«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 an external expert commission on the assessment of compliance with the requirements of the standards of specialized accreditation of joint degree programs
7M06201 “Radio engineering, electronics and telecommunications”
8D06201 “Radio engineering, electronics and telecommunications”

NJSC "Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev"
during the period from March 18 – 20, 2024

INDDPENDENT ACCREDITATION AND RATING AGENCY
External expert commission

Addressed to
Accreditation
IAAR Council

АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТІҢ ТӘУЕЛСІЗ АГЕНТТІГІ
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Almaty

CONTENT

(I) LIST OF SYMBOLS AND ABBREVIATIONS

COVID – Corona Virus Disease
GDP – Grade Point Average
ECTS – European Credit Transfer and Accumulation System
IAAR – Independent Agency for Accreditation and Rating
IT - Information technology
KEGOC – Kazakhstan Electricity Grid Operating Company
KPI – Key Performance Indicators
PhD – Doctor of Philosophy
AUPET – Almaty University of Power Engineering and Telecommunications
JSC – Joint-Stock Company
University – Higher education institution
EEC – External expert commission
SCES – State Compulsory Educational Standard
CTC – City Telecommunications Center
UNT – Unified national testing
ICAE – Institute of Communications and Aerospace Engineering
ISC – Information and software complex
IC – Individual curriculum
CTA – Comprehensive testing of the applicant
CED – Catalog of elective disciplines
MSHERK – Ministry of Science and Higher Education of the Republic of Kazakhstan
MC – Modular curriculum
IAAR – Independent Agency for Accreditation and Rating
NJSC – Non-profit joint stock company
RDW – Research and development work
MSRW – master's student scientific research
MRDW – master's research and development work
SMC – Scientific and Methodological Council
NQF – National Qualifications Framework
EO – Educational Organization
BDP – Basic degree program
DP – Degree program
SQF – Sectoral Qualifications Framework
AS – Academic staff
RK – Republic of Kazakhstan
WC – working curriculum
RET – Radio engineering, electronics, and telecommunications
QMS – Quality Management System
SSW – Self-study work
TE – Telecommunication Engineering
TIT – Telecommunications and innovative technologies
EMS – Educational and methodological advice
AC – Academic Council

II INTRODUCTION

In accordance with Order No. 35-24-OD dated January 31, 2024 of the General Director of the Independent Agency for Accreditation and Rating, from March 18 to March 20, 2024, an external expert commission assessed the compliance of degree programs 7M06201 “Radio Engineering, Electronics and Telecommunications”, 8D06201 “Radio Engineering , electronics and telecommunications" at the NJSC "Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev" (Almaty) to the standards of specialized accreditation of the educational program of higher and (or) postgraduate education (Republic of Kazakhstan) IAAR (No. 57-20-OD dated June 16, 2020 of the year).

The report of the external expert commission (EEC) contains an assessment of the presented degree program according to the criteria of IAAR standards, recommendations of the EEC for further improvement of the DP and Parameters of the DP profile.

Composition of EEC:

Chairmanager IAAR - Alexey Vladimirovich Shcherbina, Candidate of Economic Sciences, Doctor of Philosophy, Southern Federal University, IAAR Category I expert (Rostov-on-Don, Russian Federation),

Foreign expert IAAR- Belykh Yuri Eduardovich, Candidate of Physical and Mathematical Sciences, Associate Professor, Vice-Rector for Academic Affairs of Grodno State University named after Yanka KuDPla (Grodno, Belarus),

National IAAR expert- Nadezhda Valerievna Prokhorenkova, PhD, Associate Professor, East Kazakhstan State Technical University named after Serikbayev (Ust-Kamenogorsk, Republic of Kazakhstan),

National expert of IAAR - Vladimir Sergeevich Kiyan, PhD, Associate Professor, Head of the Laboratory of Biodiversity and Genetic Resources, National Center for Biotechnology (Astana,

National expert of IAAR - Dmitry Alexandrovich Porubov, PhD, Head of the Competence and Technology Transfer Center in Automation and Mechatronics, East Kazakhstan State Technical University named after Serikbayev (Ust-Kamenogorsk, Republic of Kazakhstan),

Nationall IAAR expert- Dunaev DPvel Aleksandrovich, candidate of technical sciences, Doctor PhD, head of deDPrtment of Radio Engineering, Electronics and Telecommunications, Kazakh Agrotechnical Research University named after Saken Seifullin (Astana, Republic of Kazakhstan),

National expert of IAAR, employer - Said Tolegenovich Alimbayev, Chief Competition Manager of the Self-Regulatory Organization "Association of Kazakhstani Freight Rail Transporters" (Astana, Republic of Kazakhstan),

National expert of IAAR, employer - Marina Dauletovna Abikaeva, JSC "Institute of Fuel, Catalysis, and Electrochemistry named after D.V. Sokolsky" (Almaty, Kazakhstan),

National expert of IAAR, student - Aidana Arystan, 3rd-year doctoral student in Nanotechnology, Kazakh-British Technical University (Almaty, Republic of Kazakhstan),

National expert of IAAR, student - Adel Omarova, member of the Student Alliance of Kazakhstan, Saken Seifullin Kazakh Agrotechnical University (Astana, Republic of Kazakhstan),

National expert of IAAR, student - Zhannur Sisenova, 3rd year, "Standardization and Metrology" degree program, L.N. Gumilyov Eurasian National University (Astana,

IAAR Coordinator - *Gulfiya Rivkatovna Nazirova, PhD in Economics, Project Manager for Specialized and Institutional Accreditation of IAAR (Astana, Republic of Kazakhstan).*

III REPRESENTATION OF THE EDUCATIONAL ORGANIZATION

Almaty University of Power Engineering and Telecommunications was created on January 10, 1997, based on the Almaty Institute of Power Engineering and Telecommunications (AIPET), which existed from 1975 to 1997. It is the first non-state technical university with the status of a non-profit organization. Training is conducted in Kazakh and Russian languages. In 2013, training began in English in two specialties: “Radio engineering, electronics and telecommunications” and “Electrical power engineering”. In 1989, the Almaty Institute of Power Engineering and Telecommunications was the first in Kazakhstan and one of the few in the Soviet Union to be certified by the commission of the State Inspectorate of State Education of the USSR. The high level of training of specialists at AIPET was officially recognized at the union level, and this is an undoubted success of the team of students, teachers, and management of the institute. In May 1997, it was transformed into the Almaty Institute of Power Engineering and Telecommunications with the status of a non-profit joint stock company. Gumarbek Zhusupbekovich Daukeyev was elected rector of the new institute. Since July 2010, the Almaty Institute of Power Engineering and Telecommunications received the status of a university with the right to train master's and PhD students and a new name - the non-profit joint-stock company "Almaty University of Power Engineering and Telecommunications" (AUPET).

Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev is one of the leading technical universities in Central Asia, which provides training in the fields of energy, telecommunications, IT technologies and information security, space engineering, robotics, and artificial intelligence. The university trains specialists in college, bachelor's, master’s, and PhD programs.

Non-profit joint-stock company "AUPET named after Gumarbek Daukeyev" (hereinafter AUPET) implements degree programs (hereinafter - DP): "7M06201 - Radio engineering, electronics and telecommunications" and "8D06201 - Radio engineering, electronics and telecommunications" (hereinafter RET) in accordance with the perpetual State license to engage in educational activities AB No. 0137445 dated 08/04/2010.

The educational process is based on the state compulsory education standard (SCES), standard curricula and standard programs, which are mandatory for all universities in Kazakhstan, regardless of their Departmental affiliation.

The training of master's and doctoral students of the DP RET is carried out according to the modular degree program (MDP), approved in 2019 and annually supplemented at meetings of the educational and methodological commission (EMC) of the Institute of Telecommunications and Aerospace Engineering (ITAE) of AUPET. In September 2020, this DP was amended due to the COVID-2019 Pandemic.

In 2019-2023, the producing company Department of Telecommunication Networks and Systems, which was renamed in 2021 to the Department of Telecommunications and Innovative Technologies and after reorganization in the 2023-2024 academic year, its name changed to the Department of Telecommunications Engineering.

In accordance with the preparation for specialized accreditation, Cluster No. 3 included “DP 7M06201 – RET” and “8D06201 – RET”, in which training is conducted in Kazakh and Russian.

The duration of the master's degree in scientific and pedagogical direction (7M06201 – RET) is 2 years. Doctoral studies 8D06201 – RET – 3 years.

A graduate of the master's program in the scientific and pedagogical direction 7M06201 - Radio engineering, electronics and telecommunications is awarded the academic degree: Master of Technical Sciences in the educational program "7M06201 - Radio engineering, electronics and telecommunications", a doctoral student - Doctor of Philosophy (PhD) in the degree program "8D06201 - Radio engineering, electronics and telecommunications".

The main stakeholders of Cluster No. 3 are applicants - applicants for master's and doctoral degrees in electronic technology; telecommunications companies, enterprises and firms; industry

research and design institutes; higher and secondary specialized educational institutions that train specialists in the field of electronic technology.

IV DESCRIPTION OF THE PREVIOUS ACCREDITATION PROCEDURE

Degree programs 7M06201 “Radio Engineering, Electronics and Telecommunications”, 8D06201 “Radio Engineering, Electronics and Telecommunications” underwent the accreditation procedure at the IAAR from March 4 to March 7, 2019. Accreditation was received for a period of 5 years.

V DESCRIPTION OF THE VISIT OF THE EEC

Work of the EEC on the assessment of the conformity of degree programs was carried out in accordance with the approved Program of the visit of the external expert commission for specialized accreditation to the NJSC "Almaty University of Power Engineering and Telecommunications" in Almaty during the period from March 18 to March 20, 2024.

To coordinate the work of the EEC, a preliminary meeting was held with members of the EEC on March 15, 2024, during which clarifying aspects of the commission’s work were discussed, distribution of responsibilities of experts, solution of organizational issues.

To obtain objective information about the quality of degree programs and the entire infrastructure of the university, to clarify the content of the self-assessment report, meetings were held with the rector of the university, vice-rectors for areas of activity, heads of structural divisions of educational institutions, heads of Departments and heads of degree programs, academic staff, students, representatives of practice bases and employers. A total of 32 representatives took part in the meetings (Table 1).

Table 1 - Information about representatives who took part in meetings with the IAAR EEC:

Category of participants	Quantity
Rector	1
Vice-rectors	2
Head of the Rector's Office	1
Heads of structural divisions	8
Heads of departments and heads of degree programs	13
Teachers from the 3rd cluster	5
Students from the 3rd cluster	1
Graduates	1
Employers	0
Representatives without any practice	0
Total	**32**

During the excursion, the members of the EEC familiarized themselves with the state of the university's material and technical base. They visited: the Cisco Academy, the Huawei Academy, the laboratory for optical communication lines, and the laboratory for testing wireless communication devices.

During the meeting of the IAAR EEC with the target groups of the university, clarification of the mechanisms for implementing the university's policy and specification of specific data on the degree programs presented in the self-assessment report for specialized accreditation was carried out. During separate meetings with the heads of departments, additional information was requested on the documents of interest.

During the specialized accreditation, classes were visited:

- "Computer Modeling of Telecommunication Systems," lesson topic: "Modeling of the transmission path between routers," attendance 95%, each student has a workplace equipped with a laptop and methodological instructions for virtual laboratory work.

- "Theory of Electrical Communication," lecture in Kazakh language, attendance 90%, lesson topic: "Autocorrelation Function," during the lesson, both a regular chalkboard and a digital multimedia interactive panel are used simultaneously.

In accordance with the accreditation procedure, an online survey was conducted of 13 teachers and 41 students.

To confirm the information presented in the Self-Assessment Report, external experts requested and analyzed the working documentation of the university. Also, external experts studied the available information on the university website(https://AUPET.edu.kz/ru).

As part of the EEC visit program, based on the results of an examination to improve accredited degree programs in the NJSC "Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev", recommendations were presented that were voiced at a meeting with the management on March 20, 2024.

VI COMPLIANCE WITH SPECIALIZED ACCREDITATION STANDARDS

6.1 Standard "Degree Program Management"

Evidence-based part

The mechanism for developing the goal and strategy for the development of the DP is based on the following tasks (Minutes No. 1,2,3 of the online seminar with the Head of the "National Operators" direction of Transtelecom JSC D. Seilkhanov): formation of a theoretical knowledge base for the implementation of the DP; development of skills to apply acquired knowledge to solve the corresponding class of problems within the DP; master's and doctoral students obtain practical skills in solving specific professional, research tasks established in the DP; creating conditions with real processes - production, research and design activities for the implementation of degree programs.

The university systematically requests and summarizes the opinions of the country's leading enterprises, studies the DP of Partner universities, interviews students about the content of the DP and adjusts the content of the DP, individual disciplines, teaching methods, and modernization of laboratory facilities.

At the Institute of Telecommunications and Aerospace Engineering, as well as in the practice of management of degree programs, changes have occurred taking into account the requirements of the labor market, in accordance with the release of the State Standard of Higher Education on August 19, 2022, approved by Government Resolution of the Republic of Kazakhstan No. 581, as a result of which AUPET issued new Policies and Goals in the field of quality for the 2022-2023 academic year (https://AUPET.edu.kz/ru/DPges?id=2).

Changes in the quality assurance policy were reflected in the objectives of the DP. Changes to the Quality Assurance Policy are considered at university-wide academic staff meetings and supervisory hours at the beginning of the academic year. The change in the Quality Assurance Policy is also reflected in other documents: the DP Development Plan, the Management Labor Assessment System and the university academic staff based on SAR (Self-Assessment Report).

The peculiarity of building an internal quality assurance system at AUPET is that the RET DP has developed its own internal quality assurance system and created conditions for its constant development, improvement, updating, adjustments in accordance with the mission and development strategy of AUPET for the long-term period (https://AUPET.edu.kz/ru/site/documentation).

Changes in the quality assurance policy are being carried out in the direction of employing undergraduates, contracts are concluded for the provision of services to provide access to educational platforms, AUPET is being digitalized, IT infrastructure is being developed, network structures are being modernized, repair work is being carried out, personnel Optimization is being carried out, the participation of academic staff in grant funding and graduation is being stimulated publications in leading scientific publications near and far abroad, new laboratories and centers of competence are opened, and the library collection is replenished.

Outsourcing at AUPET is carried out by concluding agreements and memorandums with national and foreign universities on the transfer of certain functions of the educational process, such as academic mobility, research internships for undergraduates and internships for doctoral students. When implementing academic mobility, the commitment to ensuring the quality of education is confirmed. The rector's orders on the placement of doctoral students for internships under DP 8D06201 – RET have been publishedhttps://ic.AUPET.kz/ru/site/vuzand a list of Partner universities, as well as published agreements with them on the AUPET websitehttps://AUPET.edu.kz/frontend/web/uploads/academ-calendar/ru/1609229217_Pn6kCC.pdf.

The results of satisfaction with training can be seen in the survey of master's and doctoral students (https://forms.gle/C6r82ZsUg1jzc4UV8).

