaching:

- -
- Zhok
- No problem
- No problem
- No
- There are no problems
- Maseleler zhok
- no problem
- No problems regarding the quality of teaching
- Eshkandai maslele zhok, bari өte zhogargy deңgeyde.
- Baska maseleler baikalmady, kalganymen tolyktai kelisemin
- Okytu sapasyna katysty masleler zhok
- Jock
- Zhok)
- zhok
- Zhatakhana tural saualnama
- No problem
- .
- Barlygy zhaksy zhasalgan al suraqtar tuyndasa curator of the deanery arkyly sheshuge bolady azirge suraқtar maseler zhok osy oku ornina rizamyn
- Menin oyymsha auditoriumlarda materialdyk bazany birneshe ese zhaksartsa.
- There are no problems.
- The University needs renovation!
- Meni university_mnin oқu sapas қanaғattandyrady!
- Bilim take bagdarlamasy men university okytuyna kөңilim tolyқtai tolady. Menin oyymsha, audience of men materialdyk bazalardy zhaksartsa dep oylaymyn.
- No problem.
- No problem
- None
- Barlygy kolzhetimdi zhane sapali, 1-course bolgandyқtan ali biraz akparatpen tanysu kerek
- Masele zhok, oku sapasy zhaksy
- Everything is fine
- Masele zhok
- No offers
- Bizdin mamandyk boyinsha bilim I take sapas öte zhaksy! Men wasps bilim beretin university student tüskenime kuanamyn!
- Yeshkanday masele zhok
- most of the teachers do not like university activists, although activists raise the university very much no worse than any laboratories or discoveries
- Creativity and the ability to attract attention
- No
- Dissatisfied with the schedule
- No
- No
- No problem. Excellent teaching staff.
- Teachers are incompetent
- Bilim aluga kyzyktyratyn sharalar uyimdar zharystar zhok deuge bolady, sapasy nashar bolsada. Tekhnikalyқ mamandyқ қyzyқsyz kөrinedi oku barysy. Ozge univerlerge baru zharyska katysu ushin tek en myktylar gana barady onyn ozinde ozine senimdi. Al kөpshiligi zhai student bolip kalady.ashyluғa mүmkindik az
- Didn't notice any problems
- Baska maseleler zhok
- if we talk about teaching in my school, then there are no problems at all, but subjects that do not belong to my profession are complete nonsense. Why the hell do they strain me with absolutely unnecessary subjects when I entered the profession, I spend an incredible amount of energy in order to pass an unnecessary subject so that I would not be expelled, wow, this is so cool. In order to study everything else, I can go back to school, this nonsense at the university is not needed, it only wastes the student’s time, and especially the nerves, I lost interest in studying due to the fact that they put under my nose the wrong subjects that should be , 1 course is just a bunch of piled something for show.