

# REPORT

on the results of work of the external expert commission on assessment of compliance with the requirements of the standards of primary specialized accreditation degree programs
6B07127 Automation and management of business process
6B07125 Biotechnical and medical systems and devices
6B07116 Electronics engineering technology

Non-profit JSC "Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeev" during the period of March 18-20, 2024.

## INDEPENDENT AGENCY FOR ACCREDITATION AND RATING External Expert Commission

Addressed to Accreditation Council of IAAR



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## **CONTENTS**

(I) LIST OF ABBREVIATIONS AND ACRONYMS	3
(II) INTRODUCTION	.5
(III) PRESENTATION OF THE EDUCATIONAL ORGANISATION	.6
(IV) DESCRIPTION OF THE PREVIOUS ACCREDITATION PROCEDURE	.8
(V) DESCRIPTION OF THE E.E.C. VISIT	.8
(VI) COMPLIANCE WITH SPECIALISED ACCREDITATION STANDARDS	.11
6.1 Standard «Degree Program Management»	.11
6.2 Standard «Information Management and Reporting»	.16
6.3 Standard «Development and approval of degree program»	.19
6.4 Standard «Continuous monitoring and periodic evaluation of degree programs»	.22
6.5. Standard «Student-centred learning, teaching and assessment »	.25
6.6. Standard «Students»	27
6.7 Standard «Academic staff»	.33
6.8 Standard «Educational resources and student support systems»	.38
6.9 Standard «Informing the public»	
(VII) REVIEW OF STRENGTHS / BEST PRACTICES FOR EACH STANDARD	
(VIII) REVIEW OF QUALITY IMPROVEMENT RECOMMENDATIONS FOR EACH	I
	.44
(IX) REVIEW OF RECOMMENDATIONS FOR THE DEVELOPMENT OF THE	
EDUCATIONAL ORGANISATION	
(X) RECOMMENDATIONS TO THE ACCREDITATION COUNCIL	
Appendix 1. ASSESSMENT TABLE «SPECIALISED PROFILE PARAMETERS» (EX-	
	48
Appendix 2. PROGRAM FOR A VISIT TO AN EDUCATIONAL ORGANISATION	
Appendix 3. ACADEMIC STAFF'S SURVEY RESULTS	
Appendix 4. STUDENTS' SURVEY RESULTS	.67

#### (I) LIST OF ABBREVIATIONS AND ACRONYMS

**ECTS** - European Credit Transfer and Accumulation System

**AIS** - Automated information system

**AC** - Academic calendar

**AUPET** - Almaty University of Power Engineering and Telecommunications

BD - Basic disciplines EW - Educational work

HEI - Higher education institution
 EEC - External Expert Commission
 AC - Attestation Commission

SCES - State Compulsory Educational Standard

**DET** - Distance education technologies

**UNT** - Unified national testing

ICT - Information and communication technologies

ISP - Individual study planEC - Elective ComponentCSI - Communal state institution

YC - Youth Committee CT - Comprehensive testing

CTA - Comprehensive testing of applicants
 CBLT - Credit-based learning technology
 CED - Catalogue of elective disciplines

ILL - Interlibrary loan

MI - Methodological instruction

SS Small School

MSHE RK - Ministry of Science and Higher Education of the Republic of Kazakhstan

**DP** - Degree program

IAAR - Independent Agency for Accreditation and Rating

Non-profit JSC- Non-profit joint-stock company

**RW** - Research work

**RWS** - Research work of students

NQF - National Qualifications Framework STC - Scientific and Technical Council

NCAT - National Centre for Advanced Training

CC - Compulsory componentGED - General education disciplines

DP - Degree program
 RO - Registration office
 SD - Specialized disciplines

**AS** - Academic staff

**EPD** - Editorial and publishing department

**RK** - Republic of Kazakhstan

WP - Work programWC - Working curriculumDLS - Distance learning system

MM - Mass Media

QMS - Quality management system
 SCS - Secondary comprehensive school
 IWL - Independent work of the learner
 IWS - Independent work of students

**IWST** - Independent work of students under the guidance of the teacher

EDMS - Electronic document management systemTMVT - Theory and methodology of vocational training

MC - Model curriculum

**ESS** - Educational support staff

**EMC** - Educational and methodical complex

**EMCD** - Educational and methodical complex of the discipline

**EMC** - Educational and methodical complex of DP

**EMC** - Educational and Methodical Council

C - Curriculum

**AC** - Academic Council

DER - Digital educational resourceCTE - Centre for Teaching Excellence

**EEMCD** - Electronic educational and methodical complex of the discipline

#### (II) INTRODUCTION

In accordance with order № 35-24-OD dated January 31, 2024, issued by the director general of the Independent agency for accreditation and rating from March 18-20, 2024, an external expert commission conducted assessment of the compliance of degree programs 6B07127 - Automation and management of business process, 6B07125 - Biotechnical and medical systems and devices, 6B07116 – Electronics engineering technology in JSC "Almaty university of power engineering and telecommunications named after Gumarbek Daukeev" (Almaty) with the standards of primary specialized accreditation of higher education and postgraduate organization degree programs of IAAR education № 57-20-OD dated June 16, 2020, sixth edition).

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

## **Composition of the EEC:**

*Chairman of the EEC* – Alexey Vladimirovich Shcherbina, candidate of economic sciences, doctor of philosophy, Southern federal University, IAAR Expert of I category (Rostov on Don, Russian Federation);

Foreign expert of IAAR – Yuri Eduardovich Belykh, candidate of physical and mathematical sciences, associate professor, vice-rector for academic affairs, state university of Grodno named after Yanka Kupala (Grodno, Belarus),

*National expert of IAAR* – Nadezhda Valeryevna Prokhorenkova, PhD, associate professor, East Kazakhstan technical university named after Serikbayev (Ust-Kamenogorsk, Republic of Kazakhstan),

*National expert of IAAR* – Vladimir Sergeyevich Kiyan, PhD, associate professor, head of the laboratory of biodiversity and genetic resources, National center of biotechnology (Astana, Republic of Kazakhstan),

*National expert of IAAR* – Dmitry Alexandrovich Porubov, PhD, head of competence and technology transfer center in automation and mechatronics, East Kazakhstan technical university named after Serikbayev (Ust-Kamenogorsk, Republic of Kazakhstan),

National expert of IAAR – Pavel Alexandrovich Dunaev, PhD, Kazakh agrotechnical research university named after Seifullin (Astana, Republic of Kazakhstan),

*Employer* – Said Tolegenovich Alimbayev, chief competition manager of the ALE, Self-regulatory organization "Association of kazakhstan freight railway carriers" (Astana, Republic of Kazakhstan),

*Employer* – Marina Dauletovna Abikaeva, JSC "Institute of fuel, catalysis and electrochemistry named after D.V. Sokolsky". (Almaty, Kazakhstan),

*IAAR Student* – Aidana Arystan, 3rd year PhD student, specialty "Nanotechnology" Kazakhstan-British technical university (Almaty),

*IAAR Student* – Adel Omarova, member of Kazakhstan students' Alliance, Kazakh agrotechnical university named after S. Seyfullin (Astana, Republic of Kazakhstan),

*IAAR Student* – Zhannur Sisenova, 3rd year student, DP "Standardization and metrology", Eurasian National University named after Gumilev (Astana),

*IAAR Coordinatior* - Gulfiya Rivkatovna Nazirova, candidate of economic sciences, project manager of the IAAR external expert commissions formation project.

#### (III) PRESENTATION OF THE EDUCATIONAL ORGANISATION

<u>History</u>. Non-profit joint stock company "Almaty university of power engineering and telecommunications named after Gumarbek Daukeev" (hereinafter - AUPET named after G. Daukeev) was established on January 10, 1997 on the basis of Almaty Energy Institute (AEI) and is the first non-state technical university with the status of a non-profit organization. The history of the university begins in 1975, when the Almaty Energy Institute (AEI) was established on the basis of the Kazakh polytechnic institute named after V.I. Lenin (now the Kazakh national research technical university named after K.I. Satpayev). In 2019, the university was renamed Non-profit JSC "Almaty university of power engineering and telecommunications named after Gumarbek Daukeev".

In 1989, the Almaty energy institute was the first in Kazakhstan and one of the few in the Soviet Union to be certified by the commission of the State Inspection of the USSR State Education Agency. The high level of training of specialists in AEI was officially recognized at the union level. In May 1997 "ESC EPE&TC" was reorganized into Almaty institute of power engineering and telecommunications with the status of a non-profit joint stock company. Since July 2010, the Almaty institute of power engineering and telecommunications received the status of a university with the right to train master and PhD students and a new name - non-profit joint stock company "Almaty university of power engineering and telecommunications" (AUPET).

Almaty university of power engineering and telecommunications named after Gumarbek Daukeev is one of the leading technical Universities in Central Asia, which provides training in energy, telecommunications, IT-technology and information security, space engineering, robotics, medical technology and artificial intelligence.

Staff training in AUPET is carried out in accordance with the State license for educational activities in the field of higher and postgraduate professional education № KZ80LAA00018161 from 05.05.2020.

<u>Quality.</u> The Academic policy of Non-profit JSC "Almaty university of power engineering and telecommunications named after Gumarbek Daukeev ", which is a system of measures, rules and procedures for planning and management of educational activities and effective organization of the educational process, aimed at improving the quality of education, was approved by the order of 03 August 2020.

Evaluation of the effectiveness of the University's mission is carried out by comparing the performance results with the objectives and is used as a feedback mechanism for making management decisions and analyzing the functioning of the quality management system (hereinafter - QMS) within the framework of the obtained certificate of compliance with the requirements of international standards ISO 9001:2015 (https://aues.edu.kz/ru/pages?id=2).

<u>Degree programs of the university.</u> In 2024. 47-degree programs are included in the Register of the EHEA RK, including 28 bachelor's, 13 master's and 6 PhD studies (https://info.aues.kz/OP tables.html).

<u>Structure.</u> The university consists of 4 institutes: Institute of Automation and Information Technologies, Institute of Energy and Green Technologies, Institute of Communication and Space Engineering, Institute of Natural and Social Sciences, which includes 14 departments. The structure of the university also includes AUPET College named after Gumarbek Daukeev.

<u>MTB.</u> The University consists of three buildings located in close proximity to each other. For convenience, all buildings are connected by passages. The academic building named after Gumarbek Daukeev has an assembly hall for 350 seats.

The sports facilities of the university include 5 indoor halls. In the educational building "A" there are aerobics hall 54 m2, athletics hall 72 m2, wrestling hall 72 m2, volleyball and basketball hall 112 m2, tennis hall 280 m2, men's and women's showers and locker rooms. There is an outdoor sports ground with football, volleyball and basketball fields and a running track around the sports ground.

For students in the library there are 6 points of library and information service - subscription, three specialized reading rooms, electronic resources hall "Media Library" and reading room for extracurricular activities in dormitory  $N_1$ . The library fund totals 598,531 i.e., including 217,303 i.e. in Kazakh, 6,147 i.e. in foreign languages.

The University has 3 dormitories, which can accommodate more than 1600 people. The rooms are designed to accommodate 2-4 students. All departments and laboratories are equipped with modern teaching and laboratory facilities, computer and office equipment.

#### Ratings.

According to the results of the rating of the Independent agency for quality assurance in Education - rating, AUPET in 2020 took 6th place in the National rating of the best technical universities in Kazakhstan, and DP 6B061 - "Information security systems" took 2nd place in the rating of degree programs of universities in Kazakhstan.

According to the results of the Independent agency for accreditation rating in 2020. AUPET took the 1st place in the institutional ranking of HEIs in the directions of master's Degree Programs "Information and communication technologies", M098 - "Heat and Power Engineering", M094 - "Information technologies", M096 - "Communications and communication technologies".

AUPET publishes the scientific journal "AUPET Bulletin."

(<a href="https://vestnik.aues.kz/index.php/none/index">https://vestnik.aues.kz/index.php/none/index</a>).

## **Brief** description of accredited DP:

#### DP «6B07125- Biotechnical and medical systems and devices».

<u>The Purpose of DP</u> — Training of highly qualified specialists in the development and production of medical equipment, operation and service of medical systems, complexes and devices for enterprises and healthcare institutions.

Sphere of professional activity - Maintenance, operation and repair of medical equipment; - Methods of diagnostic research; - Software development for biotechnical and medical systems; - Automation of biomedical systems and complexes; - Management in biotechnical and medical systems; - Automation and IT-technology companies.

<u>Tasks of professional activity</u> – Degree program "Biotechnical and medical systems and devices" ensures the training of in-demand specialists capable of:

- to maintain and operate computer systems and equipment in medical institutions of various profiles, in the services of the Ministry of emergency situations (MES), in firms and small businesses related to the development, production and operation of modern medical devices;
  - design medical devices and systems;
  - develop medical information systems and biotechnical automation systems;
- develop methods of research on therapeutic effects, information processing in practical healthcare and various areas of biomedical research.

#### DP «6B07127 – Automation and management of business process».

<u>The Purpose of DP</u> – Training of highly qualified specialists who possess and easily operate the acquired knowledge in the field of business process management, who understand any technique, including imported ones, in any technical system that he/she will encounter in the professional sphere.

<u>Area of professional activity</u> – Development, modelling and implementation of projects of automation and informatization of business process of enterprises, both production and services, taking into account energy, technological, design, operational, ergonomic and economic indicators.

<u>Tasks of professional activity</u> – A graduate of DP "ACBP" is prepared to work at enterprises of any profile, capable of performing the following tasks of professional activity:

- development, implementation and operation of business process automation systems in various production areas;

- operation of modern computer and microprocessor equipment, measuring devices, actuators and other means of automation;
- implementation of the latest computer technologies in the field of business process automation and professional use of software from the world's leading manufacturers.
- software development, both for the automation of technological processes in production and for the automation of various business process, banking operations, automated management and accounting systems, etc.
- work with software products of world leaders in the field of automation for various spheres of human activity.

DP «6B07116 – Electronics engineering technology».

<u>The Purpose of DP</u> – Training of highly qualified specialists for innovative sectors of the country's economy in the field of ICT with theoretical, practical and scientific knowledge in the light of the prospects of the IT industry development.

<u>Sphere of professional activity</u> – in banking, telecommunications and communications, energy, public sector, universities, private companies.

Tasks of professional activity – apply social and ethical values in practice;

- know the basics of language, history, legal system of the Republic of Kazakhstan, observe the norms of culture and business ethics;
- apply mathematical, numerical, high-performance computing, decision-making and modelling techniques to various processes;
- master the physical processes of computer systems and apply architectural solutions to the design of information systems and their components;
- apply innovative ICT and software products, algorithms and methods of information security in their professional activities;
- master the means, environment, modern programming technologies, develop software, functional support of information systems;
  - Design, configure, test, maintain and secure computer networks;
- apply artificial intelligence, design and develop ergonomic user interfaces, and manage projects;
- develop systems for collecting, storing, analyzing, and managing data using Bigdata, Datamining, and cloud computing technologies.

## (IV) DESCRIPTION OF THE PREVIOUS ACCREDITATION PROCEDURE

Degree programs 6B07127 «Automation and management of business process», 6B07125 «Biotechnical and medical systems and devices» и 6B07116 «Electronics engineering technology» are being accredited by the IAAR for the first time.

#### V) DESCRIPTION OF THE E.E.C. VISIT

The work of the EEC was carried out on the basis of the approved Program of the visit of the expert commission for specialized accreditation of degree programs to Non-profit JSC "Almaty university of power engineering and telecommunications named after Gumarbek Daukeev" in the period from 18-20 March 2024.

In order to coordinate the work of the EEC, the first meeting of the IAAR working group was held on 17.03.2024 to get acquainted with the work schedule of the commission, during which the standards, history and peculiarities of the strategy of the accredited organization were discussed and clarified, the powers were distributed among the commission members, the visit schedule was clarified, and agreement was reached on the choice of examination methods.

To obtain objective information about the quality of the degree program and the whole infrastructure of the university, to clarify the content of the self-assessment report, meetings were

held with Members of the Management Board - vice-rectors in the areas of activity, heads of structural units, directors of institutes, heads of departments, teachers, students, employers. A total of 61 representatives participated in the meetings (Table 1).

Category of participants	Quantity
Members of the Management Board - Vice-rectors	4
Heads of structural units	8
Deans, directors	2
Heads of departments	5
Teachers of cluster 2	22
Students of cluster 2	7
Graduate students	4
Employers	5
Representatives from the practice centers	4
Total	61

During the excursion EEC members got acquainted with the state of the material and technical base of the university were viewed: Ordamed firm's "Medical technology" Centre, National Instruments Centre for measurement and research automation, SIEMENS training and development Centre for the design and implementation of management systems, Laboratory "Management systems modelling and research", Laboratory "Automated management systems of technological processes", ShneIder Electric's competence center for industrial automation, VR/AR Augmented and Virtual Reality Laboratory, flight management Centre, Apple Lab, Huawei ICT Academy.

The IAAR EEC met with the university's target groups to clarify the mechanisms of the university's policy implementation and to specify certain data presented in the university's self-assessment report.

Classes were attended during the accreditation period:

- "Microprocessor complexes in management systems", lecture, (Bachelor's degree, 3rd year students, the number of attendees 31), lecturer, senior teacher A. T. Kuanyshbaeva.;
- "Programming of algorithms and data structures", LPC, (Bachelor's degree, 1st year students, number of attendees 34), teacher E.A. Zueva;
- "Wireless communication technologies", LPC, (Bachelor's degree, 3rd year students, number of attendees 18), teacher A.O. Kasimov.

Interactive whiteboards, projectors, slides, video lectures were used in the classrooms during the lessons. The process of conducting classes was conducted in the form of oral and combined questioning, defence of homework presentation, discussions, trainings, business games.

EEC experts analysed the conditions of trainees' practice bases, and also asked questions to the heads of organisations: medical equipment firm "Ordamed", National scientific centre of Surgery named after A. Syzganov, Corporation "Saiman" LLP, banks of the Republic of Kazakhstan and other production companies.

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

In order to confirm the information presented in the self-assessment Report, the external experts requested and analysed the working documentation of the university. At the same time, the experts studied the university's internet positioning through the official website of the university (https://aues.edu.kz).

Within the framework of the planned program recommendations on improvement of accredited degree programs of Non-profit JSC "Almaty university of power engineering and telecommunication named after Gumarbek Daukeev", developed by EEC according to the results of expertise, were presented at the meeting with the management on 20.03.2024.

#### (VI) COMPLIANCE WITH SPECIALISED ACCREDITATION STANDARDS

#### 6.1 Standard «Degree Program Management»

- ✓ An organization of higher and/or postgraduate education should have a published quality assurance policy that reflects the relationship between research, teaching and learning.
- ✓ The organization of higher and/or postgraduate education must demonstrate the development of a culture of quality assurance, including in the context of DP.
- ✓ The commitment to quality assurance should apply to any activities carried out by contractors and partners (outsourcing), including in the implementation of joint dual diploma education and academic mobility.
- ✓ The leadership of the DP demonstrates transparency in elaboration of the DP development plan, containing deadlines for the start of implementation, based on the analysis of its functioning, the real positioning of the OE and the orientation of its activities to meet the needs of the state, employers, learners and other stakeholders.
- ✓ The DP Manual demonstrates the existence of mechanisms for forming and regularly reviewing the DP development plan and monitoring its implementation, assessing the achievement of learning objectives, meeting the needs of learners, employers and society, and making decisions aimed at continuous improvement of the DP.
- ✓ The leadership of the DP should involve representatives of stakeholder groups including employers, learners and AS in shaping the DP development plan.
- ✓ The leadership of the DP should demonstrate the individuality and uniqueness of the DP development plan, its alignment with national priorities and the development strategy of the higher and/or postgraduate education organization.
- An organization of higher and/or postgraduate education should demonstrate clear identification of those responsible for business process within DP, unambiguous distribution of staff job responsibilities, delineation of functions of collegial bodies.
- The leadership of the DP should provide evidence of the transparency of the management system of the education program.
- ✓ The leadership of the DP should demonstrate that there is an internal DP quality assurance system in place, including its design, management and monitoring, their improvement, evidence-based decision-making.
- ✓ The leadership of the DP should manage risk, including within the DP undergoing initial accreditation, and demonstrate a system of measures to mitigate risk.
- ✓ The leadership of the DP should ensure the participation of representatives of employers, AS, students and other stakeholders in the collegial management bodies of the educational program, as well as their representativeness when making decisions on the management of the educational programs.
- ✓ OE must demonstrate innovation management within the DP, including the analysis and implementation of innovative proposals.
- ✓ The leadership of the DP should demonstrate evidence of willingness to be open and accessible to learners, AS, employers and other stakeholders
  - ✓ The leadership of the DP should be trained in degree management programs.