To ensure the quality of these types of activities, AUPET monitors compliance with the quality of outsourcing activities. These mechanisms and criteria are documented in internal regulatory documents Academic policy of NJSC AUPET named after. G. Daukeyev (https://AUPET.edu.kz/ru/DPges?id=7).

The peculiarity of building an internal quality assurance system at AUPET is that the RET DP has developed its own internal quality assurance system and created conditions for its constant Development, improvement, updating, adjustments in accordance with the mission and Development strategy of AUPET for the long-term period (https://AUPET.edu.kz/ru/site/documentation).

When planning the degree program, managers consider the schedule of degree programs and degree programs for master's and doctoral studieshttps://AUPET.edu.kz/ru/DPges?id=8.

Based on statistical data processing, location deficiencies are identified, and adjustments are made to improve the efficiency of the DP. participants in the formation of goals and elements of the DP adjust eliminate the weaknesses of the DP. The results of assessing the effectiveness of the implementation of the stages of development of the DP are used to adjust the development activities of the department, institute and university for the next academic year and are included in the work plan. DP development plans are adjusted annuallyhttps://AUPET.edu.kz/frontend/web/uploads/document/1646385977_lQ79To.pdf.

The analysis of the DP development plan is consistent with the country's national development priorities aimed at introducing information technologies into the educational process. AUPET strategic documents correspond to the national priorities outlined in the Concept for the development of Education of the Republic of Kazakhstan for 2022-2026: "Over the DPst four years, the number of grants allocated for master's programs is 1.8 times, doctoral programs are 3.7 times. At the same time, the share of the state order allocated for technical areas of training is more than 40%. In addition, when forming a state order, the main indicators of national projects and strategic documents are considered. Today, special attention is DPid to engineering industries. At the same time, according to the Ministry of Labor and Social Protection of the Population, the highest demand for personnel is observed in engineers (about 47 thousand peDPle)(konczDPcz-razv-obraz.24-11-2022.rus.pdf (yandex.kz)).

The University has a database of internal and external regulations governing all major business processes within the DP(https://AUPET.edu.kz/ru/DPges?id=4).

Confirmation of the development of a quality assurance culture at the university is success in achieving target quality assurance indicators and the results of external assessments. Among the main achievements is that in 2019 the university passed the national institutional and specialized assessment by the Independent Agency for Accreditation and Rating (IAAR) https://AUPET.edu.kz/ru/site/ratingand participation in National ratings conducted by NJSCKO https://AUPET.edu.kz/ru/site/rating.

Analytical part

During the visit to the university, it was possible to verify the availability of the documents provided according to the "Degree Program Management" standard and draw appropriate conclusions and recommendations.

The goals and strategies for the Development of the DP, the tasks of the DP have been developed, spelled out in the necessary documents and are being implemented at the TE Department. There are documents confirming the involvement of stakeholders, but in one person.

The relationship between scientific research, teaching and learning is carried out through the following mechanisms: implementation of plans, NIRD for the TE department, but there is a weak relationship with the quality assurance policy.

Master's and doctoral students in DP RET, sent to research practice and internship under the academic mobility program with the University of Casinos (University of Casinos and Southern Lotium), Italy, showed excellent results. High-quality master's and doctoral programs were organized and implemented, international cooperation in the field of training highly

qualified specialists was strengthened and the exchange of master's and doctoral students was promoted. In the 2021-22 academic year, master's student T.E. Makhmutov studied at the University of Applied Sciences Anhalt (Harmania) under the guidance of Professor E. Shmelevsky under the Erasmus academic mobility program and successfully defended his master's thesis.

The university has introduced mechanisms for planning degree programs: a system for monitoring the implementation of plans for the development of degree programs. The results of the session, the results of the department's work, and annual reports are reviewed at department meetings.

With the participation of employers, various forms of self-assessment are discussed at seminars and webinars, such as conducting internal audits, questioning students, academic staff; self-assessment of programs in preparation for state certification by the Ministry of Science and Higher Education of the Republic of Kazakhstan, self-assessment of degree programs in preparation for institutional and program accreditation, annual self-assessment of processes ensuring the implementation of degree programs.

Based on statistical data processing, shortcomings are identified, and appropriate adjustments are made to improve the efficiency of the DP. The results of assessing the effectiveness of the implementation of the stages of development of the DP are used to adjust the development activities of the department, institute and university for the next academic year and are included in the work plan.

The assessment of the "effectiveness" and "effectiveness" of the implementation of the DP occurs due to feedback provided by employers, petitions, invitations of scientists abroad, expansion of the practice base, mobility of students and academic staff, results of participation in rankings, etc. The criterion for the effectiveness of the implementation of the DP is the students' successful completion of practical training and their further career development. An indicator of the effectiveness of the implementation of the DP is the high-quality graduation of students and the percentage of their employment.

Strengths/best practices for DP7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

Not observed.

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. The management of the university must organize the development, approval, and publication of a Quality Assurance Policy, which will reflect the relationship between scientific research, teaching and learning by 06/30/2024.

2. To the management of the university and DP:

- conduct an audit of regulatory documents, ensure their execution considering the formal requirements of document flow, determine the procedure for their placement on the information resources of the university, considering access restrictions for various categories of stakeholders.

- in strategic and Operational planning documents, provide for activities and measures to Develop a quality culture and involve stakeholders in quality assurance processes.

- supplement job descriptions and regulations on structural units with norms and requirements for the development of a quality culture.

- conduct staff training, academic staff, and familiarize students with the problems of developing a quality culture.

Deadline until December 30, 2024

3. The management of the DP should ensure transparency of the degree program management system determine the resource of the structural unit for posting information about the management of the DP, the requirements for keeping it up to date and the persons responsible for their implementation. Deadline until 06/30/2024

4. The management of the university should develop and document procedures for analyzing the external and internal environment, risks, and opportunities for making decisions on the opening of training for new DPs based on facts by October 30, 2024.

5. The management of the DP, based on local regulatory documents, formalize the design, management, and monitoring of the internal quality assurance system for decision-making based on facts by December 30, 2024.

6. The management of the university should determine and document the procedure for risk management at the level of structural divisions and within the DP until June 30, 2024.

7. The DP must demonstrate innovation management within the DP, including the analysis and implementation of innovative proposals.

The management of the university should provide for innovation management in planning, reporting and activity procedures based on the implementation of all basic management functions, including planning, organization, stimulation, analysis. Deadline until 10/30/2024

8. Provide training for all DP managers in degree management programs until 12/30/2025.

EEC conclusions:

According to the "Degree Program Management" standard, 17 criteria are disclosed, of which: 12 criteria have a satisfactory position, 5 criteria require improvement.

6.2 Information Management and Reporting Standard

Evidence-based part

Information management and reporting is carried out based on the collection, analysis, and use of relevant information.

The collection of information, its dissemination and use are carried out through the systems implemented in AUPET. Gumarbek Daukeyev document management systems "Thesis", "Platonus", distance learning system "Ms Teams", corporate email, AIBS electronic library "MegaPro", etc. Social networks Instagram, Facebook, Telegram, Tik tok, etc. are used to disseminate current information The main information flows can be divided into the following groups: general information about the university, the content of the degree program, information about students, information about employees.

General information about the university and degree programs is posted on the university's online resources. These include the official website of the university htpps://www.AUPET.kz, as well as the internal website httpps://info.AUPET.kz. On the official website, students, employees and interested parties can find information about the structure, mission, strategy, events in the scientific, educational, social life of the university, as well as information on degree programs, in particular, information about the department, compulsory and elective disciplines studied, and received graduate competencies, teaching methods, academic staff, etc.

There is an internal website of AUPET named after. Gumarbek Daukeyev (https://info.AUPET.kz), access to which is carried out through corporate mail. On the internal website, university employees have access to all necessary university documentation: QMS documents, regulations, educational and methodological literature, catalogs of elective disciplines, academic staff methodological developments, and the university's electronic library.

All departments of the university have access to the electronic timetable database. Official website of AUPET named after. Gumarbek Daukeyev on the Internet: www.AUPET.kz. The information posted on the site is effectively used by users. The website has access to all the necessary documentation of the university, catalogs of elective disciplines, syllabuses by discipline, regulations on the organization of the educational process, regulations on ongoing monitoring and academic performance, and intermediate certification of students, regulations on the final certification of students, and the results of student surveys.

IKKI effectively uses information technologies in the implementation of the degree program. Licensed programs, software of the main laboratory stands, programs transferred for

use by the branch of the department of TE programs, developed by teachers of the department in special disciplines, are used to the maximum.

Deportments, institutes, DAQ, and the department of International Cooperation and Academic Mobility are involved in the automated collection of information on the quality of university activities. Reports on academic, scientific, and administrative aspects are provided for collegial meetings (SMS, CS, Institute Council, University Council) to improve the efficiency of management processes.

SQF AUPET named after. Gumarbek Daukeyev presents the totality of the university's organizational structures for quality assurance, the documented basis of the system's Evidence-based part base, which are posted on the website in the public domainhttps://AUPET.edu.kz/ru/DPges?id=2university, processes and resources that are necessary for the implementation of general quality management, incl. quality of the DP.

Information about the degree program of the specialty is published on the official website of the university www.AUPET.kz.

Analytical part

Information management at the University is the collection, analysis, and further dissemination of information to improve the quality of services provided, including for the management of educational, teaching, research, educational, financial and other processes.

However, Members of the IAAR EEC note that the University has several shortcomings for information management.

For example, the self-report indicates that in order to adequately respond to changes in the educational services market, the university has developed a number of management systems and databases that allow for continuous improvement of the process of their provision, which is based on the automated information system "Platonus", which provides communication between information and software complexes for managing educational activities, a system for assessing the quality of student training, personnel records, document management, Internet resources and library systems. There is a system, but it is not filled out, which affects the functioning of the system itself as a whole and its relationship with other IPCs.

Since 2006, AUPET named after. Gumarbek Daukeyev has a certified quality management system, the effectiveness of which is annually confirmed by experts during inspection and recertification audits. In 2020, recertification for compliance with MC ISO 9001:2015 was carried out, the certificate is valid until February 10, 2024. At the time of accreditation, this certificate had expired.

Some references given in the self-report cannot be counted as Evidence-based part, for example(https://AUPET.edu.kz/ru/DPges?id=2), she, like many others, goes to the same page of the site.

Strengths/Best Practices:

Not observed.

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. The management of the university should identify and assign responsible persons for the accuracy and timeliness of information analysis and provision of data in info communication systems, the university website, and document these decisions. Valid until June 30, 2024. They should be consistently maintained up to date.

EEC conclusions:

According to the "Information Management and Reporting" standard, 17 criteria are disclosed, of which all 17 criteria have a satisfactory position.

6.3 Standard "Development and approval of degree program"

Evidence-based part

In accordance with the State Educational Standard of the Republic of Kazakhstan dated August 23, 2012 No. 1080, the list of degree programs of the department of Telecommunication Engineering of the Institute communications and sDPce engineering(ICCI), is established by the Academic Council of AUPET and approved by the rector. The process of developing degree programs is strictly regulated according to Regulations on the development of degree programs based on professional standards(https://AUPET.edu.kz/frontend/web/uploads/academ-calendar/ru/1609231688_SQq0yF.pdf) and consists of the following technological chain: graduating department – educational and methodological commission of the institute – Academic Council of AUPET. The process of creating an educational program, including the development, content, changes, and additions to it, is coordinated with the DAV and the QMS of the AUPET administration. Degree programs of cluster 3 were developed considering the recommendations of employers and approved by the SMC.

Changes in the market and the emergence of new promising areas in the field of DP of cluster 3 are monitored through reference and information resources on the Internet, as well as through participation in international scientific and practical webinars and seminars of leading companies in the field of radio engineering, electronics, and telecommunications.

Academic staff, students, and employers participate in the development of DP. Employers conducting their activities in the direction of electronic technology clearly understand the principles of the functioning of the industry and its development trends and can qualitatively evaluate the content of the municipal unitary enterprise, passports, economic development documents, syllabuses, make proposals and carry out an examination.

The business community, namely stakeholders, are members of the Academic Committee for the development of accredited DP, considering professional standards, the Industry Qualification Framework for telecommunications, the National Qualification Framework of the Republic of Kazakhstan, and the Atlas of New Professions of the Republic of Kazakhstan.

Expert opinions of the degree program are provided by representatives of the industry of the Republic of Kazakhstan (Appendix to the self-report) and representatives of foreign universities (Appendix to the self-report) and universities of the Republic of Kazakhstan (Appendix to the self-report).

Master's degree: training of highly qualified specialists capable of planning, designing, cooperating, researching, and teaching in the field of Radio Engineering, Electronics and Telecommunications. Doctoral studies: training of highly qualified specialists in the direction 8D06201- "RET" in scientific, industrial, and educational activities, possessing competitive innovative competencies, adapted to the modern requirements of the domestic, transnational, and international labor market in any field.

All degree programs of the TI department have clearly defined goals that are consistent with the mission of AUPET. The purpose of the DP is to acquire competencies, knowledge, skills, and abilities in matters related to areas of professional activity, the requirements of employers and labor functions.

A graduate of master's and doctoral studies of DP Cluster 3, in accordance with fundamental and special training, must be competent:

- in modern trends in the development of technologies and ways of their application in research, teaching, organizational and managerial, production and technological, design and engineering activities.

- in the application of standards, methodological and regulatory materials that determine the design and development of objects of professional activity.

Each DP of the cluster has defined competencies that are reflected in the DP's passports (Appendix to the self-report).

Considering the interests of employers and reopening the professional training of master's and doctoral students in DP, modern, innovative modules of elective disciplines are being

introduced into educational trajectories. The result of this work is the development of new elective courses considering wishes and suggestions.

For example, for the purpose of analyzing the MUP for the DP “7M06201 - RET” 2022 admission, an Online seminar was held with the head of the “National Operators” direction of Trans telecom JSC and his employees on 03/14/2022, the profile discipline of the university component and its translation were presented for consideration into the elective component and the following amendments were made (Appendix 1.4 Minutes No. 2 of the Online seminar of the Department of TKIT at Transtelecom JSC dated March 14, 2022 according to DP 7M06201 - RET): added to the Modular curriculum in the module “Fundamentals of Scientific Research”: for the profile discipline, the university component: “Theory and Practice of Project Management” (TPUP 5301) the cycle of discipline profile discipline university component is replaced with the profile discipline elective component “Theory and Practice of Project Management” (TPUP 5304) and is set as an alternative discipline “Organization and Management public procurement" (OUGZ 5304).

The core of the AUPET graduate model (Appendix to the self-report) consists of key competencies: information, communication, socio-legal, self-improvement activities. The structure of degree programs is developed considering the interdisciplinary nature of the courses taught, the continuity of the content of the educational program at three levels (bachelor's - master's - doctoral) is considered, as well as the logic of the academic relationship of disciplines and its sequence.

