



«АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТІҢ
ТӘУЕЛСІЗ АГЕНТТІГІ» КЕМ

НУ «НЕЗАВИСИМОЕ АГЕНТСТВО
АККРЕДИТАЦИИ И РЕЙТИНГА»

INDEPENDENT AGENCY FOR
ACCREDITATION AND RATING

REPORT

on the results of the work of the external expert commission for the
evaluation of educational programs "6B05310 – Nuclear Medicine" and
"8D05309 – Nuclear Medicine"

for compliance with the requirements of the standards of primary
specialized accreditation

AL FARABI KAZAKH NATIONAL UNIVERSITY

from May 15 to May 17 , 2023

INDEPENDENT ACCREDITATION AND RATING AGENCY
External Expert Commission

Addressed to
To the Accreditation
Council of IAAR



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Almaty

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(I) LIST OF DESIGNATIONS AND ABBREVIATIONS

RK – Republic of Kazakhstan
AS – Accreditation Council
BA – bachelor’s degree
MA – master’s degree
PhD – Doctoral studies
HEI – higher education institution
EEC – external expert commission
State – state mandatory standards of education
SPDE – State program for the development of education
IAAR – Independent Accreditation and Rating Agency
RLA – regulatory legal acts
NQF – National Qualifications Framework
NQS – National Qualifications System
NGO – educational organization
EP – educational program
ECTS – European Credit Transfer and Accumulation System
ESG – Standards and Guidelines for Quality assurance in the European Higher Education Area
QF-EHEA – Qualifications Framework in the European Higher Education Area
OHPE – Organizations of higher and postgraduate education
EMCD – Educational and methodological complex (EDC) of the discipline
SMSE – State mandatory standard of education
UHEMS – Unified Higher Education Management System
NJSC -

(II) INTRODUCTION

In accordance with Order No. 74-23-OD dated 10.03.2023 of the Independent Accreditation and Rating Agency, from May 15 to 17, 2023, an external expert commission assessed the compliance of educational programs 6B05310 – Nuclear Medicine and 8D05309 – Nuclear Medicine of the Al-Farabi Kazakh National University for compliance with the requirements of the standards of primary specialized accreditation of the IAAR (no.68-18/1-OD of May 25, 2018) in a hybrid format.

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

The composition of the EEC:

IAAR Expert, Chairman of the EEC – Elena Sergeevna Tulupova, Ph.D., Institute of Public Health and Medical Law, 1st Medical Faculty of Charles University (Czech Republic, Prague), Off-line participation;

IAAR Expert – Ekaterina Vasilevskaya, PhD, Associate Professor, Omsk State Medical University (Omsk, Russian Federation), Off-line participation;

IAAR expert – Alma Boranbekovna Shukirbekova, Ph.D., Professor, Astana Medical University JSC (Republic of Kazakhstan, Astana), On-line participation;

IAAR expert – Aizat Ashimkhanovna Seidakhmetova, PhD, JSC "South Kazakhstan Medical Academy" (Republic of Kazakhstan, Shymkent), Off-line participation;

IAAR Expert – Fazliddin Sodikovich Zhalilov, MD, Tashkent Pharmaceutical Institute, (Republic of Uzbekistan, Tashkent), Off-line participation;

IAAR Expert – Altynai Amanbaevna Maukenova, Candidate of Economics, S.D.Asfendiyarov Kazakh National Medical University, (Republic of Kazakhstan, Almaty), Off-line participation;

IAAR expert – Dmitry Pavlovich Muchkin, PhD, Associate Professor, NJSC "Pavlodar Pedagogical University" (Republic of Kazakhstan, Pavlodar), Off-line participation;

IAAR Expert – Gulnar Dostanovna Sultanova, PhD, NJSC "West Kazakhstan Medical University" (Republic of Kazakhstan, Aktobe), Off-line participation;

IAAR Expert – Bagdat Sakenovna Imasheva, PhD, Professor, Advisor to the Chairman of the Board, National Center for Public Health of the Ministry of Health of the Republic of Kazakhstan (Republic of Kazakhstan, Astana), Off-line participation;