#### Evidentiary part

In implementing the AUPET development Plan for 2021-2023, a set of interrelated procedures and activities covering changes in academic, research, infrastructural and other areas of the university's activities was carried out.

According to the AUPET transformation strategy until 2025, the university's mission is to form the best intellectual resources of the national knowledge economy and the most advanced technologies for the industrial and innovative development of the country, adapted to the conditions of world integration and globalization.

The main strategic goals to facilitate systemic change are: moving from a teacher-researcher system to a researcher-teacher system, improving the quality of education and increasing the number of students, attracting talented and progressive applicants, AS and staff from all over the world and providing them with a comfortable learning and research environment.

The development of DP 6B07125 - «Biotechnical and medical systems and devices», 6B07127 - «Automation and management of business process» и 6B07116 - «Electronics engineering technology» is carried out at the Institute of automation and information technologies of the department at the departments of «Automation and management», «IT-engineering» and « Cybersecurity».

Degree programs 6B07125 - «Biotechnical and medical systems and devices», 6B07127 – «Automation and management of business process» and 6B07116 – «Electronics engineering technology» are developed strictly in accordance with the Classifier directions of staff training with higher and postgraduate education, SCES requirements, normative and legal acts of higher and postgraduate education and Academic policy of Non-profit JSC "Almaty university of power engineering and telecommunications named after Gumarbek Daukeev". (https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609238575\_KBF427.pdf).

Accredited DP are aimed at training highly qualified personnel, in accordance with the needs of various industries in accordance with the social order of society and the requirements of employers.

When developing the purpose of degree programs (DP), the needs of the labor market and interests of consumers, development trends, modern requirements of competencies in training specialists and their need in the relevant area of the economy, as well as competitiveness and opportunities for opening innovative DP were taken into account. DP 6B07125 - «Biotechnical and medical systems and devices», 6B07127 − «Automation and management of business process» and 6B07116 − «Electronics engineering technology» developed on the basis of the "Regulations on the development of DP based on professional standards Non-profit JSC AUPET named after Gumarbek Daukeev» (https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609231688 SQq0yF.pdf) and Order № 97 dated October17, 2022. «On the composition of the scientific and methodological council of the Non-profit JSC AUPET» named after Gumarbek Daukeev and went through a multi-stage approval process.

The developed innovative DP were submitted to the CME SUE REMC for consideration in the supervised areas of university staff training (<a href="https://aues.edu.kz/admin/web/uploads/umo-rums-files/1683266677">https://aues.edu.kz/admin/web/uploads/umo-rums-files/1683266677</a> pn57Sn.pdf "On the composition of the Training and methodological association – Project management group of the Republican training and methodological council of AUPET"). After receiving positive decisions of TMD REMC, these DP were approved by the Academic Council of AUPET (Minutes № 6 from 15.04.2022 of the SMC Meeting of Non-profit JSC AUPET), and DP "6B07116 - Electronics engineering technology" of the EI chair was considered at the "round table" with employers.

After approval by the Academic Council of AUPET the innovative degree programs "6B07125 - Biotechnical and medical systems and devices" and "6B07127 - Automation and management of business process" according to the requirements of the Centre for Bologna process and academic mobility are included in the "Register of degree programs of higher and postgraduate education" for expert evaluation. These DP, which received a positive expert opinion, are implemented in the learning process starting from 2022. DP "6B07116 - Electronics engineering technology" is implemented in the learning process starting from 2023.

The purposes DP are formed on the basis of the needs and interests of students, requirements of potential employers, development trends of modern society and RK policy in the field of digital economy and IT-industry development. They are in line with the AUPET strategy, thus ensuring that the development plan of DP is adequate to the market needs and RK's educational policy.

AUES quality assurance Policy is an integral element of the university's management and the basis for planning its educational activities. The Quality assurance policy has always been part of the strategic management of the university and is based on the mission, vision and values of the university. At the time of the HAC, only the quality assurance Policy for the academic year 2022-2023 is available on the university website

(<a href="https://aues.edu.kz/admin/web/uploads/personal-documents/1663326868">https://aues.edu.kz/admin/web/uploads/personal-documents/1663326868</a> r1sis.pdf). AUPET operates on the basis of a certified quality management system and has certificates of conformity ISO Certificates and IONEt Certificate.

The leadership of the 2 cluster DP ensures the transparency of the DP development plan elaboration based on the analysis of its functioning, the real positioning of AUPET and the orientation of its activities to meet the needs of the state, specialists and students. The leadership of DP system is transparent and open, the analysis of the work of the leadership of DP system is considered at the meetings of the cluster departments, then at the Academic council of the Institute,

Training and methodological council and Academic council of the university, The Leadership of DP organizes the participation of specialists, AS and learners in the DP collegial management bodies in the development and the leadership of DP, education quality management system, monitoring and analysis of satisfaction with the result of training on the part of learners and specialists. Information about the DP of this cluster can be seen on the university website (<a href="https://aues.edu.kz/ru/bachelor/edu-program">https://aues.edu.kz/ru/bachelor/edu-program</a>, <a href="https://aues.edu.kz/ru/magistracy/edu-program">https://aues.edu.kz/ru/doctorate/edu-program</a>).

Implementation of the quality Policy in the department is carried out through individual plans of AS and students, DP working curricula, catalogues of elective/university/compulsory disciplines. The administration, AS and students of the University participate in the formation and support of DP Quality Assurance Policy. The aim of the quality assurance policy is to ensure a high level of training of highly qualified engineering and technical personnel in accordance with the Laws "On education", "On science" and the State compulsory education standards of the Republic of Kazakhstan.

Policies on academic honesty and integrity, protection against any kind of intolerance and discrimination against AS, AUPET students or staff are given in the AUPET Academic policies (https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609238575\_BF427.pdf) and academic honesty Policy (https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609221274\_6GArk1.pdf). Sections on academic honesty are included in the internal document Rules of current academic progress management, interim and final attestation of students at AUPET (https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609224767\_SSB8oa.pdf).

The graduating department annually monitors the implementation of DP, assesses the achievement of learning objectives, compliance with the needs of students, employers and society. On the basis of these measures, decisions are made aimed at continuous improvement of DP.

In DP "6B07127 - Automation and management of business process", "6B07125 - Biotechnical and medical systems and devices» and «6B07116 - Electronics engineering technology" disciplines are included taking into account the requirements of employers and the needs of the regions of the Republic of Kazakhstan, as well as the wishes of students, stakeholders, representatives of business communities. The list of the catalogue of elective disciplines is amended annually, taking into account the needs of the market and employers, as well as the opinion of students themselves, who are oriented towards education in a particular field of activity. Consumer requirements are reflected in various documents such as MUE training, CEC, ILI students, training contracts and co-operative agreements with enterprises.

The University monitors activities and systematizes data in the following areas:1) analyzing the results of examination sessions in the context of faculties, DP, disciplines with the preparation of annual and semi-annual reports; 2) analysis of the results of final certification of students (management of updating the topics of diploma projects, results of passing state examinations and defense of diploma projects, etc.); 3) development of methodological support of credit technology and analysis of availability and quality of intra-university documentation, syllabuses; 4) questionnaire survey of various categories of students and graduates on the quality of educational services and preparation of proposals; 5) analysis of the level of informatization of the educational process, introduction of distance learning technologies.

The leaders of DP the quality of the teaching process to ensure the internal quality system of DP. The functioning of the internal quality system is determined by the timely conduct of classes, all types of intermediate management and final assessment. At all stages of the learning process, the educational process is constantly monitored. Measures to management the quality of the educational process are recorded in the form of acts and reports, which are discussed at the meetings of the department and STC of the faculty.

Assessment of DP efficiency is determined by analyzing and discussing the results of students' academic performance, hearing reports on all types of practices, checking and analyzing the quality of coursework and diploma theses, the results of examination sessions at the meetings

of departments, faculty and the academic council of the university. Assessment of the degree of satisfaction with the quality of DP includes the opinion of AS about working conditions, the opinion of students about the organization of the educational process, as well as the opinion of consumers about the quality of teaching.

Based on the analysis and evaluation of DP management indicators, activities are developed that can eliminate existing gaps in the educational process. Their efficiency and effectiveness are reviewed at department and faculty meetings. The Management of DP is carried out through open information exchange, availability of documentation and reporting on the progress of the program, as well as regular informing of stakeholders about the current status and achievements. Teachers, students, etc. can bring their complaints or remarks to the head of the department orally or in writing. Each case is considered separately and appropriate measures are taken.

The management of Risk is carried out in accordance with the strategic development plan of AUPET. The management of DP is influenced by internal and external environment research, such as: analysis of market demand for qualified specialists, analysis of the competitive environment, all DP of domestic and foreign EO, on accredited programs, identification of employers' competent requirements for graduates.

The frequency of internal and external environment research is determined by the department when introducing corrective works on existing DP and developing new DP. Based on the analysis of information at the educational and methodological councils of institutes, subject matter experts identify risks and forecast their probabilities, make decisions on management and response to these risks. Program management identifies, analyses and assesses the presence of risks primarily for DP functioning in the context of education quality: compliance with SCES requirements, provision of necessary resources (staff potential, contingent of applicants, material and technical support, finances, etc.), current and final learning outcomes of bachelors, masters and doctoral students, career development characteristics of graduates, etc.

Innovative proposals for improvement of DP come from various sources. The students, based on the results of training and all types of professional practice, make proposals to change the content of DP training disciplines.

Openness and accessibility of accredited DP includes feedback to all requests received by the management of accredited DP and HEI from students, employers, AS and other interested parties. All interested parties have the opportunity to make an appointment with the rector and vice-rectors according to the approved schedule of appointments. There is an opportunity to address working issues to the vice-rectors and heads of departments in the working mode without prior appointment.

The leadership of DP "6B07116 - Electronics engineering technology" - seminar "Management in education. Development of the university strategy" Almaty, Ylttyκ ustaz - 23.09.2022 - 30.11.2022 in the amount of 72 hours - associate professor, head of the department of ER S.K. Orazalieva has successfully completed the degree management program. Two teachers of the department of EE S.K. Orazalieva and S.A. Yusupova took a training course on the program "Institutional and specialized accreditation: content and design, Requirements for experts" in January 2023. The leader of DP - "6B07116 Electronics engineering technology" c.t.s. S.A Yusupova. is an expert in HW at IEH "Bologna process and academic mobility Centre" MSHE RK since 2021. Bologna process and academic mobility" MSHE RK.

#### Analytical part

The experts, during the visit to the university, could not see the presence of the existing developed and approved quality assurance policy, which would reflect the link between research, teaching and learning. According to the management staff, the quality assurance policy was developed and at the time of accreditation of the DP was approved by the university management staff.

<u>The experts note</u> that the HEI and the leadership of DP <u>have not fully demonstrated the</u> <u>development of a culture of quality assurance</u>, including in the context of DP, the commitment to

ensure which should apply to all processes implemented, including during the accreditation procedure.

During the monitoring of normative documents, the experts noticed that many normative documents do not meet the QMS requirements (no approval date, organization's seal, etc.). Many normative documents posted on the information resources of the university are outdated or missing, which creates access restrictions for different categories of stakeholders. When communicating with AS and students, the experts noted a low level of culture in the field of quality.

The leaders of DP presented development plans of DP, however, transparency in their development is not evident, as information on the full procedure of their design, approval, adjustment and publication with the participation of internal and external stakeholders is not provided.

The experts did not find full confirmation of transparency in development of DP. Development plans of DP should be reviewed annually with all stakeholders (external, internal) and, if necessary, adjusted (supplemented, reduced) to take into account the dynamically changing in the field of IT and AI labor market.

Despite the fact that representatives of employers, AS, students and other stakeholders are formally included in the collegial bodies of the management of DP, there is no confirmation of this fact by stakeholders, which indicates low transparency of the, management of DP system. In this regard, there are many questions on the management of DP and risks in their implementation, which have not been fully developed and taken into account in the implementation of DP.

Despite the relevance of DP, the leadership of HEI and DP have not been able to fully demonstrate innovation management within accredited DP, including their analysis and implementation.

The leadership of DP is upgrading its qualifications in various specialized activities and management programs. However, supporting documents and certificates have not been submitted for all new DP, especially the leadership of DP should undergo mandatory advanced training in the field of management in education.

Strengths/best practices for DP 6B07125 – «Biotechnical and medical systems and devices, 6B07127 – Automation and management of business process, and 6B07116 – Electronics engineering technology»:

not observed.

EEC Recommendations for DP 6B07125 – «Biotechnical and medical systems and devices, 6B07127 – Automation and management of business process, and 6B07116 – Electronics engineering technology»:

- 1. The leadership of the university should organize the development, approval and publication of the current quality assurance Policy, which reflects the link between research, teaching and learning, by 30.06.2024.
- 2. By 30.12.2024, the leadership of the university should audit the regulatory documents, ensure their execution taking into account the formal requirements of document flow, determine the order of their placement on the information resources of the university taking into account the differentiation of access for various categories of stakeholders. In the strategic and operational planning documents to provide for activities and measures for the development of quality culture, involvement of stakeholders in quality assurance processes. Supplement job descriptions and regulations on structural units with norms and requirements for the development of quality culture. Conduct training of personnel, AS, familiarization of students on the problems of quality culture development.
- 3. The leadership of the university within the term till 30.08.2024 to ensure the development of the approval and execution of the normative-legal act regulating the transparency of the mechanism of the DP development plan development, containing the start date of implementation,

based on the analysis of its functioning, the real positioning of EO and the orientation of its activities to meet the needs of the state, employers, students and other stakeholders.

- 4. The leadership of DP shall, by 30.06.2024, ensure transparency of the degree program management system, in particular, determine the resources of the structural unit for posting information on DP management, requirements for keeping it up to date and persons responsible for their implementation.
- 5. The leadership of DP to formalize the design, management and monitoring of the internal quality assurance system for fact-based decision-making based on local regulatory documents by 30.12.2024.
- 6. By 30.06.2024, the leadership of the university shall define and document the risk management procedure at the level of structural subdivisions and within DP.
- 7. By 30.10.2024, the leadership of the university should provide for innovation management in planning, reporting and activity procedures on the basis of implementation of all main management functions, including planning, organization, motivation, management, stimulation, analysis.
- 8. The leadership of EO to ensure that all. The leaders of DP are trained in degree management programs by 30.12.2025.

### **EEC Conclusions:**

According to the standard "Degree program management" 15 criteria are disclosed, of which:0 criteria are strong, 10 criteria have a satisfactory position, 5 criteria require improvement.

## 6.2 Standard «Information management and reporting»

- ✓ EO should demonstrate that it has a system for collecting, analyzing and managing information through the application of modern information and communication technologies and software tools and that it uses a variety of methods to collect and analyze information in the DP context.
- ✓ The leadership of DP should demonstrate that there is a mechanism in place to systematically use processed, relevant information to improve the internal quality assurance system.
  - ✓ The leadership of DP should demonstrate fact-based decision-making.
- ✓ The DP should provide for a system of regular reporting, reflecting all levels of the structure, including an assessment of the efficiency and effectiveness of the activities of structural units, scientific research.
- ✓ EO should establish periodicity, forms and methods of evaluation of DP management, activities of collegial bodies and structural units, top management, implementation of scientific projects.
- V EO should demonstrate the definition of procedures and ensure the protection of information, including the identification of responsible persons for the reliability and timeliness of information analysis and data provision.
- ✓ An important factor is the existence of mechanisms for involving learners, workers and AS in the processes of collecting and analyzing information and making decisions based on it.
- ✓ The leadership of DP should demonstrate that there is a mechanism for communication with learners, employees and other stakeholders, as well as mechanisms for conflict resolution.
- ✓ EO should demonstrate that mechanisms are in place to measure the satisfaction of AS, staff and students needs within the DP.
  - ✓ EO should provide for conducting performance and efficiency evaluation, including by DP.
  - The information intended to be collected and analyzed in the DP should consider:
  - key performance indicators;
  - dynamics of the contingent of students in the context of forms and types;
  - grade level, student achievement and retention;
  - satisfaction of students with the implementation of DP and the quality of learning at the university;
  - accessibility of educational resources and support systems for students.
- ✓ EO should confirm the implementation of procedures of personal data processing of students, employees and teaching staff on the basis of their documented consent.

#### Evidentiary part

To automate the process of collection, analysis and management of information, AUPET has implemented and operates systems of collection, analysis and management of information based

on the use of ICT and software tools: information management within the official website of the university, the system of information and educational portal "E\_UNIVERSITY", academic information management within the AIS "Platonus", automated integrated library system "MegaPro" (<a href="https://aues.kz/ru/site/library">https://aues.kz/ru/site/library</a>).

In order to ensure the quality of training sessions in the Platonus information system, the following were purchased: License module "Assignments" and "Online Proctoring System". An electronic timetable of classes was prepared and posted on the university website.

The University Web portal contains information on the following sections: about AUPET, education, international cooperation, science, student life, students, enrolment, e-library, degree programs, institutes and departments. You can get brief information about DP: trajectories of study within the degree program, sphere, objects, subjects and tasks of professional activity, material and technical base, employment options on the site.

AILS "MegaPro" is a new generation web-system, it can be used both in traditional and "cloud" versions. Work with any module is realized via web-interface and can be performed both in the local computer network and remotely, from any point of the Internet.

The library actively maintains thematic book exhibitions on the university website, social networks in the reading rooms of the library and in the halls of the university. The total area of the library is 1078.9 m2, 226 seats. There are 5 points of library and information service in the library: subscription, technical reading room, humanitarian reading room named after E. Sypatayev, reference and information center, electronic resources hall "Media Library".

The library has 31 computers, 1 video projector, 1 portable screen for various events. The Media Library is equipped with copiers and scanners, with the help of which the user of the media library can scan the necessary pages of selected literature free of charge and send them to e-mail or to a USB flash drive. The digital library includes information about the electronic catalogue (https://library.aues.kz/MegaPro/web), Kazakhstan and international electronic resources (https://aues.kz/?page\_id=3466), university publications https://libr.aues.kz/main/documents/#) an academic standards (https://libr.aues.kz/main/documents/#).

AUPET has a student service Centre for the quality provision of services of the educational and training process on the principle of "one-stop-shop" based on the service standards. The SSC provides a range of services to assist in the educational process, dormitory accommodation, military registration, issuance of certificates from the place of study, issuance of transcripts, counselling on academic mobility and others.

The University has developed the Regulations on distance learning in Non-Profit joint stock company "Almaty university of power engineering and telecommunications named after Gumarbek Daukeev" <a href="https://aues.edu.kz/admin/web/uploads/personal-documents/1602424344\_B6Qr4o.pdf">https://aues.edu.kz/admin/web/uploads/personal-documents/1602424344\_B6Qr4o.pdf</a>. To organize online classes, conference, meetings or other meetings via the Internet, the University uses IS "Microsoft Teams classic" or "ZOOM meetings".

The University implements a system of regular reporting, reflecting all levels of the structure and including an assessment of the effectiveness and efficiency of structural units. Annual reports of the department on the results of activity are periodically considered at the meetings of the department. At the meeting of the department, reports on the implementation of the main activities for the development of the educational process, improvement of its methodological support and organization of independent work of students, reports on the organization of educational work are considered; plans and reports of research works are considered. On the basis of these data, the activity of the department is analyzed on the issues of educational, methodological, scientific, as well as educational work with students, the state of the level of training of students and other issues related to the evaluation of the effectiveness and efficiency of the department.

The periodicity, forms and methods of evaluation of DP functioning, activities of the department are determined by the Regulations on the development of DP based on professional standards in AUPET (<a href="https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609231688">https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609231688</a> SQq0yF.pdf) and the Quality Policy for the academic year 2022-2023

of the University (<a href="https://aues.edu.kz/admin/web/uploads/personal-documents/1663326868">https://aues.edu.kz/admin/web/uploads/personal-documents/1663326868</a> r1sis.pdf).