Members of the IAAR EEC note that the DP 3 clusters submitted for accreditation undergo external examination. External examination of the DP is carried out by foreign experts, representatives of the industry of the Republic of Kazakhstan and representatives of universities of the Republic of Kazakhstan who are specialists in this field. Next, the draft degree programs in the DP specialties of cluster 3 are adjusted based on the recommendations received, noted in the expert opinion (Appendix to the self-report, interviews with the management of the DP and academic staff).

Analytical part

DP development plans7M06201 “Radio engineering, electronics and telecommunications”, 8D06201 “Radio engineering, electronics and telecommunications” have been developed and are available. External and internal examinations based on the DP data are also available (provided).

The existing core of the AUPET graduate model shows the presence of the necessary components of key competencies.

When defending master's and doctoral dissertations, the State Attestation Commission assigns a qualification level to the graduate in accordance with the DP. The approved professional standards for RET are 10 standards. DP 7M06201 - Radio engineering, electronics, and telecommunications, corresponds to the 7th level of the NQF, DP 8D06201 - Radio engineering, electronics and telecommunications corresponds to the 8th level of the NQF.

Students and academic staff of DP have information about the level of the NQF, ORK, Atlas of new professions and assigned qualifications.

Strengths/Best Practices:

1. The university has demonstrated the ability to prepare students for professional certification (presence of certified faculty and students, presence of academies (Cisco, Huawei) for professional certification).

EEC recommendations for DPs7M06201 “Radio engineering, electronics and telecommunications”, 8D06201 “Radio engineering, electronics and telecommunications”:

1. It is imperative for the management of the DP to document and implement the procedure for the participation of students, academic staff, and other interested parties in the development

of the DP, ensuring its quality, as well as recording (documenting) the results of implementation. Deadline until 10/30/2024

EEC conclusions:

According to the standard "Development and Approval of Degree Programs," 12 criteria are disclosed, of which for EP 7M06201 "Radio engineering, Electronics, and Telecommunications," 8D06201 "Radio engineering, Electronics, and Telecommunications": 1 criterion has a strong position, 11 criteria are satisfactory.

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

Evidence-based part

Monitoring the quality of the DP includes: internal assessment of the DP (self-assessment of the DP within the framework of specialized accreditation, assessment of the quality of teaching, verification of activities related to the implementation of the DP); internal assessment of the university's activities: self-assessment and compliance with regulatory documents (standards, self-assessment guidelines) of independent accreditation agencies; external assessment of the educational activities of the university: verification of compliance with legislation, institutional accreditation, rating.

Internal and external stakeholders, i.e. commissions and organizations, are involved in the procedures for monitoring, evaluating, and updating degree programs to determine the degree of effective implementation of degree programs and a favorable learning environment.

According to the Regulations on the development of degree programs for higher and postgraduate education of AUPET from 2020 (Appendix 3 from the self-assessment report), the Academic Committee, which includes representatives of the university from among the academic staff, students, and employers, is responsible for carrying out the revision of the DP.

There are protocols for the revision of the educational program, for example, protocol from the Institute No. 4 dated 14/4/2022, and No. 10 dated 04/17/2023.

An effective analysis tool is to work through the social professional network Linkedin (self-assessment report) and the AUPET website (self-assessment report). Data on graduates of the degree program, questionnaires, reports on the labor market, studying the employer's requirements of general trends in the labor market (development of Data Science) make it possible to perform a qualitative analysis of the educational program (MUP master's and doctoral students).

At department meetings, teachers express their opinions as DPs. The Academic Committee must take this into account when changing the composition of disciplines and changing the content of the discipline itself. In the context of the DP (object planning) review, internal stakeholders refer to people or groups directly associated with the process of planning, developing, and implementing the DP. This may include members of the project team, organizational or department leaders who make key decisions on the DP, as well as other employees who will be directly involved in the implementation of the DP.

External stakeholders in an DP review refer to people or groups who are outside the organization or department and yet may be affected by or have an interest in the DP. These may include customers, suppliers, competitors, government or regulatory authorities, the community, shareholders, and other external entities that may influence the plans or implementation of the DP.

Assessment of the achievement of the planned results of mastering the degree program of basic general education is carried out within the framework of ongoing monitoring of progress in academic subjects, assessment of students' project activities, maintaining a student's "portfolio of achievements", intermediate certification of students.

Depending on the set goal and the corresponding tasks in the discipline being studied, teachers select various modern methods of teaching and assessing learning outcomes, which is generally aimed at ensuring the achievement of the goals of the educational program. Assessment of knowledge during current, intermediate, and final control is carried out through a fund of assessment tools containing practical assignments, tests, test questions and exam papers in the discipline being studied. (self-assessment report).

Analytical part

The management of the DP regularly monitors and periodically evaluates the DP to ensure that the goal is achieved and meet the needs of students and society (there are appropriate protocols). The results of these processes are aimed at continuous improvement of the DP. Monitoring and evaluation of the DP is carried out at the level of the department, dean's office and rector's office with mandatory analysis and consideration of reporting on the dynamics of the program's activities at meetings and the adoption of appropriate decisions for their implementation.

Monitoring of students' educational achievements and assessment of their knowledge in academic disciplines or modules are organized by the registrar's office at milestone stages of the educational process (at the end of each academic period and academic year).

The results of the DP assessment are considered at a meeting of the department, the Institute of Communications and Space Technologies and at meetings of the Scientific and Methodological Council of AUPET.

The University considers the needs of students: working master's students, foreign master's students, master's students with disabilities, gifted master's students. Providing students with complete educational, methodological, organizational, methodological and information support for the educational process in three languages of instruction: Kazakh, Russian and English. The principle of gender equality applies to students. Equal access to educational, research and educational activities is ensured.

Strengths/best practices:

not observed

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. The management of the educational institution will ensure the development, approval and execution of a documented procedure to ensure the achievement of the goal and meet the needs of students, society and show the focus of the mechanisms on the continuous improvement of the educational institution.

2. The management of the DP should ensure systematic monitoring and periodic evaluation of the DP aimed at determining the effectiveness of student assessment procedures and making decisions based on this assessment.

EEC conclusions:

According to the standard "Continuous monitoring and periodic evaluation of degree programs," 10 criteria are disclosed, of which: 9 have a satisfactory position, 1 criterion requires improvement.

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

Evidence-based part

Student-centered learning is a principle of education that involves a shift in emphasis in the educational process from teaching (as the main role of the academic staff in the "transmission" of knowledge) to learning (as the active educational activity of the student).

A student-centered approach is at the core of the design of the Cluster 3 EP, which involves the use of such categories as individual learning trajectory, academic mobility, competencies, learning outcomes, ECTS, etc.

AUPET pays great attention to meeting the needs of various groups of students. The student population is multinational (Kazakhs, Russians, Uighurs, Koreans, Tatars, Uzbeks, etc.). Students are trained at 3 levels of training: bachelor's degree (6B06204-"Telecommunications Engineering"), master's degree (7M06201-"RET") and doctoral degree (8D06201-"RET"). Preparation is conducted in 3 languages: Kazakh, Russian and English.

To meet the needs of different groups of students, equal conditions are provided, for example: participation in various scientific and technical conferences and Olympiads of the institute, university, and higher education institutions of the Republic of Kazakhstan (Appendix 5.1):

- master's student of the MRETN-20-1 group Zhansai K.K – international scientific and practical conference Global Approach to scientific research, December 4-5, 2021, in Salvador, Brazil.
- master's student of group MRETN-21-1 Kurganbekov N.T. – International scientific and technical conference "Satbayev conference – 2023, science and technology: from idea to implementation" 2023.
- master's student of group MRETN-21-2 Tairov N.N. – International scientific and practical conference Recent advances in global science held on March 6-8 in Vilinus, Lithuania.
- master's student of group MRETN-21-2 Amenova A.E. – International scientific and practical conference Recent advances in global science held on March 6-8 in Vilinus, Lithuania.
- master's student of the group MRETN-21-1 Baqtygali A. – International scientific and practical conference Recent advances in global science held on March 6-8 in Vilinus, Lithuania.
- master's student of group MRETN-20-1 ZhusiDPlieva E.O. – International scientific and practical conference Scientific horizon in the context of social crises, November 25-26, 2021, Tokyo Japan.
- master's student of the group MRETN-21-1 Almas U.E. - Scientific horizon in the context of social crises, November 25-26, 2021, Tokyo Japan.
- doctoral student of group DRETk-22-1 Nakisbekova B.R. "MILEX - 2023" and the X International Scientific Conference on Military-Technical Cooperation in the Field of Defense and Security (MILEX.INOVATIONS 23), a collection of scientific articles, Minsk, May 18-19, 2023; Experience in testing telecommunication 5G motion sensors.
- doctoral student of group DRETk-22-1 Kozhabaeva I.B. "MILEX - 2023" and the X International Scientific Conference on Military-Technical Cooperation in the Field of Defense and Security (MILEX.INOVATIONS 23). Collection of scientific articles. Minsk. May 18-19, 2023.
- doctoral students of group DRETk-22-1 O.B. Suyeubaev, I.B. Kozhabaeva. International scientific and practical conference "Digital technologies, innovations in ensuring public safety: problem and solution", with publication in a collection of materials on the tDPic "On the issue of using information technology in teaching radio engineering disciplines" Tashkent, 2022.
- doctoral students of the TE department Kadirbaeva G.K., Nakisbekova B.R., Kozhabaeva I.B., etc. participated in a conference organized by AUPET, 2022.
-doctoral student of group DRET-20-1 Kadirbaeva G.K. took part in international scientific conference of students and young scientists "FARABI ƏLEMI" Almaty, Kazakhstan, April 6-8, 2021. Digest of articles.
- VIII International Scientific and Practical Conference "Science and Education in the Modern World: Challenges of the 21st Century" Technical Sciences. Nur-Sultan, Kazakhstan, April 16-22, 2021. Digest of articles.
-Bragg signals are not subject to interferometric sensor data. International scientific and practical online conference "Integration of science, education and production - the basis for the

implementation of the Nation's Plan" (Saginov Readings No. 13), dedicated to the 30th anniversary of independence of the Republic of Kazakhstan. Karaganda, Kazakhstan, April 16-22, 2021. Digest of articles.

Master's student Laura Dauletova completed the Erasmus+ Stipendium mobility program at the Anhalt University of Applied Sciences for the winter semester from 10/01/2020 to 03/31/2021 and is currently studying under the program (Appendix 5.2 - Notification of enrollment in the Data Science 4 program (2019) for the winter semester 2020. Letter of admission to the master's course in Data Science for the winter semester 2020. Confirmation of the ERASMUS + scholarship for Laura Davletova / Confirmation of the need to be present in Germany for study (16b AufenthG)). Master's student of the MRETn-20-1 group Makhmutov Temirlan DP RET completed training under the state educational order at the Anhalt University of Applied Sciences in Anhalt, Germany, for a period of one year.

Providing equal conditions for all students is achieved by providing all information in a convenient and accessible form, therefore all information is presented on the AUPET websitehttps://AUPET.edu.kz/kzin three languages.

Special educational conditions include: a tolerant culture of behavior of all participants in the educational process; logistical, educational and methodological support taking into account the individual needs of students; trained academic staff proficient in special teaching methods and technologies and other important professional competencies; specialists providing psychological and pedagogical support to all participants in the educational process: educational psychologists (https://studlife.AUPET.kz/psixsluzhba/), medical workers (https://www.instagram.com/AUPET_university/p/CzI24tTrGuF/?img__index=3); For students with disabilities, measures have been taken to create a barrier-free architectural environment. Now, educational buildings meet the basic requirements: accessibility of the adjacent territory, parking lot, entrances, exits, movement within the building, visiting the toilet, etc. Work has been carried out to create visual movement support for the visually impaired.

An unique method of control is monitoring - this is regular monitoring of the quality of assimilation of knowledge and skills in the educational process. A specific method of testing and assessing knowledge is exams, which are also a means of state control of the work of educational organizations. For example, publishing research in the open press, defending dissertations.

Throughout the entire period of study, the quality of knowledge and skills of each student is constantly monitored. A monthly analysis of progress is carried out; at the end of each semester, the results for each group and the DP are summed up. The results of the examination session are discussed at different levels, and management decisions are made based on the results of the discussion. Current and midterm control is carried out by the teacher within the framework of practical classes and SRDP, the results are entered into the rating list for the discipline.

There is continuous assessment of trainees to ensure quality. This allows you to create a current and final rating. Interim certifications, current and final control are carried out in accordance with the academic calendar, curriculum, schedule of the educational process and degree programs. The results of knowledge monitoring are regularly discussed at department meetings and are also reflected in annual and current department reports.

Assessment of students' knowledge is carried out according to "Rules for conducting ongoing monitoring of academic performance, intermediate and final certification of students at the Non-Profit Joint Stock ComDPny "Almaty University of Power Engineering and Telecommunicationsnamed after Gumarbek Daukeyev"(https://AUPET.edu.kz/frontend/web/uploads/academ-calendar/ru/1609224767_SSB8oa.pdf).

Analytical part

The university uses a student-centered approach, which allows you to create and apply a variety of methods and forms of learning and teaching.

An important factor is the presence of own research in the field of teaching methods of DP

academic disciplines. Research related to the development of teaching methods for academic disciplines is mainly carried out by the department of Academic Affairs together with the QMS department.

In internal regulatory documents Academic policy of the Non-profit joint-stock company "Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeyev "all procedures for filing applications, appeals on various issues, etc. are outlined. For the period of the examination session (interim certification), by order of the Vice-Rector for AD, an appeal commission is created from among teachers whose qualifications correspond to the profile of the disciplines being appealed.

Strengths/best practices:

Not observed.

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. The management of the DP should implement documented procedures for responding to student complaints. The university management should consider the feasibility of developing standard procedures at the university level. Deadline until 10/30/2024

2. The management of the public organization should ensure:

- publication of criteria and methods for assessing learning outcomes in advance, including on the university website.

- development, implementation, and documentation of mechanisms to ensure that each graduate of the DP achieves learning outcomes and forms them in full. Deadline until December 30, 2024

EEC conclusions:

According to standard "Student-centered learning, teaching and performance assessment", 10 criteria are disclosed, of which: 9 - have a satisfactory position, 1 criterion - requires improvement.

6.6. Standard "Students"

Evidence-based part

The "students" standard reflects the current policy at NJSC AUPET for the formation of a contingent of students throughout the entire period of study within the DP, as well as procedures after completion of training. The policy for forming a contingent of students is to admit, based on a state order (grant) and on a paid basis, persons who have consciously chosen the DP and have scored the required number of points based on the results of the UNT and KTA. Issues of forming a contingent and the results of admission are considered at meetings of departments, the educational and methodological commission of the institute, and the Academic Council of the university.

In its activities to form a student population, the AUPET admissions committee is guided by the regulatory legal acts of the Republic of Kazakhstan. In total, in the cluster from 2020-2024 academic years, 27 master's students and 7 doctoral students are studying in the DP RET.