IAAR Expert – Irina Gennadievna Ganagina, Candidate of Technical Sciences, Siberian State University of Geosystems and Technologies (Novosibirsk, Russian Federation), On-line participation;

IAAR Expert – Meir Sapargalievich Yerdauletov, Joint Institute for Nuclear Research (Dubna, Russian Federation), Off-line participation;

IAAR Expert – Asset Maratovich Kabyshev, PhD, L.N. Gumilyov Eurasian University (Republic of Kazakhstan, Astana), Off-line participation;

IAAR expert – Askar Bagdatovich Kasymov, PhD, NJSC "Shakarim University of Semey" (Republic of Kazakhstan, Semey), Off-line participation;

IAAR expert – Ayman Amangeldievna Kulzhumieva, Ph.D., M.Utemisov West Kazakhstan University (Republic of Kazakhstan, Uralsk), On-line participation;

IAAR expert, EEC employer – Olzhas Brimzhanovich Yeseneev, Master of Business Administration in Healthcare, GU Hospital with Polyclinic of the Police Department of the North Kazakhstan Region (Republic of Kazakhstan, Petropavlovsk), On-line participation;

Employer – EEC Expert - Yuri Aleksandrovich Pilipenko, International Association of Manufacturers of Goods and Services "Expobest" (Republic of Kazakhstan, Almaty) Off-line participation;

IAAR expert, EEC student – Indira Boranbaevna Kaybagarova, doctoral student, NJSC "West Kazakhstan Medical University" (Republic of Kazakhstan, Aktobe), On-line participation;

IAAR expert, EEC student – Kainesh Turgunovna Zhelubayeva, Master's student, JSC "Astana Medical University" (Republic of Kazakhstan, Astana), On-line participation;

IAAR expert, student of EEC – Bayan Bolatkalikyzy Orazayeva, master's student of NJSC "Semey Medical University" (Republic of Kazakhstan, Semey), On-line participation;

IAAR expert, student of EEC – Sherkhon Zhasulanbekuly Tungushov, student, NJSC "Arkalyk Pedagogical Institute named after Y. Altynsarina" (Republic of Kazakhstan, Arkalyk), On-line participation;

IAAR expert, student of EEC – Beklan Saparalyuly Shirinbek, student, JSC "South Kazakhstan Medical Academy" (Republic of Kazakhstan, Shymkent), On-line participation;

IAAR expert, student of EEC – Turar Kanatuly Dildabek, student, Kazakh National Medical University named after S.D.Asfendiyarov, (Republic of Kazakhstan, Almaty), Off-line participation;