The properties and characteristics of the collected information in AUPET are determined in the following order: analysis of activity areas (annual reports of heads of departments, directors of institutes), results of interim, final, state attestation; sociological surveys; testing (testing of basic knowledge) of students; analysis of employers' feedback on students and graduates; analysis of AS, heads of departments and directors of institutes (AS rating, KPI of heads of departments and directors of institutes), etc.

Processing, accumulation and analysis of information obtained in the course of monitoring is carried out by employees in accordance with their official duties. Based on the results of the analysis of the obtained data, the appointed persons prepare relevant documents (reports, certificates, reports), which are submitted to the University management within the terms established by the order.

The university activity is carried out through AIS ("Platonus", "E\_UNIVERSITY"), which are aimed at meaningful collection of information and purposeful management of the state and decision-making in the educational activity of the university. The data entered into AIS are produced by all structural units of the university. Information is collected by involving students, employees and AS in this process. Involvement of students, employees, AS in the processes of collecting and analyzing information is carried out by means of questionnaires in online format. The results of the survey are reported at staff meetings, Academic Council meetings, sent to departments and structural units, where they are discussed and appropriate measures are taken.

In order to determine the degree of customer satisfaction with the educational process (content, organization and quality of the educational process), as well as the quality of teaching disciplines (work of individual teachers), AUPET conducts questionnaires. The questions of the questionnaires can be changed in accordance with the tasks set by the University management. The questionnaire is conducted during the year. The results obtained from the questionnaire are taken into account by the human resources Department when certifying teaching staff. Based on the results of the surveys, a report is prepared and submitted to the University management. The mechanism of the above activities involves students, AS, employers in order to collect, analyze information and make appropriate decisions at the meetings of the department and the academic quality committee.

In accordance with the Law of the Republic of Kazakhstan dated May 21, 2013. № 94-V. "On personal data and their protection" and other regulatory legal acts of the Republic of Kazakhstan, all teachers and staff of the University signed a document on consent to the collection and processing of personal data. This consent is kept in the personal files of teachers and employees. Consent to the collection and processing of personal data of students is contained in the contract of educational services.

#### Analytical part

Information management at the University is the collection, analysis and further dissemination of information to improve the quality of services provided, including the management of educational, teaching, research, educational, financial and other processes. *EEC IAAR Members note*, that the University provides information management and reporting on the basis of application of modern information and communication technologies and software tools.

During the work of the EEC, no documents regulating the procedures for analyzing the external and internal environment, risks and opportunities for making decisions on the opening of evidence-based training for new DP were received. In addition, the EEC experts note the need to have up-to-date data on many areas of the university's activities, which is due to the lack of individuals assigned by the leadership, who are responsible for the reliability and timeliness of information analysis and data dissemination among the university staff and students and external stakeholders.

Strengths/best practices for DP 6B07125 – «Biotechnical and medical systems and devices», 6B07127 – «Automation and management of business process» and 6B07116 – «Electronics engineering technology»:

- not observed.

EEC recommendations for the DP 6B07125 – «Biotechnical and medical systems and devices», 6B07127 – «Automation and management of business process» and 6B07116 – «Electronics engineering technology»:

- 1. The Leadership of the university should develop and document procedures for analyzing the external and internal environment, risks and opportunities for making decisions on opening fact-based training for new DP by 30.10.2024.
- 2. By 30.06.2024 the leadership of the university should determine responsible persons for the reliability and timeliness of information analysis and data provision, document these decisions. To keep them up-to-date on a permanent basis.

EEC Conclusions: there are 16 criteria disclosed for «The Information management and reporting» standard, of which all 16 criteria have a satisfactory position.

#### 6.3 Standard «Development and approval of degree program»

- EO should define and document procedures for DP development and approval at the institutional level.
- The leadership of DP should ensure that DP content is fit for purpose, including the intended learning outcomes.
- The leadership of DP should demonstrate that mechanisms are in place to revise the content and structure of the DP in response to changes in the labor market, employer requirements and social demands of society.
- ✓ The leadership of DP should ensure that there are developed models of the DP graduate describing learning outcomes and personal qualities.
- The leadership of DP should demonstrate that external reviews of the DP content and planned outcomes of its implementation have been carried out.
- The qualification awarded on completion of the DP must be clearly defined and meet the defined level of the NSC and QF-EHEA.
- The leadership of DP should identify the impact of disciplines and professional practices in shaping learning outcomes.
- ✓ An important factor is the ability to provide training to students in preparation for professional certification.
- ✓ The leadership of DP should provide evidence of the involvement of learners, AS and other stakeholders in the development of the DP, ensuring its quality.
- ✓ The leadership of DP should ensure that the content of academic disciplines and planned results correspond to the level of study (bachelor's, master's, PhD studies).
- ✓ The DP structure should include a variety of activities to ensure that students achieve the intended learning outcomes.
- An important factor is the alignment of DP content and DP learning outcomes implemented by higher and/or postgraduate education organizations in UAS.

#### Evidentiary part

Degree programs within the areas of training of specialists with higher education 6B07127 – Automation and management of business process, 6B07125 - Biotechnical and medical systems and devices and 6B07116 - Electronics engineering technology have been developed in accordance with the national qualifications framework and professional standards aligned to the Dublin descriptors.

The procedure for development, approval and examination of DP of higher postgraduate education is defined by the "Regulations on the development of DP based on professional

standards" (<a href="https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609231688\_SQq0yF.pdf">https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609231688\_SQq0yF.pdf</a>). Accredited degree programs of cluster 2 are placed in the information system "register of degree programs" of the National center for higher education development of MSHE RK and on the university website (<a href="https://aues.edu.kz/ru/institute/one?institute\_id=2">https://aues.edu.kz/ru/institute/one?institute\_id=2</a>).

The purposes of DP and learning outcomes are developed in line with the National qualification's framework, priorities and needs of the region's labor market, clearly articulated and available to all stakeholders <a href="https://aues.edu.kz/">https://aues.edu.kz/</a>.

The purpose of degree program "6B07125- Biotechnical and medical systems and devices" is to meet the needs of the Republic of Kazakhstan in qualified personalities by training highly qualified specialists in the development and production of medical equipment, operation and maintenance of medical systems, complexes and devices for enterprises and health care institutions.

The purpose of degree program "6B07127 – Automation and management of business process" is To Train highly qualified specialists who possess and easily operate the acquired knowledge in the field of business process management, who understand any technique, including imported ones, in any technical system that he/she will encounter in the professional sphere.

The purpose of DP "6B07116 - Electronics engineering technology" is to train qualified specialists in the field of electronic engineering, who are able to independently engage in the development of electronic devices, to determine and master the necessary knowledge and skills in this field to improve in professional activity, to increase the efficiency of work results, in general, to improve the state of the country's economy.

DP submitted by the University for accreditation are developed and approved in accordance with the requirements of the following documents as "Rules of organization of educational process in Non-profit joint stock company "Almaty university of power engineering and telecommunications named after Gumarbek Daukeev" on credit technology of education" (<a href="https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609231948">https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609231948</a> XAPeFu.pdf), "Academic policy of Non-profit joint stock company "Almaty university of power engineering and telecommunications named after Gumarbek Daukeev" (<a href="https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609238575">https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609238575</a> KBF427.pdf,

"Provision on the development of DP on the basis of professional standards" (https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609231688 SQq0yF.pdf).

For individualization of learning in accredited DP, a significant number of elective disciplines are provided, which gives the opportunity to undergraduate students to form professional skills taking into account their interests in the future profession. The list and summary of disciplines can be found on the University website, in AIS "Platonus" in the sections "Curriculum" and "Catalogues of disciplines", as well as in the Register of DP CSHE MSHE RK.

According to the approved curricula of DP 6B07127 - "Automation and management of business process", 6B07125 - "Biotechnical and medical systems and devices" and 6B07116 -"Electronics engineering technology", there is a professional practice in each course (17 credits for the whole period of study): 2nd year - industrial practice I (5 credits), 3rd year - industrial practice III (5 credits), 4th year - pre-diploma practice (7 credits). The procedures of organization and completion of professional practice are described in the internal documents. Academic policy **AUPET** (https://aues.edu.kz/frontend/web/uploads/academof calendar/ru/1609238575\_KBF427.pdf) and the Regulations on the organization and conduct of (https://aues.edu.kz/frontend/web/uploads/academprofessional practice at **AUPET** calendar/ru/1609230284 UCXIVa.pdf).

It was noted that there are adjustments of the existing disciplines of the DP at the suggestion of employers, abolition of the disciplines that have lost their relevance or introduction of new elective disciplines. The discussion of DP revision is held at the meeting of departments with the involvement of employers, taking into account their qualifications, work experience in EO, having a scientific or academic degree, title and etc.

#### Analytical part

EEC IAAR members note that the University defines objectives for each developed and approved program based on SCES, RK regulations and labor market needs.

When determining the contribution of disciplines in the process of determining learning outcomes, the recommendations and suggestions of employers are taken into account. In this case, practically for many DP there is an active position of employers, who were the initiators of DP opening, they participate in the educational process and involve colleagues from production.

EEC also notes that the accreditation procedure failed to obtain documented evidence of the participation of learners and other stakeholders in the development of DP, ensuring its quality, as well as recording the results of its implementation. The conducted interviews with students, graduates and employers also showed a mixed response on this issue.

The leadership of DP "6B07125 - Biotechnical and medical systems and devices" has demonstrated a new interdisciplinary double-diploma degree program with the University of Applied Sciences Anhalt (Germany) with no major difference in the disciplines studied. The cooperation agreements and the academic catalogue are being signed by the parties after preliminary agreement.

Despite the high interest of employers in the implementation of DP, the leadership of DP needs to be more active in introducing and moving towards the implementation of dual training. The EEC experts note that the university and the leadership of DP are carrying out targeted work on large-scale practice-oriented learning. At the same time, the results of interviews with students, employers and graduates show that the EO and the leadership of DP should consider the possibility of increasing the hours of practical training and bringing them to the bases of enterprises.

It should also be noted that the material and technical base provided by strategic partners in the field of DP training contributes to the work in the field of providing students with additional professional competences that allow students to be more in demand and competitive after graduation through various qualifications obtained during the studies and professional certifications of students. The leadership of DP and EO should be more active in learning and implementing non-formal education methods and put them into practice.

Strengths/best practices for DP 6B07125 – «Biotechnical and medical systems and devices», 6B07127 – «Automation and management of business process» and 6B07116 – «Electronics engineering technology»:

- not observed.

EEC recommendations for the DP 6B07125 – «Biotechnical and medical systems and devices», 6B07127 – «Automation and management of business process» and 6B07116 – «Electronics engineering technology»:

1 The leadership of DP to document and implement the procedure for participation of learners, AS and other stakeholders in the development of DP, ensuring its quality, as well as recording the results of its implementation. Deadline - until 30.10.2024.

#### **EEC Conclusions:**

For the standard "Development and approval of degree programs", 12 criteria are disclosed, of which all 12 criteria have a satisfactory position.

## 6.4 Standard «Continuous monitoring and periodic evaluation of degree programs»

achievement of the goal and meeting the needs of learners, society and show the orientation of the mechanisms towards continuous improvement of DP.

- Monitoring and periodic evaluation of DP should include:
- the content of the program in the light of the latest scientific achievements in a particular discipline to ensure the relevance of the discipline taught;
  - the changing needs of society and the professional environment;
  - the workload, performance and graduation of students;
  - the effectiveness of learner assessment procedures;
  - expectations, needs and satisfaction of students with the training on DP;
  - ✓ educational environment and support services, and their relevance to the objectives of DP
- $\checkmark$  The leadership of DP should demonstrate a systematic approach in monitoring and periodically assessing the quality of DP.
- ✓ EO, the leadership of DP should define a mechanism for informing all stakeholders of any planned or undertaken actions with regard to DP.

All changes made to DP must be published.

#### Evidentiary part

The university defines and consistently applies the procedures of monitoring, periodic evaluation and revision of degree programs to ensure that they achieve their purpose and meet the needs of students and society. The procedure for monitoring and periodic evaluation of DP at the university is carried out on the basis of the Regulations on the development of DP based on professional standards" (https://aues.edu.kz/frontend/web/uploads/academcalendar/ru/1609231688 SQq0yF.pdf). Changes in DP are initiated by employers, students, teachers. The wishes of employers, students and teachers are identified in the course of annually conducted sociological surveys, round tables and meetings with employers. The leaders of DP demonstrated the changes in the DP taking into account the wishes of employers and the requirements of accreditation agencies (ABET, ASSIN). In 2023 new disciplines such as Calculus of complex variables (5 credits), Probability and Statistics (5 credits), Linear Algebra (5 credits) and Test Preparation (5 credits) were included in the working curricula of DP 6B07127 -"Automation and management of business process", 6B07125 - "Biotechnical and medical systems and devices" and 6B07116 - "Electronics engineering technology".

To ensure the quality of accredited DP, the university carries out their monitoring and evaluation. The monitoring and periodic evaluation of DP are aimed at achieving the purposes of DP, fulfilment of all planned learning outcomes. The University has defined the requirements to the format of monitoring and periodic evaluation. However, the university does not have a regulation or other document that regulates the functioning of the mechanism of monitoring and periodic evaluation of DP.

The analysis of monitoring procedures and periodic assessment of DP is carried out on the basis of: analysis of curricula, catalogue of elective disciplines, individual plans of students, internal normative documents regulating the implementation of degree programs, their monitoring and evaluation, minutes of departmental meetings, interviews and questionnaires of students, AS and stakeholders, the results of observations of support services.

The University applies the following forms, types of monitoring and evaluation of DP: questionnaire survey of students, through management, internal and external evaluation, internal management is carried out by AS of departments, external management of the effectiveness of the implementation of educational services is carried out by the Department of academic affairs, alumni, stakeholders. AS accredited DP conducts a systematic analysis of the general level of training and quality of knowledge acquisition by students in disciplines, which allows to assess the degree of mastering of educational material and to carry out continuous quality management of training. The management of students' educational achievements in the disciplines is based on the rating system, the essence of which is that continuous management of knowledge is carried out at all stages of training: current and end-of-term management, final attestation. There are regular TMCD inspections, which are carried out by commissions consisting of leading teachers. Based

on the recommendations and suggestions of employers, the catalogue of elective disciplines accredited by DP is reviewed and updated annually at the department meetings.

The HEI ensures the participation of students, potential employers and other stakeholders in the evaluation and revision of programmes. This is confirmed by the participation of AS, students and employers in Academic committees, the presence of external expertise submitted to the EEC experts with proposals to study and update the MFO cluster.

Monitoring of students' progress is systematically carried out in the form of discussion of the results of end-of-term managements 1 and 2, examination sessions in study groups. Corrective actions and decisions are taken based on the results.

The leadership of accredited DP conducts coordinated work with stakeholders, interaction is carried out through joint coordination of educational and professional practice programs, participation in training sessions, research work, participation in seminars, organization of professional development courses, discussion of topics of diploma and master's theses.

AUES has support services in place to ensure the detection of and meeting the needs of different groups of students. These services include: Registrar's office, Department of marketing, Centre of students 'services, Department of international cooperation and academic mobility and Department of analysis and development strategy. The needs of different groups of students and the degree of their satisfaction are identified through meetings of the university administration with students, conducting sociological surveys.

Internal evaluation of degree programs is carried out through the conclusion of the expert group. Based on the conclusion of the expert group, degree program is considered and recommended for approval at the meetings of the departments, educational and methodical council of the university and approved by the Academic council of the university. After passing all stages of coordination and approval, degree program is implemented in the educational process.

The workload, progress and graduation of students meet the regulatory requirements and SCES. According to the data of continuous monitoring, the report on the results of sessions is analyzed and formed. This issue is periodically considered at the meetings of departments, TMS, Academic council of the university to take the necessary measures to improve academic performance and achieve the desired results.

A student who does not agree with the results of the assessment of the examination has the right to appeal. In some cases (valid reason), the dean's office may allow the student to pass the examination session individually.

Every year the questionnaire of students is conducted to assess the pedagogical activity of AS, the analysis of the questionnaire is carried out at the meetings of departments. According to the results of the discussion, the leadership of DP takes a decision on corrective actions.

The educational environment and support services are in line with DP objectives, as the educational process of accredited programs is implemented in specialized classrooms and training laboratories equipped with the necessary equipment and software.

#### Analytical part

EEC confirms that the University carries out continuous monitoring, periodic evaluation and revision of degree programs for effective implementation of the educational process and works to create a favorable learning environment for students. Monitoring and periodic evaluation DP review: program content in the light of the latest discipline-specific science to ensure the relevance of the taught discipline; the changing needs of society and the professional environment; the workload, performance and output of students; the educational environment and support services and their relevance to the purposes of DP.

Employers are involved in the process of design, development and implementation, as well as revision of DP, for conducting classes, reviewing diploma projects, are members of the state certification commission.

The leadership of the university has demonstrated its openness and accessibility for students, AS, employers: the reception hours for personal issues are determined, meetings with the rector are held on a systematic basis.

Employers participate in the development of DP by making suggestions for new elective disciplines.

The departments have accounts and groups in social networks (Instagram, WhatsApp, Facebook), through which they inform all interested personalities about the events held in the departments and in the university. However, the EEC notes that there is no mechanism for communicating any planned or undertaken actions regarding accredited DP 6B07125 – «Biotechnical and medical systems and devices», 6B07127 – «Automation and management of business process», and 6B07116 – «Electronics engineering technology» to all interested personalities on the university's website. During the EEC visit the leaders of DP did not show convincing evidence of participation of trainees and other stakeholders in the development of DP, ensuring its quality. HEI <u>does not publish</u> information on the changes made to DP for different training areas.

Strengths/best practices for DP 6B07125 – «Biotechnical and medical systems and devices», 6B07127 – «Automation and management of business process» and 6B07116 – «Electronics engineering technology»:

- not observed.

EEC recommendations for the DP 6B07125 – «Biotechnical and medical systems and devices», 6B07127 – «Automation and management of business process» and 6B07116 – «Electronics engineering technology»:

- 1. The leadership of DP should ensure systematic monitoring and periodic evaluation of DP aimed at determining the effectiveness of student assessment procedures, as well as making decisions to improve DP. On a systematic basis periodically;
- 2. The leadership of EO and DP should ensure that information on changes is published on an ongoing basis, introduced into DP in various training areas;
- 3. The leadership of EO should ensure that a documented procedure is developed, approved and implemented for the operation of DP monitoring and periodic evaluation mechanism to ensure achievement of the purpose and meet the needs of students, society and show the focus of mechanisms for continuous improvement of DP;

#### EEC conclusions:

According to the standard "Continuous monitoring and periodic evaluation of degree programs" 10 criteria are disclosed, of which: 8 - have a satisfactory position, 2 criteria - require improvement.

6.5 tandard "Student-Centered Learning, Teaching, and Assessment"

- ✓ DP management should ensure respect and attention to different groups of learners and their needs and provide them with flexible learning paths.
- ✓ DP management should envisage the use of various forms and methods of teaching and learning.
- ✓ An important factor is the availability of research in the field of teaching methodology of DP academic disciplines.
- ✓ DP leadership must demonstrate that feedback mechanisms are in place for the use of different teaching methodologies and the assessment of learning outcomes.
- ✓ DP leadership must demonstrate that mechanisms are in place to support learner autonomy while being guided and assisted by a faculty member.

- ✓ The DP Guide must demonstrate that a procedure is in place for responding to learner complaints.
- ✓ EO must ensure that the mechanisms for assessing learning outcomes for each DP, including appeals, are consistent, transparent, and objective.
- ✓ The EO should ensure that the procedures for assessing the learning outcomes of DP trainees are consistent with the planned outcomes and program objectives, and that assessment criteria and methods are published in advance.
- ✓ The EO must define mechanisms for ensuring that each DP graduate achieves the learning outcomes and ensure the completeness of their formation.
- ✓ Evaluators must be familiar with modern methods of assessing learning outcomes and regularly improve their qualifications in this area.

## **Evidentiary part**

The DP management demonstrates the policy of formation of the contingent of DP students from admission to graduation and ensures transparency of its procedures. In the section "bachelor's degree" (https://aues.edu.kz/ru/site/admissions) there is information on: educational programs, admission rules, grants and scholarships, application rules, tuition fees and information for non-resident and international students. In addition, in the same section there is an opportunity to ask a question on the topic of interest.