The correspondence between the admission process and the subsequent progress of students is assessed based on the results of examination sessions in accordance with the provisions (https://AUPET.edu.kz/). During the training process, master's and doctoral students undergo current, midterm, and final control, according to the approved academic calendar (https://AUPET.edu.kz/).

For violation of the internal regulations, other disciplinary measures may be applied to students: reprimands, reprimand, severe reprimand.

Transfer from course to course is formalized by order of the rector based on the proposal of the director of the ECCI. For transfer from course to course, the university has established a transfer grade scale (GDP) by course. Based on the decision of the Academic Council, the GDP passing grade levels are established.

The admissions committee and graduating departments of "TE" conduct a comparative analysis with the general contingent of other universities in the context of DP to determine the career guidance policy shown inhttps://AUPET.kz/?DPge_id=7622.

In accordance with the requirements of the Lisbon Convention, the admissions committee carries out work on the submission of documents of persons entering the university who have documents on education from foreign educational institutions, to carry out the recognition and notification procedure in the center of the Bologna process and academic mobility of the Ministry of Education and Science of the Republic of Kazakhstan. Documents submitted in a foreign language must have a notarized translation into the state or Russian language.

The University actively cooperates on issues of qualification recognition and academic mobility with the center of the Bologna Process and academic mobility of the Ministry of Education and Science of the Republic of Kazakhstan, which is part of the ENIC - NARIC information network. Every year, the geography of cooperation between NJSC AUPET and other universities near and far abroad on the recognition of diplomas/qualifications and confirmation of state-issued educational documents (diploma) is expanding.

To implement the principles of the Bologna process in NJSC AUPET in ensuring academic mobility and recognition of DP in the international educational space, a regulation on a system for re-crediting ECTS credits and organizing academic mobility of students was developed and approved (Appendix 6.4). The regulations are on the university website, where academic staff and students can obtain the necessary information https://AUPET.edu.kz/frontend/web/uploads/academ-calendar/ru/1609230875_aq3_PQ.pdf. Upon completion of their stay at the partner university, students submit to the academic mobility coordinator a transcript with a list of disciplines studied, including the results of exams according to the individual curriculum, academic certificate, and information about internships. Based on the transcript, in accordance with the modular curriculum and the catalog of elective disciplines, mandatory re-crediting of credits is carried out.

The organization of academic mobility at NJSC AUPET is regulated by the Law of the Republic of Kazakhstan “On Education”, regulatory documents of the Ministry of Education and Science of the Republic of Kazakhstan, rules for organizing the educational process in credit education technology. Academic exchanges are implemented in accordance with agreements between NJSC AUPET and partner universities, agreements with international companies, foundations, and other organizations. For students participating in the academic mobility program, an individual curriculum is formed as agreed by the parties. The individual study plan is the basis for the provisional academic recognition process, which in turn guarantees that this learning will count towards a future qualification.

Analytical part

During interviews with employers, students and academic staff, various answers were received to the questions asked, based on which appropriate conclusions can be drawn. Employers are interested in AUPET students as potential employees and future managers in the radio engineering, electronics, and telecommunications industry.

Assessment of student satisfaction with places and organization of internship is to receive an excellent grade for the report on research and teaching practices. There are basic practice enterprises and non-telecommunication enterprises that have telecommunications equipment on their balance sheet, for example, NC Kazakhstan Temir Zholy JSC, Kazpost JSC, Regional Energy Companies of the Republic of Kazakhstan and branches of KEGOC, etc. Thus, the TE Department has concluded long-term agreements for students to undergo professional practices.

Strengths/best practices:
Not visible.

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":
1. The management of the DP should introduce and publish (post) documented procedures regulating the mechanism for supporting gifted students. Deadline until 06/30/2024

EEC conclusions:
According to the "Students" standard, 12 criteria are disclosed, of which according to the DP7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications": 12 criteria are disclosed, of which: 11 have a satisfactory position, 1 criterion requires improvement.

6.7 Standard "Faculty and academic staff"

Evidence-based part
The personnel policy of AUPET was developed in accordance with the University Development Strategy, the provisions of the personnel policy of NJSC AUPET and represents the main directions and approaches of personnel management for the implementation of the mission and declared strategic goals of AUPET. The principle of a democratic approach, maintaining purity, creating conditions and an atmosphere of initiative and creativity, stimulating the activities of academic staff, personal improvement in management - all this meets modern trends in the field of working with human resources and is based on the formation and strengthening of "human capital" in the conditions of transition to society knowledge. Also, the personnel policy at the department comes from the general personnel policy of the university. Institutional procedures in relation to academic staff and personnel (hiring, promotion, encouragement, reduction, dismissal, rights and obligations, job descriptions) are developed on the basis of the laws of the Republic of Kazakhstan "On Education", the Labor Code, the Charter of NJSC "AUPET named after Gumarbek Daukeyev" "

The personnel policy is designed to combine existing approaches, proven methods, and tools of personnel management, considering the best experience in the field of collaborating with personnel. The Personnel Policy is based on the following basic provisions: comprehensiveness – coverage of all areas of personnel management activities; systematicity – consideration of all constituent elements of the policy in interrelation; transparency – openness at all stages of the human resource management process; validity - the use of modern scientific developments in the field of personnel management, which could provide maximum economic and social effect; efficiency – return on costs for activities in the field of personnel management by the results of production activities. There is a collective agreement (self-assessment reports).

Transparency of personnel procedures is ensured by access to documents (job descriptions of department employees, defining responsibilities, job responsibilities and qualification requirements for the department's academic staff, their rights, regulations). An employee can familiarize himself with orders on hiring, transfer, and dismissal in the personnel management department. All Regulations are published on the AUPET website at http://info.AUPET.kz/smk.html and are freely available for academic staff to review.

The required level of competence of academic staff is determined not only by the number of academic staff, but also by the volume of scientific production, the number of publications, including in ranking journals with a non-zero impact factor, in CCSON journals, publications in foreign and domestic publications, participation of academic staff in conferences in countries near and far abroad, published monographs, textbooks and teaching aids.

The number of staff members of the academic staff for the 2021-2022 academic year. year and for the 2022-2023 academic year, teaching classes in the DP "7M06201-RET" in the

department, there were 14 teachers, of which 6 were professors, 8 were associate professors.

The selection of practicing teachers considers their academic degree (Doctor of Technical Sciences, Candidate of Technical Sciences, PhD), corresponding to the profile of the degree program. Practical teachers conduct professionally oriented classes better. By attracting practicing teachers, the educational results and cognitive interest of DP students in their future profession are increased.

Associate Professor, PhD Soloshchenko A.V. is a senior radio network planning expert at Kar-Tel LLP with the Beeline brand. Based on the results of a survey of students, conducted based on the QMS Regulations "On the procedure for conducting surveys of students" and which is an indicator of the quality of teaching, Soloshchenko A.V. has a high score. Senior lecturer A.S. Bakirov, who is the head of the Bereke Bank data platform support department, successfully conducts classes at the TE department in the discipline "Theory and Practice of Innovation in Telecommunications," as Evidence-based part by the high student survey score.

For students of the DP "7M06201-RET" and DP "8D06201-RET", classes are taught by professors, associate professors, and senior lecturers with academic degrees. The current academic staff, the leading DP, has sufficient scientific and creative potential to ensure strategic development.

All academic staff at the department have diplomas in the DP profile. For example, professor of the TE department Chezhimbaeva K.H., involved in the DP "7M06201-RET" and DP "8D06201-RET", graduated from the Kazakh Polytechnic Institute, specializing in "communications engineer", defended her ThD thesis in the field of electronic technology, and is constantly improving her level qualifications, as evidenced by the certificates located in the Google drive of the TCE department, which can be found at the link (https://drive.google.com/drive/folders/1m5_cbvNocSvJiJAg-zBX6zVO4wOwSUbH?usp=sharing), has publications in Scopus and Web of Science databases. The results of practical understanding of innovative forms of education are discussed by the members at department meetings and methodological seminars. Teachers implement modern teaching methods learned, including during the "Winter School" in 2024. Also, teachers Mukhamedzhanova A.D., Yerzhan A.A. undergo qualification improvement on Coursera. In 2023, teachers Chezhimbayeva K.S., Khizirov M.A., as well as 10 employees of the TE department, underwent training in the Ansys HFSS software.

Analytical part

EEC experts note assistance to young scientists in improving their professional level; development of scientific potential and realization of their creative potential; representation, protection and implementation of professional, intellectual, legal, and social interests and rights of scientific youth; promotion of scientific knowledge and the latest achievements of science. Employees of the department regularly enroll in doctoral studies at AUPET. For example, in 2022, masters, senior lecturers of the TKI department Kozhabayeva I.B. and Nakisbekova B.R., and in 2023 Suyeuubayev O.B. and Iskakov A.Zh. entered the doctoral program at AUPET. Senior lecturer Manankova O.A. is studying in the doctoral program at AUPET. In 2022, after completing the doctoral program at AUPET, Turzhanova K.M., Soloshchenko A.V., Yakubov B.M., Manbetova Z.D., successfully defended dissertations at the dissertation council of AUPET. In 2023, associate professor of AUPET Mukhamedzhanova A.D. defended her doctoral dissertation.

At the same time, there are gaps in the application of ICT academic staff and software. When asked what MOOCs are, some employees did not have an answer to the question posed.

Strengths/best practices:

Not observed.

EEC recommendations for DPs 7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. The management of the DP should study the feasibility of changes in the role of the teacher in connection with the transition to student-centered learning and provide for their implementation in the development plan of the DP. Deadline until 30 December 2024

2. The management of the public organization in the development strategy of the public organization and in other documents of the strategic level should determine the role of academic staff and the contribution they should make to achieving the goals of strategic development. Deadline until 06/30/2024

3. The management of the public organization must develop and document measures to motivate the professional and personal development of teachers, including encouragement for the integration of scientific activities and education, and the use of innovative teaching methods. Deadline until December 30, 2024

EEC conclusions:

According to the standard "Faculty and academic staff" for DP7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications": 10 criteria are disclosed, of which: 7 - have a satisfactory position, 3 criterion - requires improvement.

6.8 Standard " Educational Resources and Student Support Systems"

Evidence-based part

The university has a material and technical base that provides all types of practical training and research work for academic staff and students of the 3rd cluster, provided for studies according to plan. Systematic work is being carried out to update and improve the material and technical base of the specialty.

The equipment of the material and technical base allows the educational process to be conducted at a level that meets the requirements of state standards of higher education. AUPET has a sufficient classroom fund, equipped with technical teaching aids (TAs), including audio and video equipment.

The learning environment, including material, technical and information resources, corresponds to the goals of degree programs. The laboratories and equipment of the TE department correspond to the degree programs 7M06201 - RET, 8D06201 - RET:

Auditorium B-401 "Info communication Technologies", the authorized D-Link training center has the following equipment: D-Link network and subscriber access kits; IPDSLAM; switches of the 2nd level of Gigabit Ethernet technology; switches of the 3rd level of Gigabit Ethernet technology; firewalls; modem equipment; WI-FI network equipment; wireless WI-FI switches; video cameras; IP phones, gateways, PBX server type; "Korgan IP" - information protection at the link level; SDH STM-4 equipment was transferred and installed with the sponsorship of GCT Almaty telecom.

Auditorium B-402 "Virtualization and modern technologies" - an authorized training center of Iskratel has equipment: SI-2000 from Iskratel); MSAN modules from Iskratel; CS from Iskratel (Soft switch); ATS-320 from Iskratel; SI-3000 CS WI-MAX board from Iskratel; - hardware and software complex for studying the principles of construction and research of information and communication network technologies; server equipment for scientific research modeling; universal gateway VRX-1010-E1.

B406-A and B406-B–laboratory "Modeling of telecommunication networks and processes" (computer classes), total area 66.7 m2. There are 22 computers and the following software: Microsoft Net Framework SDK v1.1, Cisco Packet Tracer, Net Cracker Professional 4.1, System View by ELANIX, Boson Software, GNS3, Microsoft SQL Server 2008, Wireshark, Statistical 8, DPNET Modeler 14.0, GPSS World Student Version, D – Link, PGP, FileZilla FTP

Client, Flash FXP, D-Link Air Plus Xtreme G, System View, GPSS, Netcracker.

In auditorium B-403 - “Cloud IoT platforms” there are LoRaWAN base stations, a hardware LoRaWAN network tester and a set of LoRaWAN sensors: magnetic contact, motion sensor, universal 5-in-1 sensor.

Auditorium B-405 - “Fundamentals of Info communication Networks and Systems” is equipped with 4 sets of next-generation industrial SDH equipment OptiX OSN 1500 from Huawei Technologies Co. Ltd, which are mounted in two telecommunication racks and connected in a ring circuit. The equipment is designed to provide access to the city network and organize multiservice transmission. The basis of the HUAWEI transmission system is the new generation Optix OSN equipment, which is used to provide metropolitan area networks (MAN). These systems mirror signal multiplexing systems. HUAWEI equipment is presented in the intelligent optical transmission system – Optix OSN 1500, which includes three types of network elements in the optical transmission network: terminal multiplexer; input/output multiplexer (ADM); multiple input/output multiplexer (MADM); linear path of the DSP; CSK 1 and CSK 2; receiver and transmitter of DTMF signals; Degem system; voltmeter TMV-360; generator FM AM 14181; audio generator -161; oscilloscope S1 220; APK 2010 - equipment for deep signal study - postgraduate course - "Modern measurement methods in telecommunications". The laboratory is equipped with 4 laboratory stands, manufactured by the educational and methodological center at the St. Petersburg State University of Telecommunications, for studying the principles of time division channels, studying the PCM codec, studying the DTMF signal receiver and transmitter. As well as 2 universal laboratory stands for studying linear paths of digital multichannel transmission systems. Also, the laboratory uses 4 laboratory stands from the Israeli company DEGEM for the discipline "Multichannel Telecommunication Systems", "Theory of Electrical Communication". Also equipped with 4 laboratory stands, manufactured by the educational and methodological center at the St. Petersburg State University of Telecommunications, for studying the discipline "Theory of Electrical Communication" with removable blocks. There is a rack of equipment for studying MPLS technology, consisting of 4 Cisco switches (2 switches) and other manufacturers. Used during postgraduates "Research of modern transport communication networks".

In audience B-410 - "Space and Ground Radio Communication System" laboratory work is conducted on the disciplines: "Satellite and Radio Relay Transmission Systems", "Wireless Communication Technologies", "Radio Receiver Devices" "Radio Transmitting Devices". Equipped with the following equipment: subblock of the receiver expander of the satellite station "Moscow"; digital satellite receiver Digital Satellite Receiver for studying the technology of receiving satellite television signal; a set of satellite equipment for studying the technology of receiving digital TV signal and data transmission stream Internet with the possibility of direct recording to a computer of the received signal for subsequent processing; four universal laboratory stands with 16 interchangeable blocks for conducting laboratory work on studying the principles of operation of various transmitter nodes;

Set of digital radio modems for organizing a digital radio relay line CISCO-AIR-BR-350. The laboratory has 11 computers, the software (Satellite Antenna, Satscape, Orbitron, Profedit, Electronics Workbench, Ansys HFSS) of which allows conducting virtual laboratory work. Also, there are 4 mobile tracking digital stations Hytera for studying their programming, specialized settings, and conducting negotiations in the selective call mode; wireless device Will Canopy; laboratory stand on Wi-Fi wireless technology with hardware and software complex.