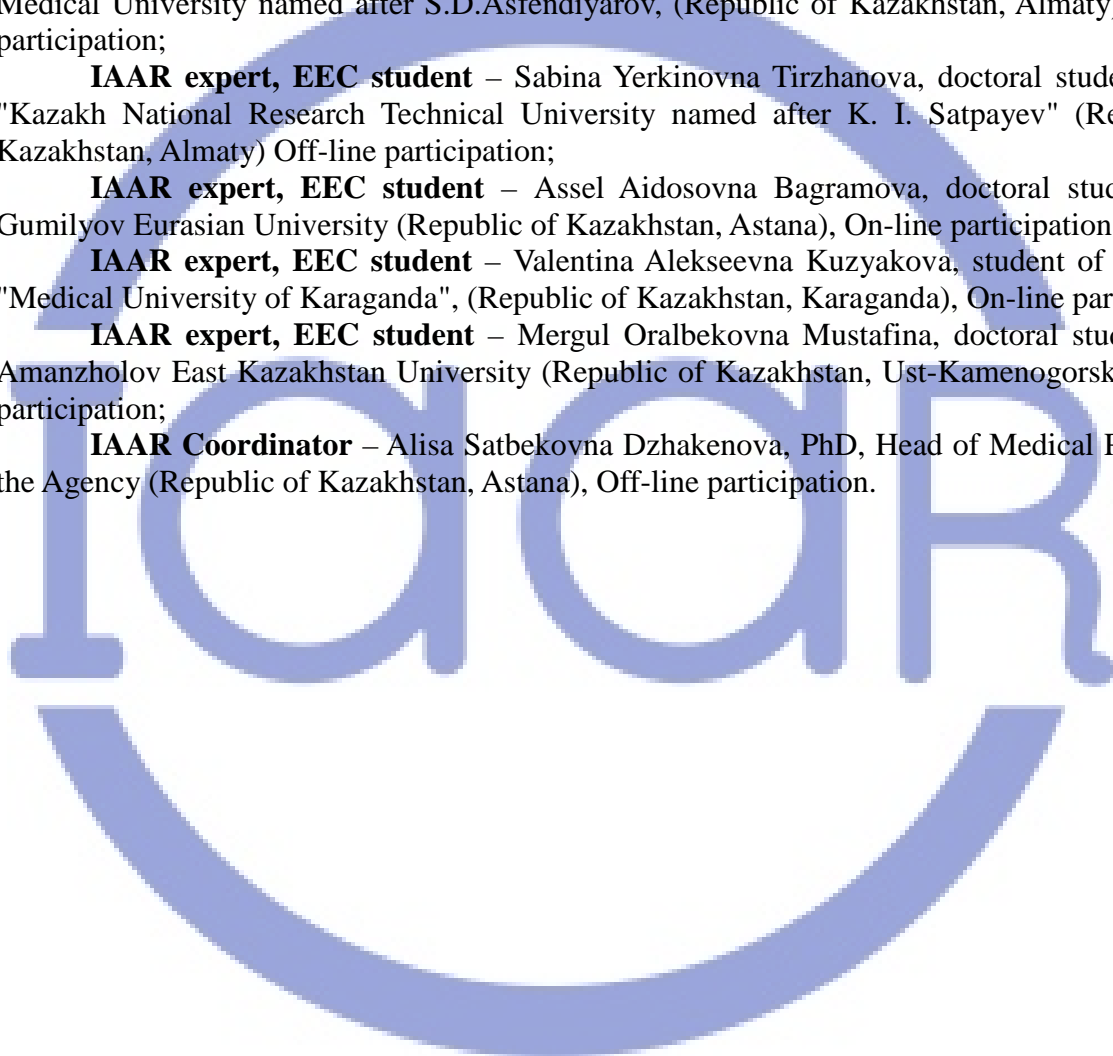
IAAR expert, EEC student – Sabina Yerkinovna Tirzhanova, doctoral student, NJSC "Kazakh National Research Technical University named after K. I. Satpayev" (Republic of Kazakhstan, Almaty) Off-line participation;

IAAR expert, EEC student – Assel Aidosovna Bagramova, doctoral student, L.N. Gumilyov Eurasian University (Republic of Kazakhstan, Astana), On-line participation;

IAAR expert, EEC student – Valentina Alekseevna Kuzyakova, student of the NJSC "Medical University of Karaganda", (Republic of Kazakhstan, Karaganda), On-line participation;

IAAR expert, EEC student – Mergul Oralbekovna Mustafina, doctoral student of S. Amanzholov East Kazakhstan University (Republic of Kazakhstan, Ust-Kamenogorsk), On-line participation;

IAAR Coordinator – Alisa Satbekovna Dzhakenova, PhD, Head of Medical Projects of the Agency (Republic of Kazakhstan, Astana), Off-line participation.



(III) REPRESENTATION OF THE EDUCATIONAL ORGANIZATION

Al-Farabi Kazakh National University carries out educational activities in accordance with the updated state license KZ27LAA00019309, issued by the Committee for Control over the Sphere of Education and Science of the Republic of Kazakhstan dated 19.11.2020.