The management of DP actively supports student autonomy in academic disciplines using interactive teaching methods. These include guest and problem lectures with leading practitioners, simulation methods of active learning, creative learning, innovative educational project activities, lecture-discussions, and more.

The student is free to choose the disciplines listed in the catalog of elective disciplines and the modular curriculum. The student is personally involved in the formation of his/her individual study plan through the choice of educational trajectory. The learning outcome of the module may vary depending on the selected elective component of the module.

Student-centered learning is implemented as follows: based on the standard curriculum and the catalog of elective disciplines, the student, together with the adviser, forms his/her individual curriculum for each academic period. The learner can undergo training on academic mobility both in Kazakhstan and foreign universities, with the possibility of re-crediting disciplines. If there is no possibility to study certain disciplines, there is a possibility to study them using distance learning technologies.

The procedure for responding to student complaints is developed by the Department of Academic Affairs in the "Rules of Current Control of Academic Progress, Interim and Final Attestation of Students in the Non-Profit JSC Almaty University of Power Engineering and Telecommunications" and was approved by the meeting of the Academic Council of AUPET (Minutes No. 6 of 08.01.2019). These Rules also include a procedure for assessing the level of knowledge of students at the University, aligning with the planned learning outcomes and objectives of the DP. The assessment of knowledge, skills, and professional competencies of students studying under the credit technology system is conducted on a 100-point scale, with the final result converted into a letter and numerical equivalent. The final assessment of a discipline includes evaluations from both the admission rating and the final control.

The mechanism for ensuring the mastery of learning outcomes by each graduate is prescribed and regulated in the Rules of the Organization of the Educational Process in the non-profit JSC Almaty University of Power Engineering and Communications on credit technology of education. These rules were approved by the meeting of the Academic Council of AUPET (Minutes No. 6 of 08.01.2019).

Additionally, DP management ensures respect and attention to different groups of students and their needs by providing them with flexible learning paths.

## **Analytical Part**

The management of DP programs such as 6B07127 "Automation and Management of Business Processes," 6B07125 "Biotechnical and Medical Systems and Devices," and 6B07116 "Electronic Engineering Technology" adheres to the principle of providing an individual approach to each student. This is connected with the possibility for students to choose their own educational trajectory of training.

When conducting classes, the academic staff of the DP employs various pedagogical forms of teaching, such as simulation and role-playing games, discussions, and modeling situations, with active utilization of distance learning technologies. The organization and implementation of practical classes are geared towards achieving the planned learning outcomes and catering to the needs of students. The scope of practical classes is determined by the curricula of DP programs 6B07127 "Automation and Business Processes Management," 6B07125 "Biotechnical and Medical Systems and Devices," and 6B07116 "Electronic Engineering Technology" The topics covered in classes are outlined in the syllabus and align with the topics discussed in lectures.

The study load of students is managed by considering their individual abilities and capabilities. All components and elements of DP programs 6B07127 "Business Process Automation and Management," 6B07125 "Biotechnical and Medical Systems and Devices," and 6B07116 "Electronic Engineering Technology" are included in the student's Individual Study Plan (ISP). Based on the students' choices of disciplines and teachers, individual study plans are created. The timetable of classes, IWST schedules, and the pedagogical load of teachers are prepared taking into account the Individual Study Plan (ISP).

Assessment of knowledge is carried out in accordance with the Dublin descriptors and the Bologna system. Student learning achievements are evaluated on a 100-point scale, which allows for a more objective assessment of their knowledge, skills, and abilities.

The student-centered approach in training brings changes to the system of knowledge assessment, ensuring an objective evaluation of each student's learning objectives. These objectives are based on learning outcomes and the competencies formed throughout the educational process.

At the same time, experts are not shown examples of independently developed teaching methods or the existence of a feedback mechanism for evaluating the use of different teaching methods and the assessment of learning outcomes.

The approved procedure for responding to student complaints is established in the "Rules of Current Control of Academic Progress, Interim and Final Attestation of Students in the Non-Profit JSC 'Almaty University of Power Engineering and Communications'" (Minutes No. 6 of 08.01.2019). The University's aspiration to achieve high goals is reflected in the "Transformation Strategy until 2025," which aims to "attract talented and progressive applicants, academic staff, and employees from all over the world and create comfortable conditions for them to study and conduct research" (approved by the Academic Council, Minutes No. 4 dated November 21, 2017, and reviewed and approved by the Board of Directors, Minutes No. 5-24 dated December 29, 2017).

Additionally, the AUPET Development Plan for 2021-2023 seeks to "realize the mission and vision of AUPET through the creation of a leading innovative research university in Central Asia, providing training of in-demand competitive specialists for the modern labor market" ("Strategic Development Plan of JSC 'Almaty University of Power Engineering and Communications named after G. Daukeev' for 2021-2023," approved by the Academic Council, meeting No. 13 of June 28, 2021). To achieve these goals and objectives, the University's management constantly updates its plans in the following areas:

Strengths / best practices for DP 6B07125 "Biotechnical and medical systems and devices", 6B07127 "Automation and control of business processes" and 6B07116 "Electronic engineering technology":

- Not Observed.

EEC recommendations for DP 6B07125 "Biotechnical and medical systems and devices", 6B07127 "Automation and control of business processes" and 6B07116 "Electronic engineering technology":

- 1. DP management to update documented procedures for responding to student complaints. The university management to consider the feasibility of updating the standard procedures at the level of the university as a whole. Deadline till 30.10.2024. Justification in the analytical part.
- 2. To the EO management to update: 1. publication of criteria and methods for assessing learning outcomes in advance, including on the university website; 2. development, implementation and documentation of mechanisms to ensure that each DP graduate achieves and forms the full learning outcomes.

Deadline - until 30.12.2024.

#### **EEC Conclusions:**

10 criteria are disclosed for the standard "Student Centered Learning, Teaching and Assessment of Learning", of which 9 criteria have a satisfactory position, 1 criterion needs improvement.

## 6.6 The standard "Learners"

- The EO must demonstrate the existence of the policy of formation of the contingent of students in the context of the DP, to ensure transparency and publication of its procedures governing the life cycle of students (from admission to completion).
- ✓ DP should determine the procedure for the formation of the contingent of students based on:
- minimum requirements for applicants;
- maximizing group size for seminar, practicum, laboratory, and studio classes;
- forecasting the number of state grants;
- analyzing the available material and technical, information resources and human resources;
- analyzing potential social conditions for students, including the provision of places in the dormitory.
- ✓ The management of the DP should demonstrate readiness to conduct special adaptation and support programs for new entrants and international students.
- ✓ The EO should demonstrate compliance of its actions with the Lisbon Recognition Convention, the existence of a mechanism to recognize the results of academic mobility of learners, as well as the results of additional, formal and non-formal learning.
- ✓ The EO shall cooperate with other educational organizations and national centers of the "European Network of National Information Centres for Academic Recognition and Mobility/National Academic Recognition Information Centres" ENIC/NARIC in order to ensure comparable recognition of qualifications.
- ✓ EO should ensure that DP trainees are able to mobilize externally and internally and are willing to assist them in obtaining external grants for training.
- ✓ DP management must demonstrate readiness to provide students with internship places, to promote employment of graduates, to maintain communication with them.
- ✓ EO should envisage the possibility to provide DP graduates with documents confirming the obtained qualification, including the achieved learning outcomes, as well as the context, content and status of the obtained education and evidence of its completion.

#### Evidentiary part

Educational activities The University website (<a href="https://aues.edu.kz/ru">https://aues.edu.kz/ru</a>) has a list of bachelor's, master's and doctoral degree programs, information on the dormitory and UNT courses.

Also on the site in the tab "Admission Rules" (<a href="https://aues.edu.kz/ru/bachelor/admission-rule">https://aues.edu.kz/ru/bachelor/admission-rule</a>) there is information about the rules of admission to study at Non-profit JSC AUPET on educational programs of higher education and the regulations on internal regulations in student dormitories.

Applicants are admitted to the educational programs 6B07125 "Biotechnical and medical systems and devices", 6B07127 "Automation and management of business processes" and 6B07116 "Electronic engineering technology" in accordance with the points of the certificate issued according to the results of UNT, as well as tuition fees at the expense of own funds of citizens and other sources. Admission of foreign citizens to study on a paid basis is carried out in the form of an interview conducted by the University Admission Committee.

In the educational process of AUPET distance education technologies are used for persons with disabilities, as well as for students who have left the country on exchange programs, scientific internships and academic mobility. Full-time applicants with technical and professional, post-secondary education (https://aues.edu.kz/ru/site/on) can enter the department with the use of distance education technologies. This website has the following tabs in the "Online Education" section:

- -electronic library;
- student service center;
- platonus;
- corporate email;
- DET position
- scheduling;
- academic calendars and academic policies;
- filing documents.

In order to support students, AUPET provides a personal scholarship named after the First Rector of the non-profit JSC "AUPET" G.J. Daukeev and a personal educational grant named after the First Rector for students with full reimbursement of tuition fees (https://aues.edu.kz/ru/bachelor/grants). When awarding the personal scholarship named after the First Rector have the advantage:

- 1) orphans and children left without parental care;
- 2) disabled from childhood, disabled children;

3) actively participating in the social life of the group, faculty, university and/or being winners of international, republican, regional contests, competitions in various areas of activity (scientific, sports, creative, etc.).

In order to support fee-paying students, tuition discounts are provided in accordance with the "Regulations on the Tuition Fee and Tuition Discount System".

The procedures regulating the life cycle of students are defined, approved, published in the "Rules of admission to JSC AUPET named after G. Daukeev, realizing educational grants of postgraduate education" (https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609220415\_r1ghEv.pdf).

Information about admission is available on the University website in the section "Admission" (<a href="https://aues.edu.kz/ru/site/admissions">https://aues.edu.kz/ru/site/admissions</a>). In this section there is online registration of applicants, virtual admission committee, interview schedule, regulations on the system of payment and discounts for DP bachelor's, master's and doctoral programs. There is a section "Frequently Asked Questions".

AUPET provides special adaptation and support programs. Information is available on the university website at <a href="https://aues.edu.kz/ru/bachelor/grants">https://aues.edu.kz/ru/bachelor/grants</a>.

During the interviews with trainees, it was found out that the management of DP 6B07125 "Biotechnical and medical systems and devices", 6B07127 "Automation and management of business processes" and 6B07116 "Electronic engineering technologies" actively involves specialists from production in the educational process. At the available laboratory base and in the

branches at the production facilities, diploma projects and master's theses, research and development and research and development activities are carried out.

For quick adaptation of first-year students to the learning environment, AUPET students are provided with various types of guides, including the Guidebook (https://aues.edu.kz/admin/web/uploads/personal-documents/1661599235\_-sGZcC.docx),

including information on the rules of students' stay at the University, the organization of the educational process, the academic calendar, the system of knowledge assessment, information on grants, scholarships and tuition fees, information on the organization of the summer semester. The Guidebook provides information on academic assistance to students (transfer from course to course, reinstatement, transfer from another university, elimination of academic differences and arrears, final certification, calculation of GPA scores). The University website is created at different levels of hierarchy: from personal sites and departmental pages to university-wide information repositories and is available to students and faculty both in the internal AUPET network and in the international global Internet. When enrolling in the University, a bilateral (tripartite) contract for the provision of educational services is drawn up, which specifies the period of study, tuition fees, and the responsibilities of the parties. At the first session on the "Day of Knowledge" the first-year student at the general meeting gets acquainted with the management of the University, with the academic staff of the graduating department, gets acquainted with the layout of the academic buildings, classrooms of the University, where academic classes will be held, with the location of all student support services.

The University has student support services, working to meet their educational, personal and career needs, assisting students in the organization of the educational process and in solving social issues, psychological and educational support: departments, DAA, registration's office, student service center, library, career center, Department of Youth Policy, Department of Educational Work, Office "Ruhani zhangyru" Department of Information Technology, medical center, canteen.

The University has created the necessary conditions to meet the social and living needs, they are provided with the opportunity to (https://studlife.aues.kz/bighoume/), where all conditions for students are created.

Great assistance to students is provided by YC, the main purpose of which is to ensure the rights of students, creating conditions for personal and physical development, revealing creative potential, realization of socially significant initiatives of youth, as well as the development of student and youth self-governance at the university.

The University Career Center supervises the organization of internships, employment and career development of students.

The university actively cooperates with the main employers in the organization of practice bases, development of curricula, evaluation of learning outcomes and employment. During their studies, students undergo various types of internships: industrial and pre-diploma.

The procedures for admission of students from other universities, recognition and crediting of credits based on the principles of the Lisbon Recognition Conference are given in the internal regulatory documents "Academic Policy of Non-profit Joint Stock Company "Almaty University of Energy and Communications named after Gumarbek Daukeev" (https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609238575 KBF427.pdf)

"Rules of transfer and reinstatement of students in NAO "Almaty University of Power Engineering and Communications" (<a href="https://aues.edu.kz/admin/web/uploads/personal-documents/1640235069">https://aues.edu.kz/admin/web/uploads/personal-documents/1640235069</a> \_YvVRm8.pdf).

When transferring students from other universities, the academic difference in the disciplines of the working curricula, studied by them in previous academic periods is determined. The procedure for the elimination of academic differences, arrears is set out in the "Academic Policy of AUPET".

Recognition and re-crediting of credits is carried out on the basis of comparison of DP, content of mastered disciplines, their volumes, acquired knowledge, skills, competences and

learning outcomes. At the re-crediting of mastered credits for academic disciplines, the difference in the forms of final control is not taken into account.

Credit is equated to the letter system of assessment of learning achievements of the student corresponding to the digital equivalent of the four-point system in the range from the minimum D (1.0; 50-54%) to the maximum A (4.0; 95-100%), according to the Rules of the organization of the educational process on credit technology of education.

The procedures for the reinstatement and transfer of students, as well as the provision of academic leave to students, are described in the "Rules for the Transfer and Reinstatement of Students at NJSC Almaty University of Power Engineering and Telecommunications" (https://aues.edu.kz/admin/web/uploads/personal-documents/1640235069\_YvVRm8.pdf), and in the "Rules for Providing Academic Leave to Students at NJSC AUPET named after Gumarbek Daukeyev" (https://aues.edu.kz/admin/web/uploads/personal-documents/1640233471\_9aYVD0.pdf).

For effective management, control, accounting, and analysis of educational and other processes at the University, including the analysis of students' performance with different GPA levels, the results of thesis (project) completion and defense, and data on graduates of DP, the information management system Platonus is used. In order to make the system easy to use, the instruction "Platonus AIS User Manual" (http://edu2.aues.kz/) has been developed. Platonus is aimed at ensuring the quality of education, creating rules for planning and monitoring the educational process. Personal pages of users are organized on the portal, services are provided according to the category of users. The educational portal of the Platonus IS serves as a "single window" of access to all educational and information resources of the University, to the results of students' academic performance, including current and external control, interim and final certification of students.

At AUPET, there is a continuous assessment system for students to ensure quality through internal university quality control mechanisms. This system includes continuous monitoring of students' academic performance, midterm assessments, interim, and final examinations. This process allows for the formation of current and final ratings.

To improve the student knowledge assessment system at the University, in accordance with the principles of the Bologna Process to ensure the quality of higher education in the European area, both traditional and innovative types, methods, and forms of assessment are used.

Heads of departments conduct a review of the results of the examination session at the department meeting, where the identified discrepancies in the process and the reasons for their occurrence are considered. The Academic Council of the University systematically hears the report of the head of the Registrar's Office, analyzes it, and based on the results of the analysis makes decisions aimed at improvement.

Statistical indicators of the results of the winter examination session for DP courses "6B07125- Biotechnical and Medical Systems and Devices", "6B07127- Automation and Management of Business Processes" and 6B07116- Electronic Engineering Technologies" of the 2023-2024 academic year by DP disciplines are presented in Figures 6.2 - 6.4.

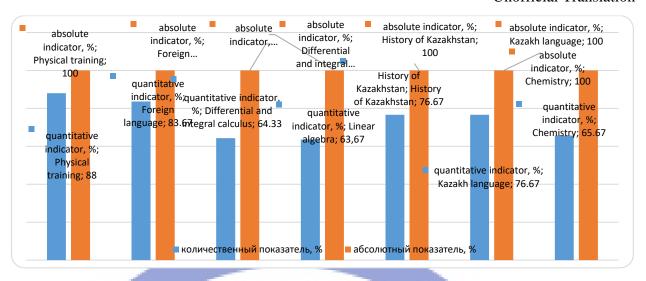


Figure 6.1 - Academic performance of students of OP 6B07125- Biotechnical and Medical Systems and Devices according to the results of the winter examination session 2023-2024 academic years

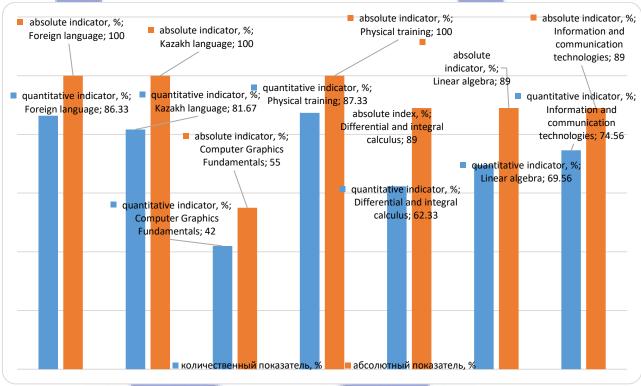


Figure 6.2 - Success rate of students of DP 6B07127 - Business Process Automation and Management according to the results of the winter examination session 2023-2024 academic year.

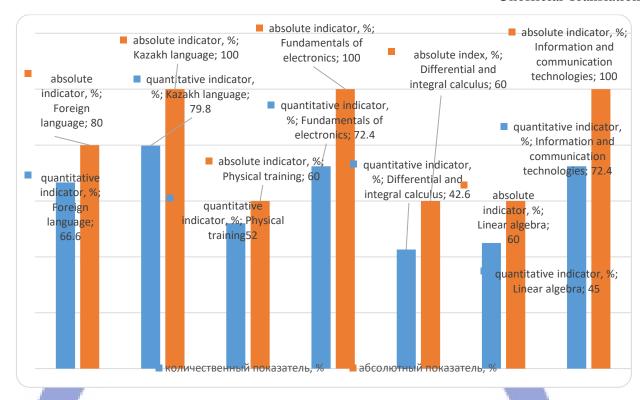


Figure 6.3 - Success rate of students of DP 6B07116 - "Electronic Engineering Technologies" according to the results of the winter examination session of 2023-2024 academic years.

Since the 2020-2021 academic year, AUPET has been issuing diploma supplements of its own design, which reflect the qualification obtained, the learning outcomes achieved, as well as the context, content, and status of the education.

The issue of the European Diploma Supplement is described in the internal document "Regulation on the European Diploma Supplement». (https://aues.edu.kz/frontend/web/uploads/academ-calendar/ru/1609219295\_nexJCS.pdf).

The students who passed the final certification and confirmed the mastering of DP, by the decision of the Institutional Accreditation Commission IAC are awarded the degree of "Bachelor of Engineering and Technology in educational programs 6B07125 - "Biotechnical and Medical Systems and Devices" and 6B07127 - "Automation and Management of Business Processes" and issued a diploma with an appendix.

The appendix to the diploma shall be filled in with the grades received by him/her for all disciplines in the volume provided by SCES and the curriculum, types of practices and results of the final certification.

In the appendix to the diploma the last grades for each academic discipline on the point-rating letter system of knowledge assessment with the indication of its volume in credits shall be recorded.

#### Analytical part

The policy of formation of the contingent of students by the university is based on the principle of transparency, unity and complies with the legislation of the Republic of Kazakhstan.

The University's website has information for applicants, including the name and description of DP, tuition fees, etc. In addition, there is an opportunity to ask questions on the University's website by registering with your name, e-mail and phone number. In addition, there is an opportunity to ask questions on the University's website by registering with your name, e-mail and phone number. In the description of DP there is such information as places of possible employment, places of practical training, material and technical base, etc.