In room B-412 disciplines are conducted: "Radio Receiver Devices", "Radio Transmitting Devices" and "Theory of Electromagnetic Wave Transmission and Antenna-feeder Devices". The laboratory of antenna-feeder devices is equipped with measuring instruments P1-27, P1-28, P1-3, P3-35, RF generators G4-83, G4-79, G4-32A, G4-37A, G4-82, G3-111, G4-128, G3-109, G4-102, G5-63, measuring devices-microammeters M 265M, M903/1, reactive NKP-8, ERSK-

III and matched EAK-III loads, horn, Parabolic, spiral antennas. Attenuators D3-33A, D5-4, waveguides, Computers Pent.ET-31133 I815E 133MHz and Intel D845GVRSL S-478. Virtual laboratory work is carried out using the laboratory complex "RRV labs", consisting of 7 works in the computer class of the department.

In room B-127 - "Object-Oriented Programming and Mobile Technologies" there is equipment: laboratory stands, manufactured by the St. Petersburg State University of Telecommunications; built-in measuring equipment; interchangeable layouts. Interchangeable layouts allow you to perform work of various complexity: personal Bluetooth networks - 4 pcs .; communication systems with time division channels - 3 pcs .; study of mobile phones - 4 pcs .; study of communication systems with quadrature modulation - 4 pcs .; study of the CAN bus - 4 pcs .; study of remote monitoring systems - 4 pcs .; direct digital frequency synthesizers - 4 pcs .; Zigbee sensor networks - 8 pcs .; basic elements of digital technology.

An important part of the training is the research work of master's and doctoral students. The university creates conditions for scientific research. In the process of training, students write abstracts, term papers, participate in conferences, and complete dissertations.

The program management ensures the availability and functioning of an individual assistance system and counseling on educational process issues. Counseling on educational process issues is provided by the teacher leading this discipline. Near each department on the announcement board, there is an approved schedule of SRW consultations. Consultations can be conducted by the master's and doctoral program coordinator, heads of departments, directors and deputy directors of institutes, vice-rectors. Teachers also have the opportunity for individual work with students through social networks. VKontakte, WhatsApp, Facebook, Instagram, Telegram, Linkedin. In a short period of time, you can get a quick response to your request and question.

For master's and doctoral students, the department appoints a coordinator who advises students, for example, for the 2023-2024 academic years, a PhD lecturer Erzhan A.A. was appointed for master's students, and Manankova O.A. for doctoral students. Coordinator tasks: to determine the need to establish communication between students and teachers to create conditions for receiving quality education, conscious choice of the student's training trajectory; the relationship between the coordinator and the student is based on the principles of continuous consultation when compiling the student's educational trajectory. The coordinator familiarizes the student with the features of the academic life of the university, the content of the RUP, the requirements according to the training areas within the OP implemented at the University, and acts as a mentor in choosing the education trajectory in accordance with the student's inclinations, abilities, interests, and goals. The main task of the coordinator is to organize educational work in the study group, create documents for organizing pedagogical, research practices, research work, consultations on filling out the IUPL, on all processes that occur during the training in the magistracy and postgraduate studies.

The mechanism of assistance to students in case of problems is as follows: makeup for missed classes, consultation at the SRW, retake through the direction. Two attestations are held in a semester, based on the results of which coordinators conduct a consultation hour, in addition to consultations on disciplines, the coordinator explains the rules for organizing pedagogical and research practices, scientific research or research and development.

Analytical part

According to the experts of the External Evaluation Commission (EEC) based on meetings with the university's management, students, graduates, and employers, it is noted that work has been created in the university in the field of career guidance, support for students, an educational environment has been created to achieve the required professional level, representation of students in the collegial bodies of the university has been ensured, methods of feedback and informing students have been developed, and the cultural and social life of students has been organized.

To create the necessary pedagogical environment for students with disabilities, several teachers underwent training in inclusive education (Certificate - Pedagogical Design Reload of the Degree Program; Innovative Technologies and Methods in Education).

The university's management pays great attention to compliance with safety and labor protection rules, sanitary and technical measures to improve working conditions and labor safety in order to bring workplaces in line with the requirements of current regulatory acts on labor protection and safety (Labor Code of the Republic of Kazakhstan dated November 23, 2015, No. 414-V).

Strengths/best practice:

1. The management of the degree program demonstrated the availability of an auditorium fund, including laboratories equipped with specialized equipment, allowing to cover the material and technical base of the degree program disciplines.

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. The management of the university must ensure the uninterrupted functioning of the Wi-Fi network throughout its territory.

EEC conclusions:

According to the standard "Educational resources and student support systems" for DP7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications": 13 criteria are disclosed, of which: 1 – has a strong position, 11 – have a satisfactory position, 1 criterion – requires improvement.

6.9 Public Information Standard

Evidence-based part

The university has a system for collecting and monitoring information on the degree program. The University promptly publishes information on the implementation of degree programs. The published information is reliable, clear, objective, relevant and accessible to everyone.

The self-assessment report states that information about the DP is posted on the university websitehttps://AUPET.edu.kz/in the "Home" section. All resources used to organize the learning process are sufficient and meet the requirements. Information about the content of the DP is indicated in syllabuses, EMCD and posted in the AIS "Platonus" (https://edu2.AUPET.kz/).

The evaluation procedure is the same for all DPs and is regulated by regulatory documentation located on the university websitehttps://AUPET.edu.kz/ru/DPges?id=7in the section "About AUPET/Internal regulatory documents".

Information about passing scores for the DP by level of study, educational opportunities for the student is also posted on the university websitehttps://AUPET.edu.kz/ru/site/admissionsIn chapter "home/To those entering."

The “Career Center” page https://AUPET.edu.kz/ru/career (Appendix 9.4) presents various vacancies of partner companies where interaction with employers takes place.

The university cooperates with the following companies for employment: AO "Astel", AO "Kazakhtelecom", AO "Transtelecom", TOO SCTB "Granit", TOO "Kap-Tel", TOO "Eltex", AO PSTK "Bitelkom", AO "Alt Telecom", AO "KazTransCom", TOO "W Telekom", AO "Kazteleradio", TOO "Huawei-Almaty", TOO "Tarlan Telecom", TOO "Basis Telecom", TOO "Mobile Telecom Service", TOO "Alsi", TOO "Otis" companies Beeline, K'cell, and LG.

Communication with graduates is maintained in various ways: through the alumni association, meetings, telephone communication, email, using the powerful capabilities of the social network https://www.instagram.com/aues_university/, https://vk.com/aues_university, https://www.youtube.com/channel/UCUnDGC1ddotzf1fpn-hyXDA, https://t.me/aues_university. Every year, the Department of Telecommunications Engineering informs its graduates about the "AUPET Alumni Meeting".

On the AUPET websitehttps://AUPET.kz/, detailed background information is provided about the university, institutes and departments implementing the DP of this cluster, where interested parties can find answers to their questions about educational resources and other activities of the university. Employees and students of the department appear on television and are published in various news publications: “Bilimdi el”, “Aiqyn”, “Evening Almaty”, “24.kz”, etc. The full list with links to publications is presented on the official website on the “Media about us” DPgehttps://AUPET.edu.kz/ru/site/smi-o-nas.

Information is published on the website (https://AUPET.kz/) and on social networks telegramhttps://t.me/AUPET_university, youtubehttps://www.youtube.com/channel/UCUnDGC1ddotzf1fpn-hyXDA, in contact withhttps://vk.com/AUPET_university, instagramhttps://www.instagram.com/AUPET_university/.

Satisfaction with information about the activities of the university and the specifics and progress of implementation of degree programs is assessed annually through questionnaires, surveys, feedback, and through the rector’s blog.

Analytical part

Based on the results of the analysis of the self-assessment report, familiarization with the university’s information resources, interviews with the university’s academic staff by EEC experts, there is unconfirmed information about the placement of all the necessary information regarding the DP on information sites, university portals, etc.

Strengths/best practices:

Not observed.

EEC recommendations for DPs7M06201 “Radio engineering, electronics and telecommunications”, 8D06201 “Radio engineering, electronics and telecommunications”:

1. The management of the university should determine sections of the site and organize the placement in them of adequate and objective information about the academic staff of the DP. Deadline until 06/30/2024

EEC conclusions:

According to the standard “Educational resources and student support systems” for DP7M06201 “Radio engineering, electronics and telecommunications”, 8D06201 “Radio engineering, electronics and telecommunications”: 12 criteria are disclosed, of which: 10 - have a satisfactory position, 2 criteria - require improvement.

VII OVERVIEW OF STRENGTHS/BEST PRACTICES FOR EACH STANDARD

Standard "Degree Program Management"
Not observed.

Information Management and Reporting Standard
Not observed.

Standard "Development and approval of degree programs"
The university has demonstrated the ability to prepare students for professional certification (presence of certified staff and students, presence of academies (Cisco, Huawei) for professional certification).

Standard "Continuous monitoring and periodic evaluation of degree programs"
Not observed.

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

Standard "Students"
Not observed.

Standard "Faculty and academic staff"
Not observed.

Standard "Educational Resources and Student Support Systems"
The management of the DP fully demonstrated the availability of classrooms and laboratories equipped with modern equipment, which make it possible to achieve the goals of the DP.

Public Information Standard
Not observed.

VIII OVERVIEW RECOMMENDATIONS FOR IMPROVING QUALITY FOR EACH STANDARD

<u>According to the "Degree Program Management" standard:</u>

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. The management of the university must organize the development, approval and publication of a Quality Assurance Policy, which will reflect the relationship between scientific research, teaching and learning by 06/30/2024.

2. To the management of the university and DP:

- conduct an audit of regulatory documents, ensure their execution considering the formal requirements of document flow, determine the procedure for their placement on the information resources of the university, considering access restrictions for various categories of stakeholders.
- in strategic and operational planning documents, provide for activities and measures to develop a quality culture and involve stakeholders in quality assurance processes.
- supplement job descriptions and regulations on structural units with norms and requirements for the development of a quality culture.
- conduct staff training, academic staff, and familiarize students with the problems of developing a quality culture.

Deadline until December 30, 2024

3. The management of the DP should ensure transparency of the degree program management system determine the resource of the structural unit for posting information about the management of the DP, the requirements for keeping it up to date and the persons responsible for their implementation. Deadline until 06/30/2024

4. The management of the university should develop and document procedures for analyzing the external and internal environment, risks and opportunities for making decisions on the opening of training for new DPs based on facts by October 30, 2024.

5. The management of the DP, based on local regulatory documents, formalize the design, management, and monitoring of the internal quality assurance system for decision-making based on facts by December 30, 2024.

6. The management of the university should determine and document the procedure for risk management at the level of structural divisions and within the DP until June 30, 2024.

7. The DP must demonstrate innovation management within the DP, including the analysis and implementation of innovative proposals.

The management of the university should provide for innovation management in planning, reporting and activity procedures based on the implementation of all basic management functions, including planning, organization, stimulation, analysis. Deadline until 10/30/2024

8. Provide training for all DP managers in educational management programs until 12/30/2025.

<u>According to the Information Management and Reporting standard:</u>

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. The university management should designate and assign responsible persons for the accuracy and timeliness of information analysis and data provision in information and communication systems, the university's website, and document these decisions. Deadline: June 30, 2024. Maintain them in an up-to-date manner on a permanent basis.

The management of the university should identify and assign responsible persons for the accuracy and timeliness of information analysis and provision of data in info communication

systems, the university website, and document these decisions. Valid until June 30, 2024. KeDP them up to date on an ongoing basis.

<u>According to the Standard "Development and approval of degree program":</u>

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. It is imperative for the management of the DP to document and implement the procedure for the participation of students, academic staff, and other interested DPrties in the development of the DP, ensuring its quality, as well as recording (documenting) the results of implementation. Deadline until 10/30/2024

<u>According to the Standard "Continuous monitoring and periodic evaluation of degree programs":</u>

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. The management of the educational institution will ensure the development, approval and execution of a documented procedure to ensure the achievement of the goal and meet the needs of students, society and show the focus of the mechanisms on the continuous improvement of the educational institution.

2. The management of the DP should ensure systematic monitoring and periodic evaluation of the DP aimed at determining the effectiveness of student assessment procedures and making decisions based on this assessment.

<u>According to the "Student-Centered Learning, Teaching and Performance Assessment" Standard:</u>

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. The management of the DP should implement documented procedures for responding to student complaints. The university management should consider the feasibility of developing standard procedures at the university level. Deadline until 10/30/2024

2. The management of the public organization should ensure:

- publication of criteria and methods for assessing learning outcomes in advance, including on the university website.

- development, implementation, and documentation of mechanisms to ensure that each graduate of the DP achieves learning outcomes and forms them in full. Deadline until December 30, 2024

<u>According to the "Students" Standard:</u>

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. The management of the DP should introduce and publish (post) documented procedures regulating the mechanism for supporting gifted students. Deadline until 06/30/2024

<u>According to the Faculty and Academic staff Standard:</u>

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. The management of the DP should study the feasibility of changes in the role of the teacher in connection with the transition to student-centered learning and provide for their implementation in the development plan of the DP. Deadline until 30 December 2024

2. The management of the public organization in the development strategy of the public organization and in other documents of the strategic level should determine the role of academic staff and the contribution they should make to achieving the goals of strategic development. Deadline until 06/30/2024

3. The management of the public organization must develop and document measures to motivate the professional and personal development of teachers, including encouragement for the integration of scientific activities and education, and the use of innovative teaching methods. Deadline until December 30, 2024

<u>According to the Standard "Educational Resources and Student Support Systems":</u>

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. The management of the university must ensure the uninterrupted functioning of the Wi-Fi network throughout its territory.