January 15, 1934 is the day of the official opening of the Kazakh State University (KazSU), established on the basis of the Pedagogical Institute by the Decree of the USSR Council of People's Commissars and the Kazakh Regional Committee of the CPSU. On December 2 of the same year, KazSU was named after the famous Soviet party and statesman S. M. Kirov.

Currently, Al-Farabi Kazakh National University is a large scientific, educational and innovative center where new knowledge, advanced ideas and technologies are accumulated. The main reference point for the University are the tasks set in the President's Address: entering the ranking of the best universities in the world, implementing innovative activities and introducing the results of scientific research into production. KazNU named after Al-Farabi – a modern world-class university, is a leading scientific, methodological, research center for the development of the higher education system in the Central Asian region.

The mission of Al-Farabi Kazakh National University is to form human resources – competitive and in-demand specialists in the national and international labor markets, to achieve a qualitatively new effect in the formation of citizens of the country and the world, and to promote sustainable development of society through the transfer and multiplication of knowledge.

The purpose of the university is to be the locomotive of progressive economic, social and cultural transformations in society; to form human resources for the domestic and Eurasian labor markets in accordance with their requests and prospects for the development of the country and the region; to promote the introduction of innovative technologies in all spheres of the country's life through the commercialization of the results of scientific research of university scientists; to ensure the improvement of the nation's education, its intellectual, cultural, moral potential.

The strategic goal of the university is the transformation of the Al-Farabi Kazakh National University into a world-class research university. Targets for strategic directions.

The University carries out its activities in accordance with the Constitution of the Republic of Kazakhstan, the Laws of the Republic of Kazakhstan "On Education" dated July 27, 2007, "On Science" dated February 18, 2011, "On Commercialization of scientific and (or) scientific and technical activities" dated October 31, 2015 and other regulatory legal acts of the Republic of Kazakhstan, regulating educational and scientific activities, as well as the Charter of the Al-Farabi Kazakh National University.

According to the results of the QS World University Ranking in 2022, the leading Kazakh University – Al-Farabi Kazakh National University took the 150th place in the list of the best universities in the world (<https://www.topuniversities.com/universities/al-farabi-kazakh-national-university>).

Al-Farabi Kazakh National University consists of a scientific and educational cluster, the structure of which includes 16 faculties with 67 departments; 8 research institutes of natural science and technical profile; scientific and technological park; open national laboratory of nanotechnology; 5 institutes and 17 research centers of social and humanitarian profile. The management system of the university is built on the principle of vertical and provides for structural differentiation in the areas of activity: educational and methodological work, research work, educational work, etc. Internal regulatory and organizational and regulatory documents approved

at the Al-Farabi Kazakh National University allow for operational management and distribution of powers.

Table 1 – Contingent of students

| Name of the educational program | Number of students |
|---------------------------------|--------------------|
| 6B05310 - Nuclear medicine | 18 |
| 8D05309 - Nuclear medicine | 2 |

The following table shows data on the total number of full-time teaching staff and part-time teachers of the department participating in the implementation of the educational program (lectures, seminars, laboratory and practical classes, industrial practice) on an ongoing basis and on the principle of rotation or replacement. A total of 45 people, excluding teaching and support staff in laboratories and accepted for grant funding projects for engineering and laboratory positions, and somehow involved in the maintenance of educational and research activities related to the educational program.

Table 2 – Data on the total number of full-time teaching staff and part-time teachers of the department participating in the implementation of the educational program

| Department of Theoretical and Nuclear Physics | Total number | Staff | | | | Part - timers | | | | Number of teaching staff participating in the work of the PhD-doctoral councils | Number of full-time teaching staff participating in the implementation of projects (and % of participation from the total number of teaching staff of the fact) |
|---|--------------|-------|-------|------|-----|---------------|-------|------|-----|---|---|
| | | Total | D. S. | C. S | PhD | Total | D. S. | C. S | PhD | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Total | 45 | 40 | 10 | 13 | 17 | 5 | 1 | | 4 | 5 | 19 |

Table 2 shows data on the total number of doctors and candidates of sciences among full-time employees and part-timers, the number of teaching staff participating in the work of PhD doctoral councils and the number of employees leading their own grant financing projects with leading organizations of Al-Farabi Kazakh National University and third-party organizations.