To ensure external and internal mobility, memorandums have been concluded by the HEI management. The appointed coordinator provides all possible support and advisory assistance in the execution of the agreements.

The university has demonstrated the policy of forming the contingent of students. The current model of forming the contingent of students corresponds to the legislation of the Republic of Kazakhstan, is based on the principle of transparency, unity, and systematic. In order to increase the number of applications for admission from applicants, the Institute works on information provision of applicants with information about the university and specialties. The university regulates the procedures that ensure the life cycle of students (from admission to completion).

DP management has demonstrated readiness to provide students with places of practice.

The university provides an opportunity for external and internal mobility of DP students. For the development of interaction between internal and external mobility memorandums and agreements are concluded. After the conclusion of the contract with the university the coordinator of academic mobility is appointed, who provides consultative assistance to students in determining the list of disciplines for study and application. On the basis of the received application, the university issues an order on the terms of training, languages of study and specialty.

Academic mobility in AUPET is carried out within the framework of concluded agreements and memorandums with national and foreign universities and was based on the Internationalization Strategy of Non-profit JSC AUPET for 2021-2023. To integrate the education system into the international educational space, it is noted the need to carry out additional work on building a perspective plan of incoming and outgoing academic mobility of students both inside and outside the country.

Strengths / best practices for DP 6B07125 - Biotechnical and Medical Systems and Devices, 6B07127 - Business Process Automation and Management, and 6B07116 - Electronic Engineering Technology:

- Not observed.

Recommendations by the Expert Council for Degree Program 6B07125 - "Biotechnical and Medical Systems and Devices", 6B07127 - "Automation and Business Process Management" and 6B07116 - "Electronic Engineering Technologies":

1. To consider the possibilities of providing external and internal (incoming and outgoing) academic mobility of students through various sources in online or offline modes of learning. Term - on an ongoing basis.

#### **EEC Conclusions:**

There are 12 criteria disclosed for the Learners standard, of which all 12 criteria have a satisfactory position.

## 6.7 Standard "Academic Staff"

- ✓ EO should have an objective and transparent personnel policy, including DP, covering recruitment, professional growth, and development of personnel, ensuring the professional competence of the entire staff.
- ✓ The EO must demonstrate the alignment of academic staff staffing capacity with DP specifics.
- ✓ DP management must demonstrate awareness of responsibility for its employees and provide a supportive work environment for them.
- ✓ DP management must demonstrate a recognition of the changing role of the teacher due to the transition to student-centered learning.
- ✓ EO must identify the academic staff DP's contribution to the implementation of the EO development strategy and other strategic documents.

- ✓ The EO should provide career development and professional development opportunities for the academic staff DP.
- ✓ DP management should demonstrate readiness to attract practitioners from relevant industries to teaching.
- ✓ EO should demonstrate motivation for the professional and personal development of DP teachers, including encouragement for the integration of research and education and the application of innovative teaching methods.
- ✓ An important factor is the readiness to develop academic mobility within DP, attracting the best foreign and domestic teachers.

#### Evidentiary part

The personnel policy at the department derives from the overall personnel policy of the university. An important task of DP performance is the development of professional competencies of the academic staff. Personnel policy is one of the strategic priorities of university development, aimed at ensuring qualification requirements for the implementation of educational programs and the preservation of the professional potential of the academic staff.

Academic staff providing DP 6B07127 Automation and control of business processes 6B07125 "Biotechnical and medical systems and devices" 6B07116 "Electronic engineering technologies" and 6B07127 "Automation and Management of Business Processes," are hired on a competitive basis in accordance with the Order of the Minister of Education and Science of the (https://aues.edu.kz/admin/web/uploads/personal-Republic of Kazakhstan documents/1607588637\_BJII6c.pdf). The university website publishes announcements on competitions for faculty positions (https://aues.edu.kz/ru/declaration/one?id=750), along with instructions for participation in the competition (https://aues.edu.kz/admin/web/uploads/personaldocuments/Instruction\_manual\_rus.pdf) and the necessary qualification characteristics of faculty (https://aues.edu.kz/admin/web/uploads/personalpositions documents/kval trebovanie PPS.pdf).

The academic staff of DP is formed in accordance with the qualification requirements of the Ministry of Science and Education of the Republic of Kazakhstan on a competitive basis. It is qualitatively and quantitatively staffed to implement the DP of this cluster in 6B07127 Automation and control of business processes 6B07125 "Biotechnical and medical systems and devices" 6B07116 "Electronic engineering technologies" and 6B07127 "Automation and Management of Business Processes,"

The management of the DP cluster demonstrates awareness of responsibility for its employees and provides favorable working conditions for them, promoting professional growth and creativity of employees, as well as increasing labor productivity.

The qualitative composition of academic staff for DP 6B07127 "Automation and Business Process Management 6B07127 Automation and control of business processes 6B07125 "Biotechnical and medical systems and devices" 6B07116 "Electronic engineering technologies" is presented in Tables 7.1 and 7.2.

Table 7.1: Seniority of academic staff in DP 6B07125 "Biotechnical and medical systems and devices" and 6B07127 "Automation and Management of Business Processes,"

Total number of academic staff	doctor of sciences		candidates of sciences		PhD		masters		non-degree	
	amount	%	amount	%	amount	%	amount	%	amount	%
86	3	3,5	31	36	9	10,5	31	36	12	14

Total number of academic staff	doctor of sciences		candida scier		Phl	D	masters		non-degree	
	amount	%	amount	%	amount	в%	amount	%	amount	%
18	1	5,5	3	16,7	3	16,7	6	33,3	5	27,8

Table 7.2 Seniority of academic staff in DP 6B07116 "Electronic Engineering Technologies".

During the interviews with students, the commission was convinced that the accredited DPs involve specialists and practitioners in the educational process. Based on scientific centers, students of accredited DPs acquire practical skills and abilities, as well as implement the results of scientific research in their diploma theses, master's theses, RWS, RWM, and other projects.

During the interviews with academic staff, the commission determined that the academic staff of accredited DPs 6B07127 Automation and control of business processes 6B07125 "Biotechnical and medical systems and devices" 6B07116 "Electronic engineering technologies" produce various educational and methodological complexes for the disciplines they teach. The teaching staff of these DPs actively involve students in various research projects or developments, which motivate and enable students to solve certain problems independently. The topic of RW can be suggested by either the faculty or the student. Every year, DP management organizes RWS contests, the winners of which are sent to national NRWS contests.

Career development is considered for young faculty members. The DP faculty has the task of training and mentoring young teachers. The young DP faculty have the opportunity to enter doctoral studies. DP supervisors always support the young and enterprising faculty of the department. EO and DP supervisors are interested in the professional growth of their academic staff. In this regard, academic staff are constantly undergoing professional development on necessary courses or trainings.

In order to enrich the educational process and provide students with access to relevant knowledge and practical experience, the university actively engages practicing teachers from relevant industries and companies to conduct classes and practical sessions. This approach contributes to more in-depth and practically oriented learning. When attracting practicing teachers to the educational process, professional experience and pedagogical competencies play an important role.

Teachers of these DPs actively use information and communication technologies (ICT) and software tools in the educational process, which contributes to more effective and interactive learning. Teachers have experience in creating online lessons, using e-textbooks, and conducting webinars (links to online lectures).

The teacher actively uses interactive whiteboards, multimedia presentations, and online resources during lessons (links to online resources). Thanks to the extensive use of ICT and software tools in the educational process, the teacher creates favorable conditions for learning and development, helping students to successfully master the educational material and apply the knowledge gained in practice.

The Research Laboratory "Cyberphysical Systems and Smart Technologies," created at the Department of Automation and Control, regularly holds webinars (https://drive.google.com/drive/folders/1efizT2NvpVDCmG16q\_RV\_I04e-

<u>XbxHap?usp=sharing</u>) to find partners at AUPET for joint scientific activities and the implementation of grant and contractual projects.

JSC AUPET is currently focused on the "AUPET NAO Strategic Development Plan" for 2021-2023. Updating this HEI development plan will allow the DP management to:

- Ensure the appropriateness of the role of the faculty member in relation to the transition to student-centered learning in terms of DP development.
- Define the role of academic staff and the contribution they should make to the achievement of strategic development goals.
- Increase the possibility of international cooperation and exchange of experience with foreign and domestic colleagues.
- Strengthen the participation of academic staff in academic mobility programs and increase motivation for the professional and personal development of teachers, including encouragement for the integration of research and education and the application of innovative teaching methods.

During the visit, the experts noted that the HEI has an objective and transparent personnel policy. It includes hiring employees, their professional development, and ensuring the competence of the staff of DP 6B07127 "Automation and control of business processes" 6B07125 "Biotechnical and medical systems and devices" 6B07116 "Electronic engineering technologies". In addition, the DP management engages production staff from the relevant DP branches in the teaching process, thus ensuring the development of the DP.

It was noted that the current system of staff incentives is being finalized and does not fully take into account the contribution of DP teachers to the integration of research and education and the application of innovative teaching methods.

There is a low level of external and internal academic mobility and attraction of the best foreign and domestic teachers in the DP clusters 6B07127 "Automation and control of business processes" 6B07125 "Biotechnical and medical systems and devices" 6B07116 "Electronic engineering technologies".

Strengthening the academic mobility of accredited DP academic staff will provide an opportunity to expand international cooperation of both DPs and the HEI. It will allow for the strengthening of the exchange of experience with foreign and domestic colleagues. This will undoubtedly affect the image of accredited DPs and the entire university.

Experts note that research work is carried out at the departments. At the moment, scientific projects are underway within the framework of grant financing:

- AP13268939: Research and development of digital technology to ensure consistency and coherence in the information space of normative documents of the quality management system. Competition for grant financing of young scientists under the project "Zhas Galym" for 2022-2024. Head: Toibaeva Shara Joldaspekovna.

- AP15573764: Design and manufacture of a software and hardware complex for intelligent heat metering "Saiman-AUES". Grant financing for the most promising projects of commercialization of results of scientific and (or) scientific-technical activity for 2022-2024. Head: Utepbergenov Irbulat Turemuratovich.

Two applications for participation in grant financing were submitted:

- 1. Creation and implementation of a smart household charging station for electric cars.
- 2. Creation of an integrated intellectual automated quality management system for electronic document management in educational institutions "SmartEduDoc".

To improve the professional level and motivation of employees, there is a system of bonuses for teachers and staff based on personal contributions and achieved results in scientific activities. The university supports the professional development of young teachers by sending them to doctoral studies at leading universities of the Republic of Kazakhstan. Teachers who demonstrate high performance in teaching, methodological, research activities, and social work are awarded badges, diplomas, and letters of thanks from the President of the Republic of Kazakhstan, the Minister of Education and Science of the Republic of Kazakhstan, the city government and region, and the Rector.

## Analytical part:

The University conducts purposeful efforts in training scientific and pedagogical personnel. Primarily, this is associated with academic continuity, which entails the training of professional staff directly within the institution, through participation in master's and doctoral programs.

The departments have funded and contractual research works tailored to the specifics of accredited DPs. The activities of academic staff concerning the educational process align with the DP development plans. The questionnaire survey of academic staff confirmed a high level of interest in achieving DP plans, as well as in creating favorable working conditions. Academic staff are actively engaged in the social life of the university, leading scientific and artistic circles. Students actively participate in competitions and have achieved notable prizes. During classes, academic staff extensively utilize technical means to enhance the interactivity of the learning process.

The analysis of the qualitative and quantitative composition of academic staff in training allows us to draw the following conclusions: teachers widely utilize various active teaching methods in the educational process. Innovative teaching technologies have been introduced to cover all types of academic work, including lectures, laboratory-practical sessions, and seminar classes. The University has developed and updated mechanisms and criteria for systematically evaluating and stimulating the effectiveness of teaching quality.

EO management and DP management are involved in:

- defining the role of the lecturer in connection with the transition to student-centered learning.
- defining the role of academic staff and the contribution they should make to the achievement of strategic development goals.
- expanding the possibility of international cooperation and exchange of experience with foreign and domestic colleagues, is guided by the following documents developed in the HEI: "Rules of current control of academic progress, interim and final attestation of students in nonprofit JS 'Almaty University of Energy and Communications' (Minutes № 6 of 08.01.2019); 'Transformation Strategy up to 2025' (approved by the Academic Council, Minutes № 4 of November 21, 2017 and considered and approved by the Board of Directors, Minutes № 5-24 of December 29, 2017); 'Strategic Development Plan of NAO 'Almaty University of Energy and Communications". (approved by the Academic Council, Minutes #4 dated November 21, 2017, and reviewed and approved by the Board of Directors, Minutes #5-24 dated December 29, 2017); "Strategic Development Plan of JSC 'Almaty University of Power Engineering and Communications named after G. Daukeev' for 2021-2023, approved by the Academic Council (meeting #13 dated June 28, 2021); "Internationalization Strategy of JSC 'Almaty University of Power Engineering and Communications' named after G. Daukeev. Daukeev"for 2021-2023" (https://aues.edu.kz/frontend/web/uploads/document/1643872190\_x3LJUX.pdf). Updating these documents will allow the university to move to a new qualitative level, both in the field of training, in connection with the transition to student-centered learning, and strengthen the role of ACADEMIC STAFF in achieving the goals of strategic development and expand opportunities for international cooperation and exchange of experience with foreign and domestic colleagues.

Strengths / best practices for DP 6B07127 Automation and control of business processes 6B07125 "Biotechnical and medical systems and devices" 6B07116 "Electronic engineering technologies":

- Not observed.

EEC recommendations for DP 6B07125 - 6B07127 Automation and control of business processes 6B07125 "Biotechnical and medical systems and devices" 6B07116 "Electronic engineering technologies": All recommendations should have a rationale in the analytical section.

- 1. The DP leadership is tasked with updating the role of the instructor in connection with the transition to student-centered learning and incorporating these updates into the DP development plan. The deadline for this task is December 30, 2024.
- 2. The EO leadership is directed to update the role of academic staff and their contribution to the strategic development goals in the EO development strategy and other strategic level documents. This update should be completed by June 30, 2024.
- 3. By December 30, 2024, the EO management should revise and update the measures for motivating professional and personal development of teachers, including incentives for integrating scientific activity with education and implementing innovative teaching methods.
- 4. DP management is instructed to enhance the participation of academic staff in academic mobility programs, and to expand opportunities for international cooperation and exchange of experience with foreign and domestic colleagues. The frequency of this action should be specified as "annually".

### **EEC Conclusions:**

The Academic Staff standard disclosed 9 criteria, of which 6 criteria have a satisfactory position, 3 criteria require improvement.

### 6.8 Standard "'Educational Resources and Student Support Systems"

- ✓ The EO must ensure that there are sufficient learning resources and learner support services to support the achievement of the DP objective.
- ✓ The EO must demonstrate the adequacy of facilities and infrastructure to meet the needs of different groups of learners in the DP (adult, working, international learners, and learners with disabilities).
- ✓ DP management must demonstrate that procedures are in place to support different groups of learners, including information and counseling.

  ✓ The DP Guide should demonstrate the relevance of information resources to the specific DP,
- including:
- Technological support for students and academic staff (e.g., online learning, modeling, databases, data analysis programs).
- Library resources, including the fund of educational, methodological, and scientific literature on general education, basic and specialized disciplines, in both paper and electronic media, periodicals, and access to scientific databases.
- Examination of research work results, graduate works, and dissertations for plagiarism.
- Access to educational Internet resources.
- Functioning of Wi-Fi on the territory of the educational organization.
- ✓ EO demonstrates planning to provide DP with educational equipment and software tools similar to those used in relevant industries.

### **Evidentiary part**

During the work, the experts verified that the university has material and technical, information and library resources used to organize the process of education and training of students and the implementation of the mission, goals and objectives of AUPET.

The DP cluster 6B07127 " Automation and control of business processes," 6B07125 "Biotechnical and Medical Systems and Devices," and 6B07116 "Electronic Engineering Technologies" have a good material and technical base, ensuring the implementation of all types of practical training and research work for both academic staff and students as provided by the curriculum. Systematic work is carried out to update and improve the material and technical base of these specialties.

Modern computer equipment and software are used during classes. Conditions have been created for student learning, conducting scientific research, and publishing the results of research work by academic staff, employees, and students.

Material-technical, information and library resources used for the organization of the teaching and learning process are sufficient to fulfill the stated mission, goals and objectives and meet the requirements of accredited educational programs. Each DP has research laboratories, which are equipped with a projector, PC, blackboard and others.

To replenish the resource fund on the basis of the department's submission, requests for the purchase of resources are submitted to the state procurement department. The results of public procurement are posted on the web portal of the State Health Committee of the Republic of Kazakhstan and the web portal of the university.

The university has medical stations, sports facilities, sports and recreational complex, canteens, cafes and buffets. Modern branded laboratories, interactive whiteboards, modern computers with specialized software and Internet access are actively used in the educational process.

However, interviews conducted with academic staff and students from all clusters during the accreditation procedure, as well as in their daily activities at the University, led EEC experts to note the imperative need to focus on ensuring comprehensive coverage of all areas of the University with high-speed Internet and access to Wi-Fi.

The University has created support services for students, (Office-Registrar Department), introduced units of adviserы and supervisors.

For DP 6B07127 "Automation and control of business processes" and 6B07125 "Biotechnical and medical systems and devices" students have the opportunity to study on modern industrial equipment of world manufacturers in the field of automation and control:

Modern actuators - PS- Laboratory "Hardware and software of control systems". The task of the laboratory is to teach low-level programming languages C++, the basis of analog and discrete signal processing on the microcontroller STM32. It has the following actively used software: LabView 7.1, MySQL, IAR EW for Arm 9.10.2, Dev C++, PyCharm 2021.1.2, scilab-6.1.0, STM32 cub mix, DOSBox, Microsoft365. (Building A, room 425).

National Instruments Center for Measurement and Research Automation. The Center assists students in learning measurement and data processing methods, process simulation methods and virtual instrumentation on Labview. It was equipped in 2011, 2021 with NI SSD stands (with LabView 8.5 software), two NI Elvis III stands with "Automation Measurements" and "Quanser Mechatronics Sensors" boards. (Building A, room 428).

- Honeywell's training and research center for the design and implementation of control systems. This center focuses on process control and system visualization. Among other things, the training and research center provides tools for creating dynamic mathematical models of production processes. It was equipped in 2022 with a laboratory bench for the study of Honeywell controllers, nine HP personal computers and the following software: DosBox, scilab, SoftMaster, Metlab, Python3.7, Microsoft365, MySQL, LabView 7.1, Dev C++, Cisco Packet Tracer. (Building A, room 429).
- SIEMENS Training and Professional Development Center in the field of industrial automation, SCADA, MES and EPR systems. The center teaches methods of programming SIEMENS industrial controllers for process automation systems. Students learn the basics of building SCADA, MES and EPR systems for industrial process automation. (Building A, room 430).
- Laboratory "Modeling and research of control systems". The task of the laboratory is to analyze temperature, level and flow measurement process data; and to process experimental results; modeling of pressure regulation control systems.
- The laboratory is equipped with: 1) Technical equipment for the laboratory "Automation of technical systems, 2) Educational stand for measuring pressure instruments, 3) Educational stand for measuring level instruments, 4) Educational stand temperature measuring devices, 5) Industrial stand of pneumatic automatics of Festo company, 6) Demonstration station "Model storage", 7) Demonstration station "Processing", 8) Demonstration station "Conveyor", 9)

Demonstration station "EduKit PA Basic", 10) Nine Lenovo personal computers. (Building A, Room 432).

- Laboratory "Information Technologies in Automation Systems." The laboratory's profile includes algorithmic and programming, visualization of software development diagrams, simulation modeling of processes, modeling of computer and industrial networks. (Building A, Room 434).
- Laboratory "Automated control systems of technological processes". The laboratory is equipped with five Tornado stands: 1. "Control system of belt conveyor", 2. "Control system of heating furnace with automatic door", 3. "Control system of manipulator with vacuum gripper", 4. "Control system with 3-D manipulator", 5. "Conveyor control system with two processing stations". (Building A, Room 435).
- Schnelder Electric's competence center for industrial automation. The center teaches students the principles of Schneider Electric devices, programming of industrial controllers and process visualization. It has 6 training stands from Schneider Electric and 12 Lenovo personal computers. There are such software as Control Expert and Machine Expert v1.2. (Building A, room 437).