<u>According to the Public Information Standard:</u>

EEC recommendations for DPs7M06201 "Radio engineering, electronics and telecommunications", 8D06201 "Radio engineering, electronics and telecommunications":

1. The management of the university should determine sections of the site and organize the placement in them of adequate and objective information about the academic staff of the DP. Deadline until 06/30/2024

IX RECOMMENDATIONS TO THE ACCREDITATION COUNCIL

Appendix 1. Evaluation table "SPECIALIZED PROFILE DPRAMETERS"

No.	No. n\n	Criteria for Evaluation	Position of the educational organization			
			Strong	Satisfactory	Suggests improvement	Unsatisfactory
Standard "Degree Program Management"						
1	1.	The university must demonstrate the development of a goal and DP development strategies based on an analysis of external and internal factors with wide involvement of various stakeholders		+		
2	2.	Quality assurance policies should reflect the relationship between research, teaching, and learning			+	
3	3.	The university demonstrates the development of a quality assurance culture			+	
4	4.	A commitment to quality assurance must apply to any activity carried out by contractors and partners (outsourcing), including joint/double degree education and academic mobility.		+		
5	5.	The management of the DP ensures transparency in the development of the DP development plan based on an analysis of its functioning, the real positioning of the university and the focus of its activities on meeting the needs of the state, employers, stakeholders, and students			+	
6	6.	The leadership of the DP demonstrates the functioning of the mechanisms for the formation and regular review of the DP development plan and monitoring its implementation, assessing the achievement of training goals, compliance with the needs of students, employers, and society, making decisions aimed at the continuous improvement of the DP		+		
7	7.	The management of the DP should involve representatives of stakeholder groups, including employers, students, and academic staff in the formation of a development plan for the DP		+		
8	8.	The management of the DP must demonstrate individuality and uniqueness DP 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 DP, the distribution of job responsibilities of staff, and the delimitation of the functions of collegial bodies		+		
10	10.	The management of the DP ensures coordination of the activities of all persons involved in the development and management of the DP, and its continuous implementation,		+		

		and involves all interested parties in this process				
11.	11.	The management of the DP 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 DP must exercise risk management		+		
13	13.	Management of the degree program must ensure the participation of representatives of interested parties (employers, academic staff, students) in the collegial bodies governing the degree program, as well as their representativeness when making decisions on issues of managing the educational program		+		
14	14.	The university must demonstrate innovation management within the DP, including the analysis and implementation of innovative proposals		+		
15	15.	The management of the DP must demonstrate its openness and accessibility to academic staff, students, employers, and other interested parties.		+		
16	16.	The management of the DP confirms completion of training in degree management programs			+	
17	17.	The management of the DP should ensure that progress made since the last external quality assurance procedure is considered in preparation for the next procedure		+		
		Total according to standard	**0**	**12**	**5**	**0**
Information Management and Reporting Standard						
18	1.	The university must ensure the functioning of a system for collecting, analyzing, and managing information based on modern information and communication technologies and software		+		
19	2.	The management of the DP demonstrates the systematic use of processed, adequate information to improve the internal quality assurance system		+		
20	3.	The management of the DP demonstrates the presence of a reporting system reflecting the activities of all structural divisions and department within the DP, including an assessment of their effectiveness		+		
21	4.	The university must determine the frequency, forms, and methods of assessing the management of the degree program, the activities of collegial bodies and structural divisions, and senior management		+		
22	5.	The university must demonstrate a mechanism for ensuring the protection of information, including identifying responsible persons for the accuracy and timeliness of information analysis and data provision		+		
23	6.	The university demonstrates the involvement of students, employees, and academic staff in the processes of collecting and analyzing information, as well as making decisions based on it		+		
24	7.	The management of the DP must demonstrate the availability of communication mechanisms with students,		+		

		employees, and other interested parties, including conflict resolution				
25	8.	The university must ensure that the degree of satisfaction of the needs of academic staff, staff and students within the DP is measured and demonstrate Evidence-based part of eliminating the identified deficiencies		+		
26	9.	The university must evaluate the effectiveness and efficiency of activities, including in the context of DP		+		
		Information collected and analyzed by the university within the framework of the DP must consider:		+		
27	10.	Key performance indicators		+		
28	11.	dynamics of the student population in terms of forms and types		+		
29	12.	grade level, student achievement and dropout		+		
30	13.	student satisfaction with the implementation of the DP and the quality of education at the university		+		
31	14.	Availability of educational resources and support systems for students		+		
32	15.	employment and career growth of graduates		+		
33	16.	Students, employees, and academic staff must document their consent to the processing of personal data		+		
34	17.	The management of the DP should help provide all the necessary information in the relevant fields of science		+		
		Total according to standard	**0**	**17**	**0**	**0**
Standard "Development and approval of degree program"						
35	1.	The university must demonstrate the existence of a documented procedure for developing DP and its approval at the institutional level		+		
36	2.	The university must demonstrate compliance of the developed DP with the established goals and planned learning outcomes		+		
37	3.	The management of the degree program must determine the influence of disciplines and professional practices on the formation of learning outcomes		+		
38	4.	The university can demonstrate the presence of a model of an DP graduate that describes learning outcomes and personal qualities		+		
39	5.	The qualification awarded upon completion of the DP must be clearly defined, explained, and correspond to a certain level of the NQF, QF-EHEA		+		
40	6.	The management of the DP must demonstrate the modular structure of the program, based on the European Credit Transfer and Accumulation System (ECTS), ensure that the DP and its modules (in content and structure) comply with the set goals with a focus on achieving the planned learning outcomes		+		
41	7.	The management of the DP must ensure that the content of academic disciplines and learning outcomes correspond to		+		

		each other and the level of study (bachelor's, master's, doctoral)				
42	8.	The management of the DP must demonstrate the conduct of external examinations of the DP		+		
43	9.	The management of the DP must provide Evidence-based part of the participation of students, academic staff, and other stakeholders in the development of the DP and ensuring their quality		+		
44	10.	The management of the DP must demonstrate the positioning of the DP in the educational market (regional/national/international), its uniqueness		+		
45	11.	An important factor is the ability to prepare students for professional certification	+			
46	12.	An important factor is the presence of a double-degree DP and/or joint DP with foreign universities		+		
		Total according to standard	**1**	**11**	**0**	**0**
Standard "Continuous monitoring and periodic evaluation of degree programs**»**						
47	1.	The university must ensure a revision of the content and structure of the DP, considering changes in the labor market, the requirements of employers and the social demands of society		+		
48	2.	The university must demonstrate the existence of a documented procedure for monitoring and periodically evaluating the DP to achieve the goal of the DP. The results of these procedures are aimed at continuous improvement of the DP			+	
		Monitoring and periodic evaluation of the DP should consider:				
49	3.	content of programs in the context of the latest achievements of science and technology in a specific discipline		+		
50	4.	changes in the 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 degree of satisfaction of students		+		
54	8.	compliance of the educational environment and the activities of support services with the goals of the DP		+		
55	9.	All interested parties must be informed of any planned or undertaken actions regarding the DP. All changes made to the DP must be published		+		
56	10.	Support services should identify the needs of different groups of students and the degree to which they are satisfied organization of training, teaching, assessment, development of DP in general		+		
		Total according to standard	**0**	**9**	**1**	**0**

Standard "Student-centered learning, teaching and assessment"						
57	1.	The management of the degree program must ensure respect and attention to different groups of students and their needs, providing them with flexible learning paths		+		
58	2.	The management of the DP must provide teaching based on modern achievements of world science and practice in the field of training, the use of various modern teaching methods and assessment of learning outcomes that ensure the achievement of the goals of the DP, including competencies, skills in performing scientific work at the required level		+		
59	3.	The management of the DP must determine mechanisms for distributing the educational load of students between theory and practice within the DP, ensuring the mastery of the content and achievement of the goals of the DP by each graduate		+		
60	4.	An important factor is the presence of your own research in the field of teaching methods of DP disciplines		+		
61	5.	The university must ensure that the procedures for assessing learning outcomes comply with the planned results and goals of the DP		+		
62	6.	The university must ensure consistency, transparency and objectivity in the mechanism for assessing the educational results of the DP. Criteria and methods for assessing learning outcomes should be published in advance		+		
63	7.	Evaluators must be proficient in modern methods of assessing learning outcomes and regularly improve their skills in this area		+		
64	8.	The management of the degree program must demonstrate the presence of a feedback system on the use of various teaching methods and evaluation of learning outcomes		+		
65	9.	The leadership of the degree program must demonstrate support for student autonomy while simultaneously providing guidance and assistance from the teacher.		+		
66	10.	The management of the degree program must demonstrate the existence of a procedure for responding to student complaints			+	
		Total according to standard	**0**	**9**	**1**	**0**
Standard "Students"						
67	1.	The university must demonstrate a student enrollment policy and ensure the transparency of its procedures. Procedures regulating the life cycle of students (from admission to completion) must be defined, approved, published		+		
68	2.	The management of the DP should provide for special adaptation and support programs for newly admitted and foreign students		+		
69	3.	The university must demonstrate compliance of its actions with the Lisbon Recognition Convention, including the presence and application of a mechanism for recognizing the results of academic mobility of students, as well as the results of additional, formal and informal learning		+		

70	4.	The university must provide opportunities for external and internal academic mobility of students, as well as assist them in obtaining external grants for studying		+		
71	5.	The university must actively encourage students to self-education and development outside the main program (extracurricular activities)		+		
72	6.	An important factor is the presence 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 to ensure comparable recognition of qualifications		+		
74	8.	The university must provide students with internship places and demonstrate the procedure 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 obtained, including the achieved learning outcomes		+		
76	10.	The management of the DP must demonstrate that program graduates have skills that are in demand in the labor market and that these skills are in demand in the labor market		+		
77	11.	The management of the degree program must demonstrate the existence of a mechanism for monitoring the employment and professional activities of graduates		+		
78	12.	A key factor is the presence of an active alumni association/union		+		
		Total according to standard	**0**	**11**	**1**	**0**
Standard "Academic Staff"						
79	1.	The university must have an objective and transparent personnel policy in the context of the DP, including recruitment (including invited academic staff), professional growth and development of personnel, ensuring the professional competence of the entire staff		+		
80	2.	The university must demonstrate compliance of the qualitative composition of the academic staff with the established qualification requirements, the strategy of the university, and the goals of the DP		+		
81	3.	The leadership of the DP must demonstrate a change in the role of the teacher in connection with the transition to student-centered learning and teaching			+	
82	4.	The university must provide opportunities for career growth and professional development of academic staff, including young teachers		+		
83	5.	The university must involve in teaching specialists from relevant industries who have professional competencies that meet the requirements of the DP		+		
84	6.	The university must demonstrate the presence of a mechanism for motivating the professional and personal development of academic staff			+	

85	7.	The university must demonstrate the widespread use of information and communication technologies and software in the educational process by academic staff (for example, on-line learning, e-portfolios, MOOCs, etc.)			+	
86	8.	The university must demonstrate a focus on developing academic mobility and 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 academic staff, including invited ones, to achieving the goals of the DP		+		
88	10.	A key factor is the involvement of academic staff in the development of the economy, education, science and culture of the region and country		+		
		Total according to standard	**0**	**7**	**3**	**0**
Standard "Educational Resources and Student Support Systems"						
89	1.	The university must guarantee the compliance of educational resources, including material and technical resources, and infrastructure with the goals of the degree program		+		
90	2.	The management of the DP must demonstrate the availability of classrooms, laboratories and other facilities equipped with modern equipment and ensuring the achievement of the goals of the DP	+			
		The university must demonstrate the compliance of information resources with the needs of the university and the degree programs being implemented, including in the following areas:				
91	3.	technological support for students and academic staff in accordance with degree programs (for example, online learning, modeling, databases, data analysis programs)		+		
92	4.	library resources, including a fund of educational, methodological, and scientific literature on general education, basic and major disciplines on DP and electronic media, periodicals, access to scientific databases		+		
93	5.	examination of research results, graduation works, dissertations for plagiarism		+		
94	6.	access to educational Internet resources		+		
95	7.	functioning of WI-FI on your 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 academic staff, staff, and students		+		
97	9.	The university should strive to ensure that the educational equipment and software used to master's degree programs are like those used in the relevant sectors of the economy		+		
98	10.	The management of the degree program must demonstrate the availability of procedures for supporting various groups of students, including information and consultation		+		

99	eleven.	The management of the degree program must show the existence of conditions for the student's advancement along an individual educational path		+		
100	12.	The university must consider the needs of different groups of students (adults, working people, foreign students, as well as students with special educational needs)		+		
101	13	The university must ensure that the infrastructure meets security requirements		+		
		Total according to standard	**1**	**11**	**1**	**0**
Public Information Standard						
102	1.	The information published by the university must be accurate, objective, relevant and reflect all areas of the university's activities within the degree program			+	
103	2.	Public information should include support and explanation of the country's national development programs and the system of higher and postgraduate education		+		
104	3.	University management must use a variety of methods of information dissemination (including the media, web resources, information networks, etc.) to inform the public and interested parties		+		
		Information published by the university about the degree program must be objective and relevant and include:				
105	4.	purpose and planned results of the DP, assigned qualifications		+		
106	5.	information and system for assessing educational achievements of students		+		
107	6.	information about academic mobility programs and other forms of cooperation with partner universities and employers		+		
108	7.	information about opportunities for developing personal and professional competencies of students and employment		+		
109	8.	data reflecting the positioning of DP in the educational services market (at the regional, national, international levels)		+		
110	9.	An important factor is the publication on open resources of reliable information about academic staff, in the context of personalities			+	
111	10.	The university must publish audited financial statements for the DP on its own website		+		
112	eleven.	The university must post information and links to external resources based on the results of external assessment procedures		+		
113	12.	A key factor is the placement of information about cooperation and interaction with partners, including scientific/consulting organizations, business partners, social partners, and educational organizations		+		
		Total according to standard	**0**	**10**	**2**	**0**
		TOTAL	**2**	**97**	**14**	**0**

Appendix 2. PROGRAM OF THE VISIT TO THE EDUCATIONAL ORGANIZATION

AGREED
Rector of the NJSC Almaty University of Power Engineering and Telecommunicationsnamed after Gumarbel Daukeyev
_____ Syzdykov M.K.
"___" _____ 2024

I APPROVED
General Director of the NU "IndDPendent Agency for Accreditation and Rating"
_____ Zhumagulova A.B.
"____" _____ 2024

PROGRAM
VISIT OF AN EXTERNAL EXPERT COMMISSION
INDDPENDENT ACCREDITATION AND RATING AGENCY (IAAR)
AT NJSC "ALMATY UNIVERSITY OF POWER ENGINEERING AND TELECOMMUNICATIONS"

STAGE 3 OF SPECIALIZED ACCREDITATION
Date of visit: March 18-20, 2024

Date and time	EEC work with target groups	Position and Surname, First Name, Patronymic of target group participants	Contact form
		March 15, 2024	
15.00–16.00 *According to Astana time*	Preliminary meeting of the EEC	*IAAR External Experts*	Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
		March 17, 2024	
On schedule during the day	Arrival of members of the External Expert Commission		

20.00	Dinner	*IAAR External Experts*	
		Day 11st: March 18, 2024	
08.10-09.00	Transfer from the hotel to the University	*University coordinator - Azhar Erlanovna Mankhanova (Director of the Department of Academic Affairs) 87772983128*	
09.00-09.15	Distribution of responsibilities of experts, solution of organizational issues	*IAAR External Experts*	Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
09.15-09.45	Interview with the rector	***Rector***- Syzdykov Murat Kanatovich	Auditorium No. 213 A building Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
09.45-10.00	Technical break		
10.00-10.40	Interview with vice-rector	Vice-Rector for Academic Affairs – Aigul SaDPrbekovna Sarenova, Vice-Rector for Social and Educational Work - Ermek Kamalbekuly Kadylbekov, Head of the Rector's Office – Yesimzhanov Zhanat Kuanyshevich	Auditorium No. 213 A building Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
10.40-10.50	Technical break		
10.50-11.30	Interview with heads of structural divisions of the public organization	Digital officer – Urazakov Margulan Maksutovich, Head of the registrar's office – Vera Vasilievna Neledva, Financial Director - Gulziya Salatovna Rakhmetova, Director of the DDDPrtment of Academic Affairs - Mankhanova Azhar Erlanovna, Head of the Academic Counseling Center – Kudaibergen Zhuldyz Malikkyzy,	Auditorium No. 213 A building Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588

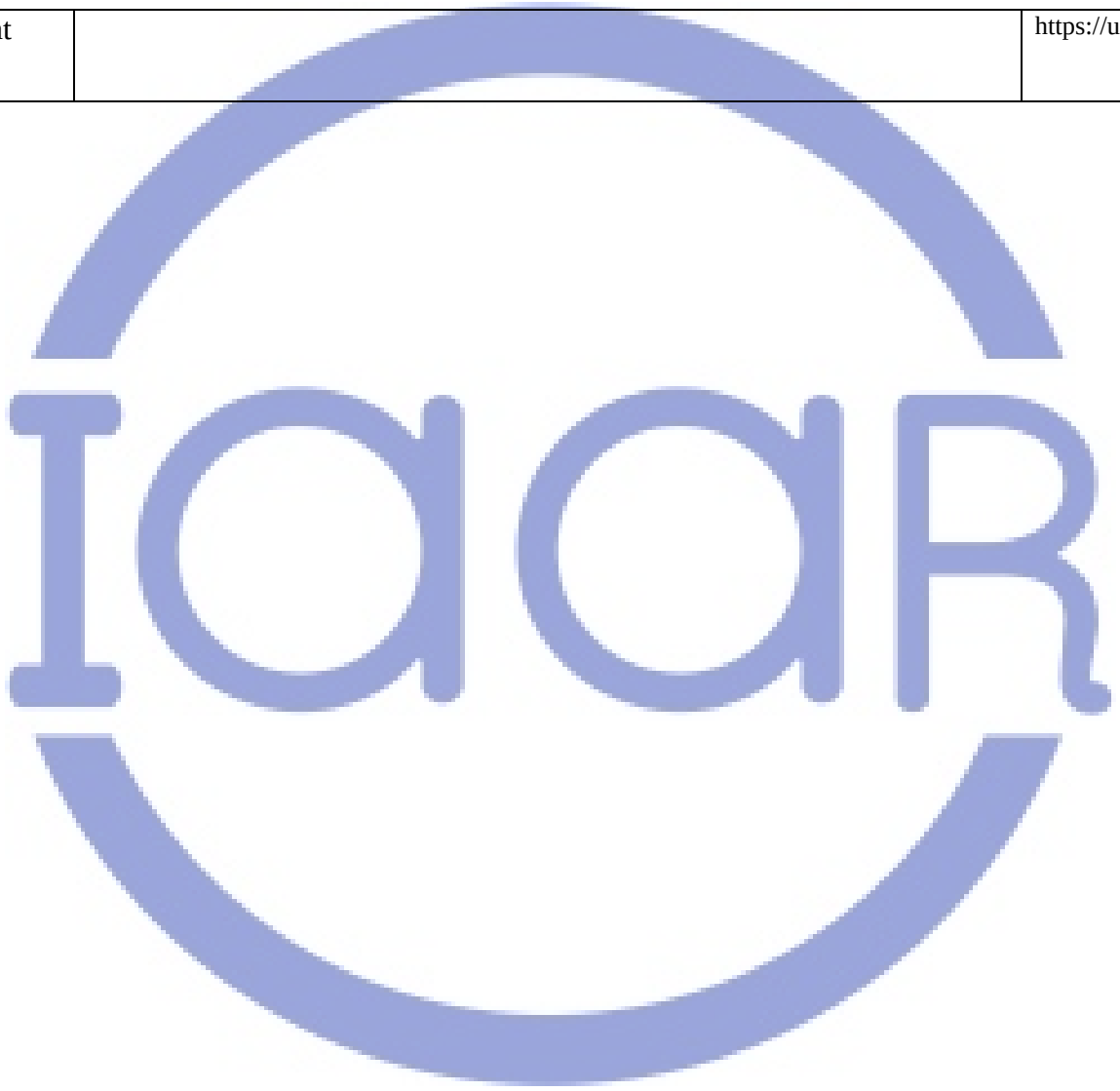
		Director of the Department of Youth Policy – Kabi Elikbay Kasenkhanuly, Chief librarian - Natalya SteDPnova Netesova, The executive secretary of the admissions committee is Almuratova Kamshat Bimuratovna.	
11.30-11.45	Exchange of views among members of the external Expert commission		Auditorium No. 210 A building Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
11.45-12.30	Interview with department heads and BEP leaders	Director of the Institute of Automation and Information Technologies - Fedorenko Igor Anatolievich, Director of the Institute of Telecommunications and AerosDPce Engineering - Alipbaev Kuanysh Aringozhaevich, Department of Automation and Control - Abzhanova Laulasyn Kosylganovna, Department of Cybersecurity - Enlik Begimbayeva, Department of Telecommunication Engineering - Karibaev Beibit Abdirbekovich, Department of Aerspace Engineering - Tolendiuly Sanat, Department of Electronic Engineering - Sandugash Kudaibergenovna Orazalieva, ***Responsible for degree programs:*** Information security systems - Satimova Elena Grigorievna Information security of financial structures - Dmitrieva Margarita Valerievna, Biotechnical and medical systems and devices - Zhusupbekov S.S., Automation and business process management - Basil G.D., Telecommunications Engineering - Garmashova Yu.M., Radio engineering, electronics, and telecommunications - Chezhimbaeva K.S.	Auditorium No. 213 A building
12.30-13.00	Work of the EEC	*IAAR External Experts*	Auditorium No. 213 A building . Join a Zoom meeting. https://us02web.zoom.us/j/6813032588

			Conference ID: 681 303 2588
13.00-14.00	***Dinner***		
14.00-14.15	Exchange of views among members of the external Expert commission		Auditorium No. 213 A building Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
14.15-15.00	Interview with academic staff BEP	*Appendix 1*	Auditorium No. 213 A building Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
15.00-15.15	Technical break		
15.00-16.00	Survey of academic staff (in parallel)	*Appendix 1*	The link is sent to the teacher's e-mail personally
15.15-16.00	Interview with BEP students	*Appendix 2*	Auditorium No. 213 building A Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
16.00-17.00	Questioning of students (in parallel)	*Appendix 2*	The link is sent to the student's e-mail personally
16.15-18.00	Visual inspection of the facility and material, technical and educational laboratory base	*Route sheet* *Appendix 3*	
18.00-19.00	Work of the EEC discussion of the results of the first day	*IAAR External Experts*	Auditorium No. 210 building A Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
19.00-20.00	Dinner		

Day 2: March 19, 2024			
08.10-09.00	Transfer from the hotel to the University		
09.00-09.15	Work of theEEC		Auditorium No. 210 building A Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
09.15-10.50	Attendance at scheduled classes (Appendix: links to classes)	*IAAR External Experts* *Appendix 4*	
10.50–11.30	Meeting with stakeholders (representatives of practice bases and employers)	*Appendix 5*	Auditorium No. 213 building A Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
11.30-11.40	Technical break		
11.40-13.00	Working with documents (documents must be uploaded to the cloud in advance)		Auditorium No. 210 building A
13.00-14.00	**Dinner**		
14.00-14.15	Technical break		
14.15-15.00	Interview with BDP graduates	*Appendix 6*	Auditorium No. 213 building A Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
15.00-17.00	Selective visits to DP practice bases	*Appendix 7*	
17.00-17.15	Technical break		

17.00-18.00	Work of the EEC, discussion of the results of the second day and profile parameters (recording is being carried out)		Auditorium No. 210 building A Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
18.30-19.30	Dinner		
Day 3: March 20, 2024			
08.10-09.00	Transfer from the hotel to the University		
09.00-10.00	Work of the EEC development and discussion of recommendations (recorded)	*IAAR External Experts*	Auditorium No. 210 building A Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
10.00-10.20	Technical break		
10.20-12.30	Work of the EEC discussion, decision-making by voting (recorded)	*IAAR External Experts*	Auditorium No. 210 building A Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
12:30-13:00	Final meeting of the EEC with the university management		Auditorium No. 213 building A Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
13.00-14.00	Dinner		
14.00-15.00	Work of the EEC, Discussion of the results of quality assessment	*IAAR External Experts*	Auditorium No. 210 building A Join a Zoom meeting. https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
15.00-15.15	Technical break		
15.15-18.00	Work of the EEC, Discussion of the results	*IAAR External Experts*	Auditorium No. 213 building A Join a Zoom meeting.

	of quality assessment		https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588



Appendix 3. RESULTS OF AN Anonymous QUESTIONNAIRE OF FACULTY AND ACADEMIC STAFF

Faculty Questionnaire

1. Total number of questionnaires: 13

2. Which DP do you serve:

6B06204 Telecommunications engineering	1 person	7.7%
6B07128 Aerospace engineering	1 person	7.7%
6B07125 Biotechnical and medical systems and devices	1 person	7.7%
6B07127 Automation and management of business processes	6 people	46.2%
6B07116 Electronic engineering technologies	4 people	30.8%

2. Position

Professor	1 person	7.7%
Assistant Professor	1 person	7.7%
Senior Lecturer	6 people	46.2%
Teacher	4 people	30.8%
Head of Department		
Assistant Professor	1 person	7.7%
Acting Director of Associate Professor		

3. Academic degree, academic title

Honored Worker of the Republic of Kazakhstan	0 people	0%
Doctor of Science	1 person	7.7%
Scientific candidate PhD	1 person	7.7%
master	7 people	53.8%
PhD	2 people	15.4%
Professor	0 people	0%
Assistant Professor	0 people	0%
No (Zhok)	2 people	15.4%

4. Work experience at the university

Less than 1 year	1 person	7.7%
1 year – 5 years	2 people	15.4%

Over 5 years	10 people	76.9%

No.	Questions	Very Good	Fine	Relatively bad	Badly	Very bad	Did not answer
6	To what extent does the content of the educational program meet your scientific and professional interests and needs?	7 people (53.8%)	6 people (46.2%)	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 academic staff?	5 people (38.5)	7 people (53.8%)	1 person (7.7%)	0 people (0%)	0 people (0%)	-
8	How do you assess the opportunities provided by the University for career growth of academic staff?	4 people (30.8%)	8 people (61.5%)	1 person (7.7%)	0 people (0%)	0 people (0%)	-
9	How do you assess the degree of academic freedom of the academic staff?	6 people (46.2%)	6 people (46.2%)	1 person (7.7%)	0 people (0%)	0 people (0%)	-
	To what extent can teachers use their own						
10	• Strategies	8 people (61.5%)	5 people (38.5%)	0 people (0%)	0 people (0%)	0 people (0%)	-
11	• Methods	8 people (61.5%)	5 people (38.5%)	0 people (0%)	0 people (0%)	0 people (0%)	-
12	• Innovation in the learning process	6 people (46.2%)	7 people (53.8%)	0 people (0%)	0 people (0%)	0 people (0%)	-
13	How do you evaluate the work on organizing medical care and preventing diseases at the university?	4 people (30.8%)	8 people (61.5%)	1 person (7.7%)	0 people (0%)	0 people (0%)	-

14	How much attention is paid by the management of the educational institution to the content of the degree program?	5 people (38.5%)	7 people (53.8%)	1 person (7.7%)	0 people (0%)	0 people (0%)	-
15	How do you assess the sufficiency and accessibility of the necessary scientific and educational literature in the library?	5 people (38.5%)	8 people (61.5%)	0 people (0%)	0 people (0%)	0 people (0%)	-
16	Assess the level of conditions created that consider the needs of different groups of students?	3 people (23.1%)	8 people (61.5%)	2 people (15.4%)	0 people (0%)	0 people (0%)	-
	Evaluate the accessibility of the manual						
17	• For students	6 people (46.2%)	6 people (46.2%)	1 person (7.7%)	0 people (0%)	0 people (0%)	-
18	• For teachers	7 people (53.8%)	4 people (30.8%)	2 people (15.4%)	0 people (0%)	0 people (0%)	-
19	Assess the involvement of academic staff in the process of making management and strategic decisions	3 people (23.1%)	9 people (69.2%)	1 person (7.7%)	0 people (0%)	0 people (0%)	-
20	How are innovative activities of academic staff encouraged?	5 people (38.5%)	7 people (53.8%)	1 person (7.7%)	0 people (0%)	0 people (0%)	-
21	Assess the level of feedback from academic staff to management	5 people (38.5%)	7 people (53.8%)	1 person (7.7%)	0 people (0%)	0 people (0%)	-
22	What is the level of stimulation and involvement of young specialists in the educational process?	8 people (61.5%)	5 people (38.5%)	0 people (0%)	0 people (0%)	0 people (0%)	-
23	Evaluate the created opportunities for professional and personal growth for	6 people (46.2%)	6 people (46.2%)	1 person (7.7%)	0 people (0%)	0 people (0%)	-

	each teacher and staff member						
24	Assess the adequacy of recognition of teachers' potential and abilities	3 people (23.1%)	9 people (69.2%)	1 person (7.7%)	0 people (0%)	0 people (0%)	-
	How does the work delivered?						
25	• By academic mobility	4 people (30.8%)	9 people (69.2%)	0 people (0%)	0 people (0%)	0 people (0%)	-
26	• To improve the qualifications of academic staff	6 people (46.2%)	7 people (53.8%)	0 people (0%)	0 people l (0%)	0 people (0%)	-
	Rate the support of the university and its leadership						
27	• Faculty research endeavors	5 people (38.5%)	7 people (53.8%)	1 person (7.7%)	0 people (08%)	0 people (0%)	-
28	• Development of new degree programs/academic disciplines/methods	5 people (38.5%)	8 people (61.5%)	0 people (0%)	0 people (0%)	0 people (0%)	-
	Assess the level of ability of academic staff to combine teaching						
29	• With scientific research	7 people (53.8%)	5 people (38.5%)	1 person (7.7%)	0 people (3.5%)	0 people (0%)	-
30	• With practical activities	5 people (38.5%)	7 people (53.8%)	1 person (7.7%)	0 people (08%)	0 people (0%)	-
31	Assess how well the students' knowledge acquired at this university corresponds to the realities of the requirements of the modern labor market	4 people (30.8%)	9 people (69.2%)	0 people (0%)	0 people (0%)	0 people (0%)	-
32	How do the management and administration of the university perceive	2 people (15.4%)	8 people (61.5%)	2 people (15.4%)	1 person (7.7%)	0 people (0%)	-

	criticism addressed to them?						
33	Assess how well your workload meets your expectations and capabilities	4 people (30.8%)	8 people (61.5%)	1 person (7.7%)	1 person (4.3%)	0 people (0%)	-
34	Assess the focus of degree programs/curricula on developing students' skills and abilities to analyze the situation and make forecasts	6 people (46.2%)	7 people (53.8%)	0 people (0%)	0 people (0%)	0 people (0%)	-
35	Assess how well the degree program meets the expectations of the labor market and employers in terms of content and quality of implementation	6 people (46.2%)	7 people (53.8%)	0 people (0%)	0 people (0%)	people (0%)	-