For training of students on DP 6B07116 - "Electronic Engineering Technologies" of the department of "Electronic Engineering" for qualitative realization of classes are provided: 8 training laboratories:

- Laboratory "Instrumentation and automation" B-419, equipped with stands "Pneumatics (Comozzi)" and controllers SIEMENS, for the study of control and control measurement devices and automation of their control on the subjects "Fundamentals of automatic control", a new stand, "Industrial controllers in hydraulic drive systems".
- Laboratory "Programmable Logic Controllers and SCADA-systems" B-419a, equipped with SIEMENS stands, industrial controllers SIEMENS S300, S1500, for the study of subjects "Industrial controllers" "Theory of computer-aided design".
- Laboratory "Measurement Technology" B-422, equipped with a stand on "Modern means of measurement of physical quantities" and computers with software LabView 7.5, to conduct classes on subjects "Fundamentals of measurement theory", "Measurement theory", "Measurement of electrical quantities", "Measurement technology", "Probability theory in instrumentation", "Probabilistic and statistical methods in instrumentation", "Fundamentals of modeling devices in LabVIEW".
- Laboratory "Microcontrollers and signal microprocessors" B-424, equipped with stands "Texsas instruments" and computers to study the basics of programming microcontrollers and signal microprocessors.
- Laboratory "Microelectronics" B-421, equipped with stands "DEGEM SYSTEM with a set of boards for practical and laboratory classes", oscilloscopes, multimeters and computers to study the basics of electronics, analog and digital circuitry, microelectronic elements and systems.
- Laboratory "Modeling of devices and systems" B-426, equipped with FPGA stands and computers for work on the subjects "Modeling of devices and systems", "Modeling of robotic systems", "Basics of CAD in instrumentation",
- Demo versions of the following programs are installed on all computers for laboratory works: ProteusVSM, MathCad, MatLab, DOS-box, SimaticManager (Step7), SimaticWinCCflexible 2008, ICCV7 forAVR, AVRStudio 4, TIAPortalV11 and others.
- Laboratory B-427, RWS equipped with soldering stations, forced extraction, oscilloscopes, a set of tools, etc.

According to the agreement № 13 from 05.01. 2016 on services with the Republican Interuniversity Electronic Library, the AUPET academic staff has the opportunity to access the use of united information resources of university libraries of RK. And thanks to the national subscription AUPET library has access to Scopus, ScienceDirect, Clarivate Analytics databases. Representatives of these companies organize training seminars on the basis of the library.

### Analytical part

During the interviews with students and academic staff it was revealed that opportunities for training, internships, professional development in the leading universities of the world are available in limited quantities. In this regard, it is advisable to more widely involve students in the best online courses.

Classrooms used in the educational process of the DP cluster are connected to the global Internet and the university's local network. The rooms are equipped with educational material stands, interactive whiteboards, and projectors. Students of the DP cluster use the university's computer labs, which are networked and have broadband Internet access. However, during the experts' visit to the university, it was concluded that the Wi-Fi network on campus was not functioning adequately.

As a result of visual inspection of the facilities, the EEC members were convinced that the University has the necessary educational and material assets to ensure the educational process of the accredited DP 6B07127 "Automation and control of business processes», 6B07125 "Biotechnical and Medical Systems and Devices" and 6B07116 "Electronic Engineering Technologies". The buildings and facilities of the University comply with the current sanitary norms and fire safety requirements.

Strengths / best practices for DP 6B07125 - Biotechnical and Medical Systems and Devices, 6B07127 - Business Process Automation and Management, and 6B07116 - Electronic Engineering Technology:

1. The DP management has demonstrated a high degree of laboratory equipment and support funds for the educational process, as well as technological support for students and academic staff in accordance with the educational programs.

EEC recommendations for DP 6B07125 - "Biotechnical and Medical Systems and Devices", 6B07127 - "Business Process Automation and Management" and 6B07116 - "Electronic Engineering Technology":

1. The university management should consider allocating funding to cover the areas providing the educational process with Wi-Fi access network. Deadline - by the beginning of the 2024-2025 academic year.

### **EEC Conclusions:**

Regarding the standard "Educational Resources and Student Support Systems," 9 criteria were addressed, of which 1 criterion has a strong position, 7 criteria have a satisfactory position, and 1 position requires improvement.

### 6.9 Standard «Informing the public»

- ✓ The EO should publish accurate, objective, and up-to-date information about the educational program and its specifics, which should include:
- Expected learning outcomes of the implemented educational program,
- The qualification(s) that will be awarded upon completion of the educational program;
- Teaching and learning approaches, as well as the assessment system (procedures, methods, and forms).
- information about passing grades and learning opportunities provided to students;
- information about employment opportunities for graduates.
- ✓ DP management should provide a variety of ways to disseminate information, including mass media and information networks, to inform the general public and stakeholders.
- ✓ <u>Public awareness should include support for and explanations of the country's national</u> development programs and the system of higher and postgraduate education.
- ✓ The EO should demonstrate the presence of information on its web resource that characterizes the institution as a whole and in the context of its educational programs.
- ✓ An important factor is the availability of adequate and objective information about the academic staff of the DP.

✓ <u>An important factor is to inform the public about cooperation and interaction with partners</u> within the DP.

### **Evidentiary part**

"Degree University's website, the section Programs" On the in (https://aues.edu.kz/ru/bachelor/edu-program), the current information for DP 6B07127 "Automation and control of business processes," 6B07125 "Biotechnical and Medical Systems and Devices," and 6B07116 "Electronic Engineering Technologies" is published. This section contains information about DP objectives, learning pathways, scope and objects of activity, tasks, material and technical basis, and employment options. The passport data of verified DPs in the modular curriculum prescribe the learning outcomes. The University website has a section titled "Academic Policy" (https://info.aues.kz/Applications.html), which includes the rules for current control of academic progress, interim, and final attestation of students at JSC AUPET named after G. Daukeev.

On the AUPET website, there is a feedback section for trainees (https://aues.edu.kz/ru/bachelor), where they can ask questions by filling out a preliminary form with their name, email, and phone number. In the University's educational portal, learners have access to the academic calendar, the curriculum of their specialty, and the formation of an individual educational plan (including information about disciplines and teachers). Additionally, there is access to information resources and databases of the University library, as well as teaching materials provided by teachers for the disciplines studied. The student can familiarize themselves with the results of current, interim, and final assessments in their personal cabinet. At the end of academic periods, the student receives full information about their progress in the studied disciplines (transcript).

For information about the University, student life, educational programs, etc., there is the University website. Additionally, information can be obtained from social networks such as Facebook, Instagram, and YouTube. Furthermore, publications about the University are available in the media, serving informational, image, and explanatory purposes. The website's "University Structure" section (<a href="https://aues.edu.kz/ru/site/structure">https://aues.edu.kz/ru/site/structure</a>) provides information about the University administration, institutes, and departments.

The University website (<a href="https://aues.kz">https://aues.kz</a>) provides up-to-date information on the specifics of educational programs, including descriptions of DP levels, DP objectives, practice bases, qualifications awarded, competencies formed, QMS procedures, students' achievements, and data on international cooperation.

The preparation of information for posting on the University's internet resources, except for the information posted by academic departments and teachers on the educational portal, is carried out by the relevant structural units. The information is presented in three language versions: Kazakh, Russian, and English.

### **Analytical** part

The University has a dedicated press service (<a href="https://aues.edu.kz/ru/site/smi-o-nas">https://aues.edu.kz/ru/site/smi-o-nas</a>), which conducts filming in classrooms, dormitories, and laboratories; assists in organizing interviews with management and academic staff and develops exclusive topics. On the University's website, in the "Accreditation and Rating" section, there is information about the AUPET Rating named after Gumarbek Daukeev and educational programs (<a href="https://aues.edu.kz/ru/site/rating">https://aues.edu.kz/ru/site/rating</a>).

Achievements of academic staff are published on the university website in the announcements section (<a href="https://aues.edu.kz/ru/post/one?id=1938&index\_page=1">https://aues.edu.kz/ru/post/one?id=1938&index\_page=1</a>). More detailed information about academic staff can be obtained by contacting the University directly.

Additionally, the University website contains audit reports, which are available for consultation (https://aues.edu.kz/ru/site/audit).

The DP guidelines provide for a variety of ways to disseminate information, including mass media and information networks to inform the public and stakeholders. However, the

university management needs to take targeted actions to improve the content of relevant information within the departments and regarding the specifics of DP implementation on the university website, as there is outdated information.

Additionally, the publication of reliable information about academic staff, in the context of individual personalities, is not observed on public resources.

Strengths / Best Practices for DP 6B07125 - Biotechnical and Medical Systems and Devices, 6B07127 - Automation and control of business processes, and 6B07116 - Electronic **Engineering Technology:** 

- Not observed.

EEC recommendations for DP 6B07125 - "Biotechnical and Medical Systems and Devices", 6B07127 - "Automation and control of business processes", and 6B07116 -"Electronic Engineering Technology":

1. The HEI management should define the sections of the website and organize the placement of adequate and objective information about academic staff DP in them. Term - on a permanent basis. EEC conclusions:

According to the standard "Public Information", 10 criteria are disclosed, of which 9 criteria have a satisfactory position, 1 position requires improvement.

### (VII) REVIEW OF STRENGTHS/BEST PRACTICES FOR EACH STANDARD

### **Standard "Degree Program Management":**

Not observed.

### **Standard "Information Management and Reporting":**

Not observed.

## Standard 'Degree Program Development and Approval':

Not observed.

### Standard "Continuous Monitoring and Periodic Evaluation of Degree Programs": Not observed.

## The standard "Student-Centered Learning, Teaching, and Assessment of Learning":

Not observed.

### The standard "Learners":

Not observed.

### The "Academic Staff" standard:

Not observed.

### **Educational Resources and Student Support Systems Standard:**

1. DP management demonstrated a high degree of availability of laboratory equipment and funds to support the educational process, as well as technological support for students and academic staff in accordance with educational programs.

### **Public Awareness Standard:**

Not observed.

### (VIII) REVIEW OF QUALITY IMPROVEMENT RECOMMENDATIONS FOR EACH STANDARD

### According to the standard "Degree Program Management."

EEC recommendations for DP 6B07125 - "Biotechnical and Medical Systems and Devices," 6B07127 - "Automation and control of business processes" and 6B07116 - "Electronic engineering technologies":

- 1. The university management should organize the development, approval, and publication of the Quality Assurance Policy, which reflects the link between research, teaching, and learning, by 30.06.2024
- 2. By 30.12.2024, the university management and DP should audit the regulatory documents, ensure their execution with regard to the formal requirements of document flow, and determine the order of their placement on the university's information resources, taking into account the differentiation of access for various categories of stakeholders. In the strategic and operational planning documents, they should provide for activities and measures for the development of quality culture and the involvement of stakeholders in quality assurance processes. Supplement job descriptions and regulations on structural subdivisions with norms and requirements for the development of quality culture. Conduct staff training and familiarize students with the issues related to quality culture development.
- 3. By 30.08.2024, the university management should ensure the development, approval, and execution of a legal act regulating the transparency of the DP development plan mechanism. This legal act should include the start date of implementation, based on the analysis of its functioning, the real positioning of the EO, and the focus of its activities to meet the needs of the state, employers, students, and other stakeholders.
- 4. By 30.06.2024, the DP management should ensure the transparency of the educational program management system. This includes determining the resources of the structural unit for posting information on DP management, establishing requirements for keeping it up to date, and identifying the persons responsible for implementation.
- 5. By 30.12.2024, the DP management should formalize the design, management, and monitoring of the internal quality assurance system for fact-based decision-making based on local normative documents.
- 6. By 30.06.2024, the university management should define and document the risk management procedure at the level of structural units and within the DP.
- 7. By 30.10.2024, the HEI's management should provide innovation management in planning, reporting, and activity procedures based on the implementation of all main management functions, including planning, organization, motivation, control, stimulation, and analysis.
- 8. By 30.12.2025, the EO management should provide training for all DP managers on education management programs.

### According to the standard "Information Management and Reporting":

EEC Recommendations for DP 6B07125 - "Biotechnical and Medical Systems and Devices," 6B07127 - "Automation and control of business processes," and 6B07116 - "Electronic engineering technologies":

- 1. By 30.10.2024, the university management should develop and document procedures for analyzing the external and internal environment, risks, and opportunities to make decisions on opening fact-based training for new DPs.
- . By 30.06.2024, the management of the HEI should identify responsible persons for the reliability and timeliness of information analysis and data provision, document these decisions, and keep them up-to-date on a permanent basis.

### According to the standard "Development and Approval of Degree Program":

EEC recommendations for DP 6B07125 – "Biotechnical and Medical Systems and Devices" 6B07127 – "Automation and control of business processes", and 6B07116 – "Electronic engineering technologies":

1. By 30.10.2024, the DP management should document and implement the procedure for the participation of trainees, academic staff, and other stakeholders in the development of the DP, ensuring its quality and recording the results of its implementation.

# According to the standard "Continuous Monitoring and Periodic Evaluation of Degree Programs":

EEC Recommendations for DP 6B07125 - "Biotechnical and Medical Systems and Devices," 6B07127 - "Automation and control of business processes," and 6B07116 - "Electronic engineering technologies":

- 1. The DP management should provide systematic monitoring and periodic evaluation of DPs aimed at determining the effectiveness of learner evaluation procedures and making decisions to improve DPs. This should be done periodically on a systematic basis.
- 2. EO and DP management should ensure the publication of information on changes made to the DP for different training areas on an ongoing basis.
- 3. EO management should ensure the development, approval, and implementation of a documented procedure for the functioning of the mechanism for monitoring and periodic evaluation of the DP to ensure the achievement of objectives, meet the needs of trainees and society, and demonstrate the focus on continuous improvement of the DP.

### The standard "Student-Centered Learning, Teaching, and Assessment of Learning":

EEC recommendations for DP 6B07127 Automation and control of business processes 6B07125 "Biotechnical and medical systems and devices" 6B07116 "Electronic engineering technologies":

- 1. DP management 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 by 30.10.2024.
- 2. EO management should ensure: 1. Publication of criteria and methods for assessing learning outcomes in advance, including on the university website. 2. Development, implementation, and documentation of mechanisms to ensure that each DP graduate achieves the learning outcomes and forms them in full. Deadline by 30.12.2024.

### The standard "Learners":

EEC recommendations for DP 6B07125 - Biotechnical and Medical Systems and Devices, 6B07127 - Automation and control of business processes, and 6B07116 - Electronic engineering technologies:

1. Consider opportunities to provide external and internal (inbound and outbound) academic mobility of learners through various sources in online or offline modes of learning. Deadline - on an ongoing basis.

### The ''Academic Staff'' standard:

EEC recommendations for DP 6B07125 - "Biotechnical and medical systems and devices 6B07127 - "Automation and control of business processes" and 6B07116 - "Electronic engineering technologies":

1. DP management should study the feasibility of changes in the role of the instructor in connection with the transition to student-centered learning and include provisions for these changes in the DP development plan. Deadline - by 30.12.2024.

- 2. EO management should define the role of academic staff and the contribution they should make to the achievement of strategic development goals in the EO Development Strategy and other strategic level documents. Deadline by 30.06.2024.
- 3. EO management should develop and document measures to motivate the professional and personal development of teachers, including encouragement for integrating scientific activity and education and the application of innovative teaching methods. Deadline by 30.12.2024.
- 4. DP management should strengthen the participation of academic staff in academic mobility programs and expand opportunities for international cooperation and exchange of experience with foreign and domestic colleagues. Deadline annually.

### Educational Resources and Student Support Systems Standard:

EEC recommendations for DP 6B07125 - "Biotechnical and medical systems and devices," 6B07127 - "Automation and control of business processes," and 6B07116 - "Electronic engineering technologies

1. The university management should consider allocating funding to cover the areas providing the educational process with Wi-Fi access. Deadline - by the beginning of the 2024-2025 academic year.

### Public Awareness Standard:

EEC recommendations for DP 6B07125 - "Biotechnical and medical systems and devices," 6B07127 - "Automation and control of business processes," and 6B07116 - "Electronic engineering technologies":

1. The HEI management should define the sections of the website and organize the placement of adequate and objective information about the academic staff of the DP in them. Term - on a permanent basis.

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

- Develop and approve the university development strategy for the next 5 years.
- Harmonize the content of the university's DPs with foreign educational organizations, and work on developing joint (network) educational programs with partner universities (including the implementation of double degree programs).
- Pay great attention to and develop a roadmap for the development of scientific and innovative activities at the university, and promptly activate the work of the Vice-Rector for Science and the university's Science Department.
- Expand the geography of partner enterprises to develop relationships for organizing professional practices, internships, and employment opportunities.
- Develop a PR management strategy and/or marketing strategy for the university to strengthen competitiveness in the educational services market.
- The university management should carry out targeted work on implementing a language policy (development of a trilingual model).
- The HEI and educational program management should build close cooperation with employers and graduates to obtain relevant information in the field of training and involve stakeholders in the improvement of DPs.
- DP management should take into account the results of student questionnaire surveys to make appropriate decisions -(Appendix 4 of this report).

# (X) RECOMMENDATIONS TO THE ACCREDITATION COUNCIL Appendix 1: Assessment table "SPECIALISED PROFILE PARAMETERS (EX-ANTE)

№	No	€ Evaluation criteria	Position of the educational organisation			
			Strong	Satisfactory	Assumes an improvement	Unsatisfactory
Standa	ard "De	gree Program Management''				
1	1.	The higher education and/or postgraduate education institution should have a published quality assurance policy which reflects the relationship between research, teaching and learning			+	
2	2.	The organisation of higher and (or) postgraduate education must demonstrate the development of a culture of quality assurance, including in the context of DP			+	
3	3.	The commitment to quality assurance should apply to all activities carried out by contractors and partners (outsourcing), including in the implementation of joint/dual degree education and academic mobility		+		
4	4.	The management of the DP demonstrates transparency in the development of the DP development plan, containing the terms for the start of implementation, based on the analysis of its functioning, the real positioning of the DP and the orientation of its activities to meet the needs of the state, employers, learners and other stakeholders			+	
5	5.	The management of the DP demonstrates the existence of mechanisms for the formation and regular revision of the DP development plan and monitoring of its implementation, assessment of the achievement of learning objectives, compliance with the needs of students, employers and society, decision-making aimed at continuous improvement of the DP	7	5		
6	6.	The management of the DP should involve representatives of interested parties groups, including employers, students and faculty in the formation of the DP development plan		+		
7	7.	The DP management should demonstrate the individuality and uniqueness of the DP development plan, its alignment with national priorities and the development strategy of the higher and/or postgraduate education organisation. (education in English)		+		
8	8.	An organisation of higher and/or postgraduate education should demonstrate clear identification of those responsible for business processes within the DP, unambiguous distribution of staff job responsibilities, delineation of functions of collegial bodies		+		
9	9.	The management of the DP should provide evidence of the transparency of the management system of the educational program			+	
10	10.	The management of the DP should demonstrate an internal quality assurance system for the DP, including its design, management and monitoring, their improvement, evidence-based decision-making		+		
11	11.	The management of the DP should implement risk management, including within the DP undergoing initial accreditation, and demonstrate a system of measures to mitigate risk.		+		
12	12.	The management of the DP should ensure the participation of		+		

		representatives of employers, academic staff, students and other stakeholders in the composition of collegial management bodies of the				
		educational program, as well as their representativeness in decision-				
		making on themanagement of the educational program (revision of the				
		regulation on the composition of the CA members), including of				
		academic staff (share), students in the regulation).				
13	13.	EO should demonstrate innovation management within the DP, including		+		
10	10.	analysing and implementing innovative proposals				
14	14.	The management of the DP should demonstrate evidence of willingness		+		
		to be open and accessible to learners, faculty, employers and other				
		stakeholders				
15	15.	The management of the DP should be trained in education management			+	
		programs				
		Total for the standard	0	10	5	0
Stand	lard ''Info	ormation Management and Reporting'				
16	1.	EO should demonstrate the existence of a system for collecting,		+		
10	1.	analysing and managing information based on the application of modern		'		
		information and communication technologies and software tools, and				
		that it uses a variety of methods to collect and analyse information in the				
	1	context of the DP				
17	2.	The management of the DP should demonstrate that there is a mechanism	<b>1</b>	+		
1		in place to systematically utilise processed, relevant information to				
A		improve the internal quality assurance system				
18	3.	DP management must demonstrate evidence-based decision-making		+		
19	4.	The DP should have a system of regular reporting reflecting all levels of		+		
	-	the structure, including evaluation of the efficiency and effectiveness of		1		
		the activities of units and departments, scientific research				
20	5.	The GS should establish periodicity, forms and methods of evaluation of		+		
		the DP management, activities of collegial bodies and structural				
24		subdivisions, top management, implementation of scientific projects				
21	6.	The EO should demonstrate that procedures are defined and information		+		
		protection is ensured, including the identification of responsible persons				
		for the reliability and timeliness of information analysis and data				
22	7	provision				
22	7.	An important factor is the existence of mechanisms for involving students, employees and faculty in the processes of collecting and		+		
1		analysing information, as well as decision-making on their basis				
23	8.	The management of the DP should demonstrate that there is a mechanism		+		
23	0.	for communication with learners, employees and other stakeholders, as	7			
		well as mechanisms for conflict resolution				
24	9.	The EO should demonstrate that mechanisms are in place to measure		+		
		satisfaction with the needs of faculty, staff and learners within the				
<u></u>		framework of the Program of Study.				
25	10.	The EO should provide for the assessment of performance and		+		
	1	efficiency of activities, including in the context of the DP				
	1	The information intended to be collected and analysed as part of the DP				
	1	should take into account:				
26	11.	key performance indicators		+		
27	12.	dynamics of the contingent of students in the context of forms and types		+		
20	12	of education				
28	13.	level of academic performance, student achievement and expulsion		+		
29	14.	students' satisfaction with the implementation of the program and the		+		
		quality of education at the university				
30	15.	accessibility of educational resources and support systems for learners		+		
31	16.	The EO should confirm the implementation of the procedures of personal		+		
31	10.	data processing of students, employees and teaching staff on the basis of				
	1	their documented consent				
-	1	Total for the standard	0	16	0	0
		Total for the standard	v	10	U	v

Standard "De	velopment and approval of degree program"				
32 1.	The EO should define and document procedures for the development of DP and their approval at the institutional level		+		
33 2.	The management of the DP should ensure that the content of the DP is in line with the set objectives, including the intended learning outcomes		+		
34 3.	The DP management should demonstrate that there are mechanisms to revise the content and structure of the EP taking into account changes in the labour market, employers' requirements and social demands of the society		+		
35 4.	The management of the DP should ensure that there are developed models of the DP graduate describing learning outcomes and personal qualities		+		
36 5.	The management of the DP should demonstrate external expertise of the content of the DP and the planned results of its implementation		+		
37 6.	The qualification awarded on completion of the RP must be clearly defined and meet the defined level of the The National Qualification Systems and QF-EHEA		+		
38 7.	The DP management should determine the influence of disciplines and professional practices on the formation of learning outcomes		+		
39 8.	An important factor is the possibility to conduct training of students for professional certification		+		
40 9.	The management of the DP should provide evidence of the participation of students, faculty and other stakeholders in the development of the OP, ensuring its quality	A	+		
41 10.	The DP management should ensure that the content of academic disciplines and planned results correspond to the level of education (bachelor's, master's, doctoral studies)		+		
42   11.	The structure of the DP should provide for various types of activities that ensure the achievement of planned learning outcomes by students		+		
43 12.	An important factor is the compliance of the content of the DP and learning outcomes of the DP implemented by organisations of higher and/or postgraduate education in the EHEA		+		
	Total for the standard	0	12	0	0
Standard "Oprograms"	Continuous monitoring and periodic evaluation of degree		6		
44 1.	The EO should define mechanisms for monitoring and periodic evaluation of the DP to ensure that it achieves its purpose and meets the needs of learners, society and show that the mechanisms are aimed at continuous improvement of the DP.	7		+	
	Monitoring and periodic evaluation of the DP should include:				
45 2.	the content of the program in the light of the latest scientific achievements in a particular discipline to ensure the relevance of the discipline taught		+		
46 3.	changes in the needs of society and professional environment		+		
47 4.	the workload, progress and graduation of students		+		
48 5.	effectiveness of learner assessment procedures			+	<b>——</b>
49 6.	Expectations, needs and satisfaction of students with training on the DP		+		
50 7.	educational environment and support services, and their relevance to the objectives of the DP		+		
51 8.	The management of the DP should demonstrate a systematic approach in monitoring and periodic evaluation of the quality of the DP		+		
52 9.	The EO, the management of the DP should define a mechanism for informing all stakeholders of any planned or undertaken actions in relation to the RPs		+		
53 10.	All changes made to the DP must be published		+		
	Total for the standard	0	8	2	0

Stand	ard "Ct	dent-centred Learning, Teaching and Assessment''				
Stand	aru Sill	dent-centred Learning, Teaching and Assessment				
54	1.	The management of the DP should ensure respect and attention to different groups of learners and their needs, provide them with flexible learning pathways		+		
55	2.	The management of the DP should envisage the use of different forms and methods of teaching and learning		+		
56	3.	An important factor is the availability of own research in the field of teaching methodology of DP academic disciplines		+		
57	4.	DP management should demonstrate that feedback mechanisms are in place for the use of different teaching methodologies and assessment of learning outcomes		+		
58	5.	The DP leadership should demonstrate that mechanisms are in place to support learner autonomy while being guided and assisted by the instructor		+		
59	6.	DP management must demonstrate that there is a procedure in place for responding to learner complaints			+	
60	7.	The EO should ensure consistency, transparency and objectivity of the learning outcomes assessment mechanism for each DP, including appeals		+		
61	8.	The EO should ensure that the procedures for assessing the learning outcomes of DP students are in line with the planned outcomes and objectives of the program, publication of assessment criteria and methods in advance		+		
62	9.	The EO should define the mechanisms for ensuring that each graduate of the educational program achieves the learning outcomes and ensure the completeness of their formation		+		
63	10.	Evaluators should be familiar with modern methods of assessing learning outcomes and regularly upgrade their skills in this area		+		
		Total for the standard	0	9	1	0
Standa	ard ''Stu	dents"				
64	1.	The EO should demonstrate the existence of the policy of formation		+		
	) `	of the contingent of students in the context of the DP, to ensure transparency and publication of its procedures regulating the life cycle of students (from admission to completion).		6		
1		The management of the DP should determine the order of formation of the contingent of students on the basis of:				
65	2.	minimum requirements for applicants		+		
66	3.	maximum group size for seminar, practical, laboratory and studio classes		+		
67 68	4.     5.	forecasting the number of government grants analysing the available material and technical, information resources and human resources potential		+		
69	6.	analysing potential social conditions for students, including the provision of dormitory places		+		
70	7.	The management of the DP should demonstrate a willingness to conduct special adaptation and support programs for new entrants and international learners		+		
71	8.	The EO should demonstrate compliance with the Lisbon Recognition Convention and have a mechanism in place to recognise the results of academic mobility of learners, as well as the results of additional, formal and non-formal learning.		+		
72	9.	The MA should cooperate with other educational organisations and the national centres of the "European Network of National Information Centres for Academic Recognition and Mobility/National Academic Recognition Information Centres" ENIC/NARIC to ensure comparable recognition of qualifications		+		

73	10.	The EO should provide opportunities for external and internal mobility of DP students, as well as readiness to assist them in obtaining external grants for training.		+		
74	11.	The management of the DP should demonstrate readiness to provide students with internship places, facilitate employment of graduates, and liaise with them		+		
75	12.	The EO should provide for the possibility to provide graduates of the DP with documents confirming the obtained qualification, including the achieved learning outcomes, as well as the context, content and status of the obtained education and evidence of its completion.		+		
Stand	lard "Ac	Total for the standard ademic staff"	0	12	0	0
76	1.	The EO should have an objective and transparent personnel policy,		+		
		including in the context of DP, including recruitment, professional growth and development of staff, ensuring professional competence of the entire staff.				
77	2.	The EO should demonstrate the compliance of the staff potential of the teaching staff with the specifics of the DP		+		
78	3.	The management of the DP should demonstrate an awareness of responsibility for its employees and ensuring favourable working conditions for them		+		
79	4.	DP leadership must demonstrate a change in the role of the instructor due to the shift to student-centred learning			+	
80	5.	The EO should identify the contribution of the academic staff to the implementation of the EO development strategy and other strategic documents			+	
81	6.	The EO should provide opportunities for career growth and professional development of the teaching staff of the DP		+		
82	7.	The management of the DP should demonstrate a willingness to involve practitioners from relevant industries in teaching		+		
83	8.	The EO should demonstrate motivation for professional and personal development of teachers, including encouragement for integration of scientific activity and education, application of innovative teaching methods			+	
84	9.	An important factor is the readiness to develop academic mobility within the framework of the DP, to attract the best foreign and domestic teachers		+		
١,		Total for the standard	0	6	3	0
		ucational Resources and Student Support Systems"	1			
85	1.	The EO should ensure that there are sufficient learning resources and learner support services to ensure that the aim of the DP is achieved	+			
86	2.	The EO should demonstrate the sufficiency of material and technical resources and infrastructure to meet the needs of different groups of learners in the context of the DP (adults, working, international learners, and learners with disabilities).		+		
87	3.	DP management should demonstrate that procedures are in place to support different groups of learners, including information and counselling		+		
		The DP management should demonstrate the relevance of the information resources to the specifics of the OP, which include:				
88	4.	technological support for learners and faculty (e.g. online learning, modelling, databases, data analysis software)		+		
89	5.	library resources, including the collection of educational, methodological and scientific literature on general education, basic and specialised disciplines in hard copy and electronic media, periodicals, access to scientific databases		+		
90	6.	Examination of the results of research and development, graduate works, dissertations for plagiarism		+		

# **Unofficial Translation**

91	7.	access to educational Internet resources		+		
92	8.	functioning of WI-FI on the territory of the educational organisation			+	
93	9.	The EO demonstrates planning to provide the DP with training equipment and software tools similar to those used in the relevant branches of economy		+		
		Total for the standard	1	7	1	0
Stand	ard ''Info	orming the public "				
		The EO should publish reliable, objective, up-to-date information about the educational program and its specifics, which should include:				
94	1.	expected learning outcomes of the educational program being implemented		+		
95	2.	qualification and (or) qualifications to be awarded upon completion of the educational program		+		
96	3.	teaching and learning approaches, as well as the system (procedures, methods and forms) of assessment		+		
97	4.	information on passing grades and learning opportunities available to students		+		
98	5.	information on employment opportunities for graduates		+		
99	6.	The management of the DP should provide for a variety of ways to disseminate information, including mass media, information networks to inform the general public and stakeholders		+		
100	7.	Public information should support and explain the national development programs of the country and the higher and postgraduate education system		+		
101	8.	The EO should demonstrate that the web resource reflects information describing it as a whole and in terms of educational programs.		+		
102	9.	An important factor is the availability of adequate and objective information about the academic staff of the DP			+	
103	10.	Public awareness of co-operation and collaboration with partners within the DP is an important factor		+		
	<u> </u>	Total for the standard	0	9	1	0
		TOTAL	1	89	13	0

### Appendix 2. PROGRAMME FOR A VISIT TO AN EDUCATIONAL ORGANISATION



### **AGREED**

Rector of Non-profit JSC "Almaty University of Power Engineering and Telecommunications named after Gumarbek Daukeev"

Syzdykov M.K.

2024



### **APPROVED**

General Director of "Independent Agency for Accreditation and Rating"

		Zhumagulova A.B
"	"	2024

### **PROGRAM**

THE VISIT OF AN EXTERNAL EXPERT COMMISSION INDEPENDENT ACCREDITATION AND RATING AGENCY (IAAR)
TO NON-PROFIT JSC "ALMATY UNIVERSITY OF POWER ENGINEERING AND TELECOMMUNICATIONS"

### STAGE 3 OF SPECIALISED ACCREDITATION

Date of the visit: 18-20 March 2024

### **Specialised accreditation**

Cluster 2. 1) DP 6B07125 - "Biotechnical and medical systems and devices" (*primary accreditation*)

2) DP 6B07127 - "Automation and management of business processes" (*primary accreditation*)

3) DP 6B07116 - "Electronic Engineering Technologies" (*primary accreditation*)

Date and		Position and Surname, First Name of the participants of the target	Contact form			
time	target groups	groups				
15 March 2024						

<b>15.00-16.00</b> Astana time	Preliminary meeting of the EEC	IAAR external experts	Connect to a Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
		17 March 2024	
On schedule during the day	Arrival of the members of	the External Expert Commission	
20.00	Dinner	IAAR external experts	
		Day 1: 18 March 2024	
08.10-09.00	Transfer from the hotel to the University	University Coordinator - Mankhanova Azhar Yerlanovna (Director of Academic Affairs Department) 87772983128	
09.00-09.15	Allocation of expert responsibilities, resolution of organizational issues	IAAR external experts	Connect to a Zoom conference 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, Building A  Connect to a Zoom conference https://us02web.zoom.us/j/6813032588  Conference ID: 681 303 2588
09.45-10.00	Technical break		
10.00-10.40	Interviews with Vice-rectors	Vice-rector for Academic Affairs - Sarenova Aigul Saparbekovna, Vice-rector for Social and Educational work - Kadylbekov Yermek Kamalbekuly, Chief of Staff of the Rector's Office - Esimzhanov Zhanat Kuanyshevich	Auditorium No. 213, Building A Connect to a Zoom conference https://us02web.zoom.us/j/6813032588  Conference ID: 681 303 2588
10.40-10.50	Technical break		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

10.50-11.30	Interviews with heads of structural subdivisions of the EO	Digital officer - Urazakov Margulan Maksutovich, The head of the registrar's office - Neledva Vera Vasilievna, Financial Director - Gulziya Salatovna Rakhmetova, Director of Academic Affairs - Mankhanova Azhar Erlanovna, Head of the Academic Advising Centre - Kudaibergen Zhuldyz Malikkyzy Director of the Youth Policy Department - Kabi Elikbay Kasenkhanuly, The chief librarian - Netesova Natalya Stepanovna, Responsible Secretary of the Admissions Committee - Almuratova Kamshat Bimuratovna.	Auditorium No. 213, Building A Connect to a Zoom conference https://us02web.zoom.us/j/6813032588  Conference ID: 681 303 2588
11.30-11.45	Exchange of views of the members of the external expert committee		Auditorium No. 210, Building A Connect to a Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
11.45-12.30	Interviews with Heads of Departments and Heads of MDP	Head of the Institute of Automation and Information Technologies-Fedorenko Igor Anatolievich, Head of the Institute of Communications and Aerospace Engineering - Alipbaev Kuanysh Aringozhaevich,  Department of Automation and Control- Abzhanova LaulasynKosylganovna, Department of Information Security - Yenlik Begimbayeva, Department of Telecommunication Engineering - Beibit Abdirbekovich Karibaev, Department of Space Engineering - Tolendiuly Sanat, Department of Electronic Engineering - Orazalieva Sandugash Kudaibergenovna, Responsible for degree programs: Information security systems - Elena Grigorievna Satimova Information security of financial structures - Dmitrieva M.V. Biotechnical and medical systems and devices - S.S. Zhusupbekov Automation and management of business processes- Bazil G.D. Telecommunication Engineering - Garmashova Y.M. Radio engineering, electronics and telecommunications - Chezhimbaeva K.S.	Auditorium No. 213, Building A

12.30-13.00	The work of the EEC	IAAR external experts	Auditorium No. 213, Building A Connect to a Zoom conference https://us02web.zoom.us/j/6813032588
13.00-14.00	Lunch		Conference ID: 681 303 2588
14.00-14.15	Exchange of views of the members of the external expert committee		Auditorium No. 213, Building A Connect to a Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
14.15-15.00	Interviews with academic staff of the main degree programs	Appendix 1	Auditorium No. 213, Building A Connect to a Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
15.00-15.15	Technical break		
15.00-16.00	Questionnaire survey of academic staff (in parallel)	Appendix 1	The link is sent to the faculty member's e-mail address personally
15.15-16.00	Interviews with students of the main degree program	Appendix 2	Auditorium No. 213, Building A Connect to a Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
16.00-17.00	Questionnaire survey of students (in parallel)	Appendix 2	The link is sent to the learner's e-mail address personally
16.15-18.00	Visual inspection of EO and the material, technical, training and laboratory facilities	Itinerary 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 Connect to a Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
19.00-20.00	Dinner		

Day 2: 19 March 2024						
08.10-09.00	Transfer from the hotel to the University					
09.00-09.15	The work of the EEC		Auditorium No. 210, Building A Connect to a Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588			
09.15-10.50	Attendance at scheduled classes (Annex: links to classes)	IAAR external experts Appendix 4				
10.50-11.30	Meeting with stakeholders (representatives of practice centers and employers)	Appendix 5	Auditorium No. 213, Building A  Connect to a Zoom conference https://us02web.zoom.us/j/6813032588  Conference ID: 681 303 2588			
11.30-11.40	Technical break					
11.40-13.00	Work with documents (documents must be uploaded to the cloud in advance)		Auditorium No. 210 Building A			
13.00-14.00	Lunch		<b>7</b>			
14.00-14.15	Technical break					
14.15-15.00	Interviews with MDP graduates	Appendix 6	Auditorium No. 213 Building A Connect to a Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588			
15.00-17.00	Selective visit to the practice bases of the DP	Appendix 7				
17.00-17.15	Technical break					

17.00-18.00	EEC work, discussion of the results of the second day and parameters of the profiles (recording is in progress)		Auditorium No. 210 Building A  Connect to a Zoom conference https://us02web.zoom.us/j/6813032588  Conference ID: 681 303 2588
18.30-19.30	Dinner		
		Day 3: 20 March 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 Connect to a Zoom conference 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 Connect to a Zoom conference 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 Connect to a Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
13.00-14.00	Lunch		
14.00-15.00	EEC work, Discussion of quality assessment results	IAAR external experts	Auditorium No. 210 Building A Connect to a Zoom conference https://us02web.zoom.us/j/6813032588 Conference ID: 681 303 2588
15.00-15.15	Technical break		
15.15-18.00	EEC work, Discussion of quality assessment	IAAR external experts	Auditorium No. 213 Building A Connect to a Zoom conference https://us02web.zoom.us/j/6813032588

# **Unofficial Translation**

results	Conference ID: 681 303 2588

# Appendix 3. ACADEMIC STAFF'S SURVEY RESULTS

### **Academic Staff's Survey**

# 1. Total number of surveys: 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 process	6 people	46,2%
6B07116 Electronics engineering technology	4 people	30,8%

### 3. Position

Professor	1 person	7,7%
Associate Professor	1 person	7,7%
Senior Lecturer	6 people	46,2%
Lecturer	4 people	30,8%
Head of the Department		
Acting Professor	1 person	7,7%
Acting Associate Professor		

4. 4. Academic degree, academic title

Honoured Worker of the Republic of Kazakhstan	0 person	0%
Doctor of Sciences	1 people	7,7%
Candidate of Sciences	1 people	7,7%
Master	7 people	53,8%
PhD	2 people	15,4%
Professor	0 person	0%
Associate Professor	0 person	0%
No	2 people	15,4%

5. Length of service

Less than 1 year	1 person	7,7%
1 year - 5 years	2 people	15,4%
Over 5 years	10 people	76,9%

№	Questions	Very good	Good	Relativ ely bad	Badly	Very badly.	No reply
6	How does the program's content match your academic and professional interests and needs?	7 people (53,8%)	6 people. (46,2%)	0 people (0%)	0 people (0%)	0 people (0%)	1