36. Why do you work at this university?

- ✓ I graduated this university.
- ✓ Very competent academic staff
- ✓ Good team, fair pay
- ✓ Matches my professional interests.
- ✓ I work at this university because our team has perceived it as one of the places where my ability to help students and faculty can be most useful.
- ✓ The policy of this university meets my requirements.
- ✓ I like the team
- ✓ Excellent working conditions, modern laboratories
- ✓ I like the department staff
- ✓ I like working with students

37. How often are master classes and readings with the participation of practitioners held as part of your course?

These are alive (very often)	7 people	53.8%
Live (often)	people	46.2%
Kade (sometimes)	0 people	0%
Ote sirek (very rare)	0 people	0%
Idem bolmaidy (never)	0 people	0%

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

These are alive (very often)	4 people	30.8%
Live (often)	9 people	69.2%

Kade (sometimes)	0 people	0%
Ote 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 the answer in each line)

Question	Often	Sometimes	Never	No answer
Lack of classrooms	0 people (0%)	5 people (38.5%)	8 people (61.5%)	-
Imbalance of teaching load by semester	3 people (23.1%)	4 people (30.8%)	6 people (46.2%)	-
Inaccessibility of necessary literature in the library	0 people (0%)	7 people (53.8%)	6 people (46.2%)	-
Overcrowding of study groups (too many students in a group)	1 person (7.7%)	7 p people (53.8%)	5 people (38.5%)	-
Inconvenient schedule	3 people (23.1%)	5 people (38.5%)	5 people (38.5%)	-
Inadequate classroom conditions	1 person (7.7%)	6 people (46.2%)	6 people (46.2%)	-
Lack of Internet access/weak Internet	4 people (30.8%)	8 people (61.5%)	1 person (7.7%)	-
Lack of interest among students in learning	2 people (15.4%)	6 people (46.2%)	5 people (38.5%)	-
Late receipt of information about events	0 people (0%)	4 people (30.8%)	9 people (69.2%)	-
Lack of technical equipment in classrooms	1 person (7.7%)	7 people (53.8%)	5 people (38.5%)	-
Other problems	✓ *No* ✓ *Too many hours for laboratory work* ✓ *No problem* ✓ *No others* ✓ *Move the teaching area next to the laboratories.*			

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

Question	Completely satisfied	DPrtially satisfied	Not satisfied	I find it difficult to answer
The attitude of the university management towards you	8 people (61.5%)	5 people (38.5%)	0 people (0%)	0 people (0%)
Relationships with immediate management	9 people (69.2%)	3 people (23.1%)	0 people (0%)	1 person (7.7%)
Relations with colleagues at the department	12 people (92.3%)	1 person (7.7%)	0 people (0%)	0 people (0%)

Participation in management decision making	6 people (46.2%)	5 people (38.5%)	0 people (0%)	2 people (15.4%)
Relations with students	13 people (100%)	0 people (0%)	0 people (0%)	0 people (0%)
Recognition of your successes and achievements by the administration	9 people (69.2%)	3 people (23.1%)	0 people (0%)	1 person (7.7%)
Support for your suggestions and comments	7 people (53.8%)	4 people (30.8%)	0 people (0%)	2 people (15.4%)
Activities of the university administration	9 people (69.2%)	4 people (30.8%)	0 people (0%)	0 people (0%)
Terms of payment	6 people (46.2%)	6 people (46.2%)	0 people (0%)	1 person (7.7%)
Working conditions, list and quality of services provided at the university	10 people (76.9%)	3 people (23.1%)	0 people (0%)	0 people (0%)
Life safety and Environmental protection	11 people (84.6%)	2 people (15.4%)	0 people (0%)	0 people (0%)
Managing changes in the activities of the university	7 people (53.8%)	4 people (30.8%)	0 people (0%)	2 people (15.4%)
Providing a social package: rest, sanatorium treatment, etc.	6 people (46.2%)	4 people (30.8%)	2 people (15.4%)	1 person (7.7%)
Organization and quality of food at the university	7 people (53.8%)	5 people (38.5%)	0 people (0%)	1 person (7.7%)
Organization and quality of medical care	6 people (46.2%)	4 people (30.8%)	0 people (0%)	3 people (23.1%)

Appendix 4. RESULTS OF AN Anonymous SURVEY OF STUDENTS

Questionnaire for students

Total number of profiles: forty-one

1. **(Your degree program)**

6B06204 Telecommunications engineering	19 people	46.3%
7M06201 Radio engineering, electronics, and telecommunications	12 people	29.3%
8D06201 Radio engineering, electronics, and telecommunications	10 people	24.4%

2. **(gender)**

(male)	24 people	58.5%
(female)	17 people	41.5%

3. **Please rate how satisfied you are:)**

Questions	Completely satisfied	Partially satisfied	Partially unsatisfied	Not satisfied	I am at a loss. answer
1. Relations with the dean's office	24 people (58.5%)	10 people (24.4%)	5 people (12.2%)	0 people (0%)	2 people (4.9%)
2. Level of accessibility of the dean's office	24 people (58.5%)	12 people (29.3%)	3 people (7.3%)	1 person (2.4%)	1 person (2.4%)
3. The level of accessibility and responsiveness of the university management	29 people (70.7%)	9 people (22%)	3 people (7.3%)	0 people (0%)	0 people (0%)
4. Availability of academic advising to you	29 people (70.7%)	4 people (9.8%)	3 people (7.3%)	0 people (0%)	5 people (12.2%)
5. Support with educational materials during the learning process	27 people (65.9%)	8 people (19.5%)	5 people (12.2%)	0 people (0%)	1 person (2.4%)
6. Availability of counseling on personal problems	24 people (58.5%)	10 people (24.4%)	5 people (12.2%)	0 people (0%)	2 people (4.9%)
7. Relationship between student and teacher	27 people	12 people	2 people (4.9%)	0 people	0 people

	(65.9%)	(29.3%)		(0%)	(0%)
8. Financial and administrative services of the educational institution	27 people (65.9%)	6 people (14.6%)	7 people (17.1%)	0 people (0%)	1 person (2.4%)
9. Availability of health services	31 people (75.6%)	5 people e (12.2%)	3 people (7.3%)	0 people (0%)	2 people (4.9%)
10. Quality of medical care at the university	28 people (68.3%)	7 people e (17.1%)	4 people (9.8%)	1 person (2.4%)	1 person (2.4%)
11. Level of accessibility of library resources	35 people e (85.4%)	2 people (4.9%)	3 people (7.3%)	0 people (0%)	1 person (2.4%)
12. The quality of services provided in libraries and reading rooms	34 people (82.9%)	3 people (7.3%)	3 people (7.3%)	0 people (0%)	1 person (2.4%)
13. Satisfaction with existing educational resources of the university	30 people (73.2%)	7 people (17.1%)	4 people (9.8%)	0 people (0%)	0 people (0%)
14. Availability of computer classes	27 people (65.9%)	6 people (14.6%)	5 people (12.2%)	3 people (7.3%)	0 people (0%)
15. Availability and quality of Internet resources	25 people (61%)	11 people e (26.8%)	2 people (4.9%)	3 people (7.3%)	0 people (0%)
16. The content and information content of the website of educational organizations in general and faculties (schools) in particular	29 people e (70.7%)	7 people (17.1%)	4 people (9.8%)	1 person (2.4%)	0 people (0%)
17. Study rooms, auditoriums for large groups	26 people (63.4%)	8 people e (19.5%)	5 people (12.2%)	2 people (4.9%)	0 people (0%)
18. Lounges for students (if available)	25 people (61%)	4 people (9.8%)	4 people (9.8%)	4 people (9.8%)	4 people (9.8%)
19. Clarity of procedure for taking disciplinary action	27 people (65.9%)	6 people (14.6%)	6 people (14.6%)	0 people (0%)	2 people (4.9%)
20. The quality of the degree program as a whole	29 people (70.7%)	10 people (24.4%)	2 people (4.9%)	0 people (0%)	0 people (0%)
21. The quality of degree programs in the DP	28 people (68.3%)	11 people (26.8%)	2 people (4.9%)	0 people (0%)	0 people (0%)
22. Teaching methods in general	26 people (63.4%)	13 people (31.7%)	2 people (4.9%)	0 people (0%)	0 people (0%)
23. Quick response to feedback from teachers	27 people	12 people	1 person (2.4%)	0 people	1 person (2.4%)

regarding the educational process	(65.9%)	(29.3%)		(0%)	
24. Overall quality of teaching	28 people (68.3%)	12 people (29.3%)	1 person (2.4%)	0 people (0%)	0 people (0%)
25. Academic load/requirements for the student	25 people (61%)	10 people (24.4%)	5 people (12.2%)	0 people (0%)	1 person (2.4%)
26. Requirements of academic staff for students	26 people (63.4%)	12 people (29.3%)	2 people (4.9%)	0 people (0%)	1 person (2.4%)
27. Information support and explanation before entering the university of the rules of admission and the strategy of the degree program (specialty)	29 people (70.7%)	9 people (22%)	3 people (7.3%)	0 people (0%)	0 people (0%)
28. Informing the requirements to successfully complete a given degree program (specialty)	29 people (70.7%)	10 people (24.4%)	2 people (4.9%)	0 people (0%)	0 people (0%)
29. The quality of examination materials (tests and examination questions, etc.)	27 people (65.9%)	11 people (26.8%)	2 people (4.9%)	1 person (2.4%)	0 people (0%)
30. Objective assessment of knowledge, skills, and other educational achievements	29 people (70.7%)	8 people (19.5%)	4 people (9.8%)	0 people (0%)	0 people (0%)
31. Available computer classes	26 people (63.4%)	10 people (24.4%)	5 people (12.2%)	0 people (0%)	0 people (0%)
32. Available scientific laboratories	27 people (65.9%)	9 people (22%)	4 people (9.8%)	1 person (2.4%)	0 people (0%)
33. Objectivity and fairness of teachers	29 people (70.7%)	9 people (22%)	3 people (7.3%)	0 people (0%)	0 people (0%)
34. Informing students about courses, degree programs, and the academic degree they receive	29 people (70.7%)	11 people (26.8%)	1 people (2.4%)	0 people (0%)	0 people (0%)
35. Providing students with hostel accommodation	28 people (68.3%)	7 people (17.1%)	2 people (4.9%)	1 person (2.4%)	3 people (7.3%)

4. Rate how much you agree:

Statement	Full agreement	Agree	Partially agree	I don't agree	Complete disagreement	Didn't answerwer
1. The course program was clearly presented	24 people (58.5%)	11 people (26.8%)	5 people (12.2%)	0 people (0%)	1 person (2.4%)	-
2. Course content is well structured	23 people (56.1%)	15 people (36.6%)	2 p people (4.9%)	0 people (0%)	1 person (2.4%)	-
3. Key terms are sufficiently explained	25 people (61%)	12 people (29.3%)	3 p people (7.3%)	0 p people (0%)	1 person (2.4%)	-
4. The material proposed by the teacher is relevant and reflects the latest achievements of science and practice	27 people (65.9%)	11 people (26.8%)	2 people (4.9%)	0 people (0%)	1 person (2.4%)	-
5. The teacher uses effective teaching methods	23 people (56.1%)	12 people (29.3%)	5 people (12.2%)	0 people (0%)	1 person (2.4%)	-
6. The teacher knows the material being taught.	26 people (63.4%)	12 people (29.3%)	2 people (4.9%)	0 people (0%)	1 person (2.4%)	-
7. The teacher's presentation is clear	22 people (53.7%)	13 people (31.7%)	6 people (14.6%)	0 people (0%)	0 people (0%)	-
8. The teacher presents the material in an interesting way.	21 people (51.2%)	12 people (29.3%)	7 people (17.1%)	1 person (2.4%)	0 people (0%)	-
9. Objectivity in assessing knowledge, skills and other educational achievements	21 people (51.2%)	10 people (24.4%)	9 people (22%)	0 people (0%)	1 person (2.4%)	-
10. Timely assessment of students' educational achievements	22 people (53.7%)	10 people (22.7%)	8 people (19.5%)	0 people (0%)	1 person (2.4%)	-
11. The teacher satisfies my requirements for personal development and professional formation	21 people (51.2%)	14 people (34.1%)	4 people (9.8%)	0 people (0%)	2 people (4.9%)	-

12. The teacher stimulates student activity	20 people (48.81%)	13 people (31.7%)	7 people (17.1%)	0 people (0%)	1 person (2.4%)	-
13. The teacher stimulates creative thinking of students	22 people (53.7%)	14 people (34.1%)	5 people (12.2%)	0 people (0%)	0 people (0%)	-
14. The appearance and manners of the teacher are adequate	27 people (65.9%)	10 people (24.4%)	4 people (9.8%)	0 people (0%)	0 people (0%)	-
15. The teacher shows a positive attitude towards students	22 people (53.7%)	16 people (39%)	3 people (7.3%)	0 people (0%)	0 people (0%)	-
16. The system for assessing educational achievements (seminars, tests, questionnaires, etc.) reflects the content of the course	26 people (63.4%)	11 people (26.8%)	4 people (9.8%)	0 people (0%)	0 people (0%)	-
17. The assessment criteria used by the teacher are clear	26 people (63.4%)	11 people (26.8%)	3 people (7.3%)	1 person (2.4%)	0 people (0%)	-
18. The teacher objectively evaluates student achievements	24 people e (58.5%)	11 people (26.8%)	6 people (14.6%)	0 people (0%)	0 people (0%)	-
19. The teacher speaks a professional language	24 people (58.5%)	12 people (29.3%)	5 people (12.2%)	0 people (0%)	0 people (0%)	-
20. The organization of education provides sufficient opportunity for sports and other leisure activities	24 people (58.5%)	10 people (24.4%)	6 people (14.6%)	1 person (2.4%)	0 people (0%)	-
21. Facilities and equipment for students are safe, comfortable, and modern	24 people (58.5%)	9 people (22%)	7 people (17.1%)	1 person (2.4%)	0 people (0%)	-
22. The library is well equipped and has a good collection of books	25 people (61%)	9 people (22%)	7 people (17.1%)	0 people (0%)	0 people (0%)	-
23. Equal opportunities are provided to all students	25 people e (61%)	13 people (31.7%)	3 people (7.3%)	0 people (0%)	0 people (0%)	-

5. Other problems regarding the quality of teaching (Other questions): 6 answers

- ✓ Everything is good.
- ✓ no
- ✓ No
- ✓ Coworking center would be helpful.
- ✓ No problem