7	How do you assess the opportunities provided by the University for the professional development of the academic staff?	5 people (38,5%)	7 people. (53,8%)	1 person (7,7%)	0 people (0%)	0 people (0%)	-
8	What is your assessment of the opportunities provided by the University for career development of the 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 are teachers able to 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	Innovations in the learning process	6 people. (46,2%)	7 people. (53,8%)	0 persons (0%)	0 people. (0%)	0 people. (0%)	-
13	How do you assess the work on organisation of medical care and disease prevention at the university?	4 people. (30,8%)	8 people. (61,5%)	1 person. (7,7%)	0 persons (0%)	0 persons (0%)	-
14	How much attention is paid by the institution's management to the content of the degree program?	5 people. (38,5%)	7 people. (53,8%)	1 person. (7,7%)	0 persons (0%)	0 persons (0%)	-
15	How do you assess the sufficiency and availability of necessary scientific and educational literature in the library?	5 people (38,5)	8 people (61,5%)	0 people. (0%)	0 persons (0%)	0 persons (0%)	-
16	Assess the level of conditions created to meet the needs of different groups of learners?	3 people (23,1%)	8 people. (61,5%)	2 people (15,4%)	0 persons (0%)	0 persons (0%)	-
	Evaluate the accessibility of the manual						
17	To the students	6 people. (46,2%)	6 people. (46,2%)	1 person (7,7%)	0 person (0%)	0 person (0%)	-
18	To the lectures	7 people. (53,8%)	4 people. (30,8%)	2 people. (15,4%)	0 person (0%)	0 person (0%)	-
19	Evaluate the involvement of academic staff in	3 people. (23,1%)	9 people. (69,2%)	1 person (7,7%)	0 person (0%)	0 person (0%)	-

	managerial and strategic						
	decision- making process						
20	How is innovation by academic staff encouraged?	5 people. (38,5%)	7 people. (53,8%)	1 person (7,7%)	0 person (0%)	0 person (0%)	-
21	Assess the level of feedback from academic staff to management	5 people. (38,5%)	7 people. (53,8%)	1person. (7,7%)	0people. (0%)	0 people (0%)	-
22	What is the level of stimulation and involvement of young professionals in the educational process?	8 people. (61,5%)	5 people. (38,5%)	0 persons (0%)	0 people. (0%)	0 persons (0%)	-
23	Evaluate the opportunities created for professional and personal growth for each faculty and staff member	6 people. (46,2%)	6 people. (46,2%)	1 person. (7,7%)	0 persons (0%)	0 persons (0%)	-
24	Assess the adequacy of recognition of teachers' potential and abilities	3 people. (23,1%)	9 people. (69,2%)	1 person (7,7%)	0 person (0%)	0 people. (0%)	-
	How the work is organised						
25	On academic     mobility	4 People (30,8%)	9 people. (69,2%)	0 persons (0%)	0 people. (0%)	0 people. (0%)	-
26	• On professional development of teaching staff	6 people (46,2%)	7 people (53,8%)	0 person (0%)	0 perso ns (0%)	0 peopl e. (0%)	-
	Evaluate the support of the university and its management						
27	Research     endeavours of     academic staff	5 people. (38,5%)	7 people. (53,8%)	1person. (7,7%)	0 people (0%)	0 people (0%)	-
28	Development     of new degree     programs/curricular     disciplines/methods	5 people. (38,5%)	8 people. (61,5%)	0 person (0%)	0 people (0%)	0 people (0%)	-
	Evaluate the level of academic staff's ability to combine teaching						
29	• With scientific research	7 people. (53,8%)	5 people. (38,5%)	1person. (7,7%)	0 people (3,5%)	0 person (0%)	-
30	• With practical activities	5 people (38,5%)	7 people. (53,8%)	1person (7,7%)	0 people (08%)	0 person (0%)	-
31	Assess the extent to which the knowledge of students received at this university corresponds to the realities of the requirements of the modern labour 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	2 people. (15,4%)	8 people. (61,5%)	2 people (15,4%)	1 person (7,7%)	0 people (0%)	-

	university perceive criticism?						
33	Assess how well your study load matches your expectations and capabilities	4 people. (30,8%)	8 people. (61,5%)	1 person (7,7%)	1person (4,3%)	0 people (0%)	-
34	Evaluate the focus of degree programs/ curricula on the formation of students' abilities and skills to analyse the situation and make forecasts	6 people (46,2%)	7 people (53,8%)	0 people (0%)	0 people (0%)	0 people (0%)	-
35	Assess the extent to which the educational program meets the expectations of the labour 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%)	0 people (0%)	-

### 36. Why do you work at this particular university?

- ✓ I've graduated this university
- ✓ Academic staff is very competent
- ✓ Good team, fair salary
  ✓ Relevant to 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 teachers can be most useful
- ✓ Policy of this university meets with my requirements
- ✓ I like my team, collegues
- ✓ Excellent working conditions, modern laboratories
- ✓ I like the staff of the department
- ✓ I like working with students

### 37. How often are masterclasses and reading topics with practitioners organised as a part of your course?

Very often	7 people.	53,8%
Often	4 people.	46,2%
Sometimes	0 people.	0%
Very rare	0 people.	0%
Never	0 people.	0%

## 38. How often do external guest lecturers (domestic and foreign) participate in the training process?

Very often	4 people.	30,8%
Often	9 people.	69,2%
Sometimes	0 people.	0%
Very rare	0 people.	0%
Never	0 people.	0%

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

	Often	Sometime	Never	No answer		
		S				
Lack of classrooms	0 people. (0%)	5 people. (38,5%)	8 people. (61,5%)	-		
Unbalanced teaching load by semesters	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 people. (53,8%)	5 people. (38,5%)	-		
Inconvenient timetable	3 people. (23,1%)	5 people. (38,5%)	5 people. (38,5%)	-		
Inadequate conditions for classrooms	1 person. (7,7%)	6 people. (46,2%)	6 people. (46,2%)	-		
No internet access/weak internet connection	4 people. (30,8%)	8 people. (61,5%)	1 person. (7,7%)	-		
Lack of students' interest in learning	2 people. (15,4%)	6 people. (46,2%)	5 people. (38,5%)	-		
Failure to receive information on activities in a timely manner	0 people. (0%)	4 people. (30,8%)	9 people. (69,2%)	-		
Lack of technical facilities in classrooms	1 person. (7,7%)	7 people. (53,8%)	5 people. (38,5%)	-		
Other issues	<ul> <li>✓ No</li> <li>✓ More laboratories</li> <li>✓ No, there's a problem.</li> <li>✓ There are no others</li> <li>✓ Move the teaching room next to the</li> </ul>					
		atories				

40. There are many different sides and aspects of university life that affect every lecturer and staff member in one way or another. Evaluate how satisfied you are:

Question	Completely satisfied	Partially satisfied	Unsatisfied	I find it difficult to answer
The attitude of the university	8 people.	5 people.	0 people.	0 people.
administration towards you	(61,5%)	(38,5%)	(0%)	(0%)
Relationship with direct	9 people.	3 people.	0 people.	1pc.
management	(69,2%)	(23,1%)	(0%)	(7,7%)
Relationships with colleagues	12 people.	1pc.	0 people.	0 people.
in the department	(92,3%)	(7,7%)	(0%)	(0%)
Participation in management	6 people.	5 people.	0 people.	2 people.
decision-making	(46,2%)	(38,5%)	(0%)	(15,4%)
Relationship with students	13 people.	0 people.	0 people.	0 people.
_	(100%)	(0%)	(0%)	(0%)
Administration's recognition of	9 people.	3 people.	0 people.	1 person.
your successes and	(69,2%)	(23,1%)	(0%)	(7,7%)
achievements				
Supporting your suggestions	7 people.	4 people.	0 people.	2 people.

and comments	(53,8%)	(30,8%)	(0%)	(15,4%)
The activities of the university	9 people.	4 people.	0 people.	0 people.
administration	(69,2%)	(30,8%)	(0%)	(0%)
Terms of remuneration	6 people.	6 people.	0 people.	1 person.
	(46,2 %)	(46,2 %)	(0%)	(7,7%)
Working conditions, list and	10 people.	3 people.	0 people.	0 people.
quality of services provided at	(76,9 %)	(23,1%)	(0%)	(0%)
the university				
Occupational health and safety	11pc.	2 people.	0 people.	0 people.
	(84,6%)	(15,4%)	(0%)	(0%)
Management of changes in the	7 people.	4 people.	0 people.	2 people.
university's activities	(53,8%)	(30,8%)	(0%)	(15,4%)
Provision of a social package:	6 people.	4pc.	2 people.	1 person.
holidays, sanatorium treatment,	(46,2%)	(30,8%)	(15,4%)	(7,7%)
etc.				
Organisation and quality of	7 people.	5 people.	0	1 person.
catering at the university	(53,8%)	(38,5%)	people.	(7,7%)
			(0%)	
Organisation and quality of	6 people.	4pc.	0	3 people.
medical care	(46,2%)	(30,8%)	people.	(23,1%)
			(0%)	

# **Appendix 4: STUDENTS' SURVEY RESULTS**

# Students' Survey

# **Total number of surveys: 41**

# 1. What is your degree program?

6B06204 Telecommunication Engineering	19	46,3%
	people.	40,570
7M06201 Radio engineering, electronics and	12	29,3%
telecommunications	people.	27,570
8D06201 Radio engineering, electronics and	10	24,4%
telecommunications	people.	24,470

## 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	Unsatisfied	I find it difficult to answer
1. Relationship with the dean's office	24 ppl (58,5 %)	10 ppl (24,4 %)	5 ppl (12,2% )	0 ppl (0 %)	2 ppl (4,9 %)
2. The level of accessibility of the dean's office	24 ppl (58,5 %)	12ppl (29,3% )	3 ppl (7,3%)	1person (2,4 %)	1 person (2,4 %)
3. Level of accessibility and responsiveness of university management	29 ppl (70,7 %)	9 ppl ( 22%)	3 ppl (7,3 %)	0 person (0 %)	0 person (0 %)
4. Accessibility of academic counselling to you	29 ppl (70,7 %)	4 ppl (9,8%)	3ppl (7,3 %)	0 persons (0 %)	5 ppl (12,2%)
5. Support with training materials during the learning process	27 ppl (65,9 %)	8 ppl (19,5%	5 ppl (12,2 %)	0 ppl (0 %)	1 person (2,4 %)
6. Accessibility of counselling for personal problems	24 ppl (58,5%)	10 ppl (24,4% )	5 ppl (12,2 %)	0 ppl (0 %)	2ppl (4,9 %)
7. The relationship between the student and the instructor	27 ppl (65,9 %)	12 ppl( 29,3%)	2ppl (4,9%)	0 ppl (0 %)	0 ppl (0 %)
8. Financial and administrative services of the educational institution	27 ppl (65,9 %)	6 ppl (14,6	7 ppl ( 17,1%)	0 ppl (0 %)	1 person (2,4 %)

Questions	Completely satisfied	Partially satisfied	Partially unsatisfied	Unsatisfied	I find it difficult to answer
		%)			
9. Accessibility of health care services	31ppl (75,6%)	5ppl ( 12,2%)	3 ppl (7,3%)	0 ppl (0 %)	2 ppl (4,9 %)
10. Quality of medical care at the university	28 ppl (68,3 %)	7 ppl (17,1%	4 ppl (9,8%)	1person (2,4 %)	1 person ( 2,4%)
11. Level of accessibility of library resources	35 ppl (85,4 %)	2 ppl (4,9%)	3 ppl (7,3%)	0 ppl (0 %)	1 person (2,4 %)
12. The quality of services provided in libraries and reading rooms	34ppl ( 82,9%)	3 ppl (7,3%)	3 ppl (7,3%)	0 ppl (0 %)	1 person (2,4%)
13. Satisfaction with the existing educational resources of the university	30 ppl ( 73,2 %)	7 ppl (17,1%	4 ppl (9,8%)	0 ppl (0 %)	0 ppl (0 %)
14. Accessibility of computer labs	27ppl (65,9 %)	6 ppl ( 14,6%)	5 ppl ( 12,2%)	3 ppl (7,3 %)	0 ppl (0 %)
15. Availability and quality of Internet resources	25ppl (61 %)	11ppl ( 26,8%)	2 ppl (4,9%)	3ppl (7,3 %)	0 ppl (0 %)
16. The content and information content of the website of educational organisations in general and faculties (schools) in particular	29 ppl ( 70,7 %)	7 ppl ( 17,1%)	4 ppl (9,8%)	1ppl (2,4 %)	0 ppl (0 %)
17. Training rooms, classrooms for large groups	26 ppl (63,4%)	8 ppl ( 19,5%)	5ppl ( 12,2%)	2 ppl (4,9 %)	0 ppl (0 %)
18. Student lounges (if available)	25 ppl ( 61 %)	4 ppl (9.8%)	4 ppl (9.8%)	4 ppl (9.8 %)	4 ppl (9.8 %)
19. Clarity of the procedure for taking disciplinary action	27 ppl (65,9 %)	6 ppl ( 14,6%)	6 ppl ( 14,6%)	0 ppl (0 %)	2 ppl (4,9 %)
20. The quality of the educational program as a whole	29 ppl ( 70,7 %)	10 ppl ( 24.4%)	2 ppl (4,9%)	0 ppl (0 %)	0 ppl (0 %)
21. The quality of the curricula in the DP	28 ppl ( 68,3 %)	11 ppl ( 26,8%)	2 ppl (4,9%)	0 ppl (0 %)	0 ppl (0 %)
22. Teaching methods in general	26 ppl ( 63,4 %)	13 ppl ( 31,7%)	2 ppl (4,9%)	0 ppl (0 %)	0 ppl (0 %)
23. Responsiveness to feedback from teachers on the learning process	27ppl (65,9 %)	12 ppl ( 29,3%)	1person (2,4%)	0 ppl (0 %)	1 person (2,4 %)
24. The quality of teaching in general	28 ppl ( 68,3 %)	12 ppl ( 29,3%)	1person (2,4%)	0 ppl (0 %)	0 ppl (0 %)
25. Academic load/student requirements	25 ppl (61 %)	10 ppl ( 24,4%)	5 ppl ( 12,2%)	0 ppl (0 %)	1 person (2,4 %)
26. Faculty requirements for the student	26ppl ( 63,4 %)	12 ppl ( 29,3%)	2 ppl (4,9%)	0 ppl (0 %)	1 person (2,4 %)
27. Information support and explanation of the rules of admission and the strategy of the degree program (speciality) before entering the university	·	9 ppl ( 22%)	3 ppl (7,3%)	0 ppl (0 %)	0 ppl (0 %)
28. Informing of the requirements for successful completion of this degree program (speciality)	29 ppl ( 70,7 %)	10 ppl ( 24,4%)	2 ppl (4,9%)	0 ppl (0 %)	0 ppl (0 %)
29. Quality of examination materials (tests and examination questions, etc.)	27 ppl (65,9 %)	11 ppl ( 26,8%)	2 ppl (4,9%)	1person (2,4 %)	0 ppl (0 %)

Questions	Completely satisfied	Partially satisfied	Partially unsatisfied	Unsatisfied	I find it difficult to answer
30. Objectivity in assessing knowledge, skills and other learning achievements	29 ppl (70,7 %)	8 ppl ( 19,5%)	4 ppl (9,8%)	0 ppl (0 %)	0 ppl (0 %)
31. Available computer labs	26 ppl (63,4 %)	10 ppl ( 24,4%)	` ' /	0 ppl (0 %) (0 %)	0 ppl (0 %)
32. Available scientific laboratories	27 ppl (65,9 %)	9 ppl (22 %)	4 ppl (9,8%)	1 ppl (2,4 %)	0 ppl (0 %)
33. Objectivity and fairness of teachers	29 ppl (70,7 %)	9 ppl (22 %)	3 ppl (7,3%)	0 ppl (0 %)	0 ppl (0 %)
34. Informing students about courses, educational programs and the academic degree they are receiving	29 ppl ( 70,7%)	11 ppl (26,8 %)	1person (2,4%)	0 ppl (0 %)	0 ppl (0 %)
35. Providing students with dormitory accommodation	28 ppl (68,3 %)	7 ppl ( 17,1%)	2 ppl (4,9%)	1person (2,4 %)	3 ppl (7.3%)

# 4. Evaluate how much you agree:

Assertion	I totally agree	I agree	I partially agree	I disagree	I totally disagree	No reply
1. The course program was clearly presented	24 persons (58,5 %)	11 persons ( 26,8 %)	5 persons (12,2 %)	0 persons (0 %)	1 person (2,4 %)	-
2. The course content is well structured	23 persons (56,1 %)	15 persons (36,6 %)	2 persons (4,9 %)	0 persons (0 %)	1 person (2,4 %)	-
3. Key terms are sufficiently explained	25 people(61 %)	12 persons (29,3 %)	3 persons (7,3%)	0 persons (0 %)	1 person (2,4 %)	-
4. The material proposed by the lecturer is relevant and reflects the latest achievements of science and practice	27 persons (65,9 %)	11 persons (26,8 %)	2 persons( 4,9%)	0 persons (0 %)	1 person (2,4 %)	-
5. The lecturer uses effective teaching methods	23 persons (56,1 %)	12 persons (29,3 %)	5 persons (12,2 %)	0 persons (0 %)	1 person (2,4 %)	-
6. Lecturer knows the material being taught	26 persons (63,4 %)	12 persons (29,3 %)	2 persons (4,9 %)	0 persons (0 %)	1 person (2,4 %)	-

7. Lecturer's presentation is clear	22 persons (53,7 %)	13 persons (31,7	6 persons (14,6	0 persons (0 %)	0 persons (0 %)	-
8. Lecturer presents the material in an interesting way	21 persons (51,2 %)	%) 12 persons (29,3 %)	%) 7 people (17,1 %)	1 person (2,4 %)	0 persons (0 %)	-
9. Objectivity of assessment of knowledge, skills and other learning achievements	21 persons (51,2 %)	10 persons (24,4 %)	9 persons (22 %)	0 persons (0 %)	1 person (2,4 %)	-
10. Timeliness of assessment of students' academic achievements	22 persons (53,7 %)	10 persons (22,7 %)	8 persons (19,5%	0 persons (0 %)	1 person (2,4 %)	ı
11. Lecturer fulfils my requirements for personal development and professional formation	21 persons (51,2 %)	14 persons (34,1 %)	4 persons (9,8 %)	0 persons (0 %)	2 persons (4,9 %)	ı
12. Lecturer stimulates students' activity	20 persons (48,81 %)	13 persons (31,7 %)	7 people (17,1 %)	0 persons (0 %)	1 person (2,4 %)	1
13. Lecturer stimulates students' creative thinking	22 persons (53,7 %)	14 persons (34,1 %)	5 persons (12,2 %)	0 persons (0 %)	0 persons (0 %)	1
14. Appearance and manners of the lecturer are adequate	27 persons (65,9 %)	10 persons (24,4 %)	4 persons (9,8 %)	0 persons (0 %)	0 persons (0 %)	-
15. Lecturer displays a positive attitude towards students	22 persons (53,7 %)	16 persons (39 %)	3 persons (7,3 %)	0 persons (0 %)	0 persons (0 %)	-
16. The system of assessment of learning achievements (seminars, tests, questionnaires, etc.) reflects the course content	26 persons (63,4 %)	11 people (26,8 %)	4 persons (9,8 %)	0 persons (0 %)	0 persons (0 %)	-
17. The evaluation criteria used by the lecturer are clear	26 persons (63,4 %)	11 persons (26,8 %)	3 persons (7,3 %)	1 person (2,4 %)	0 persons (0 %)	1
18. The instructor objectively evaluates students' achievements	24 persons (58,5 %)	11 persons (26,8 %)	6 persons (14,6 %)	0 persons (0 %)	0 persons (0 %)	-
19. The lecturer speaks the professional language	24 persons (58,5 %)	12 persons (29,3 %)	5 persons (12,2 %)	0 persons (0 %)	0 persons (0 %)	-
20. The organisation of education provides sufficient opportunity for sports and other leisure activities	24 persons (58,5 %)	10 persons (24,4 %)	6 persons (14,6 %)	1 person (2,4%)	0 persons (0 %)	-

21. Facilities and equipment for students are safe, comfortable and up-to-date	24 persons (58,5 %)	9 persons (22 %)	7 persons (17,1 %)	1 person (2,4 %)	0 persons (0 %)	-
22. The library is well equipped and has a reasonably good collection of books	25 people(61 %)	9 persons (22 %)	7 people (17,1 %)	0 persons (0 %)	0 persons (0 %)	-
23. Equal opportunities are provided to all learners	25 people(61 %)	13 persons (31,7 %)	3 persons (7,3 %)	0 persons (0 %)	0 persons (0 %)	-

- 5. Other problems regarding the quality of teaching: 6 answers
- ✓ Everything is great✓ No
- ✓ No
- ✓ We need good coworking center✓ No problems