(IV) DESCRIPTION OF THE PREVIOUS ACCREDITATION PROCEDURE

Accreditation for educational programs "6B05310-Nuclear medicine", "8D05309-Nuclear medicine" is held for the first time.

(V) DESCRIPTION OF THE EEC VISIT

The work of the EEC was carried out on the basis of the approved Program of the hybrid visit of the expert commission on specialized accreditation of educational programs of the Al-Farabi Kazakh National University in the period from May 15 to 17, 2023.

In order to coordinate the work of the EEC, an on-line installation meeting was held on 12.05.2023, during which powers were distributed among the members of the commission, the schedule of the visit was clarified, and an agreement was reached on the choice of examination methods.

To obtain objective information about the quality of educational programs and the entire infrastructure of the university, to clarify the content of self-assessment reports, meetings were held with vice-rectors of the university in areas of activity, heads of structural divisions, deans (deputy deans), heads of departments, EP coordinators, teachers, students, graduates, employers. A total of 52 people took part in the meetings (Table 3).

Table 3 – Information about employees and students who took part in meetings with the EEC IAAR:

| Category of participants | Number |
|--|-----------|
| Vice-Rector | 2 |
| Heads of structural divisions | 15 |
| Deans (Deputy Deans) | 2 |
| Head of the Department, coordinators of the EP | 2 |
| Teachers | 12 |
| Students | 15 |
| Graduated | 2 |
| Employers | 4 |
| Total | 52 |

During the visual inspection, the members of the EEC got acquainted with the state of the material and technical base, visited the Keremet student service Center, the University's Situational Management Center, the al-Farabi library (subscription, classical reading room, electronic hall, dissertation hall, self-service terminal), the laboratories of the general physical workshop, the laboratory of radiation interactions with matter, the department theoretical and Nuclear Physics, Laboratory of Nuclear Electronics, Radio Energy and Radiation Safety, Laboratory of General Physics, lecture hall named after Academician of NAS RK M.M. Abdildin, computer class.

At the meetings of the EEC IAAR with the target groups of the university, the mechanisms for implementing the university's policy were clarified and the specification of individual data presented in the university self-assessment report was carried out.

The members of the EEC visited the practice bases of the accredited program: KaziOR, MSE at the Almaty Cancer Center.

In accordance with the accreditation procedure, a survey was conducted of 12 teachers, 15 students, including students of 1,2,4 courses and doctoral students.

In order to confirm the information presented in the self-assessment report, external experts requested and analyzed the working documentation of the university. Along with this, the experts studied the Internet positioning of the university through the official website of the university <https://www.kaznu.kz/ru>

As part of the planned program, recommendations for improving accredited educational programs of the Al-Farabi Kazakh National University developed by the EEC based on the results of the examination were presented at a meeting with the management on 05/17/2023.

(VI) COMPLIANCE WITH SPECIALIZED ACCREDITATION STANDARDS

6.1. The standard "Educational Program Management"

The evidentiary part

The definition of the goal and development strategy of the EP "6B05310-Nuclear Medicine" and "8D05309-Nuclear medicine" is achieved based on the analysis of the state and trends in the development of nuclear medicine in the world and in Kazakhstan. It is important to note that the focus of this EP on the training of competitive specialists is provided largely due to the features of this EP, in the curriculum of which, basic and specialized disciplines have medical and physical directions and are devoted to laying the foundation for highly qualified support and assistance in diagnosis and treatment in the field of nuclear medicine.

The structure and content of the EP "6B05310-Nuclear Medicine" and "8D05309-Nuclear Medicine" correspond to the strategic goals and objectives of the University for 2020-2025, aimed at ensuring the state order – training graduates in the field of nuclear medicine with high personal and professional qualities that meet the requirements of the labor market. The graduate model of the educational program is "Nuclear Medicine" (available at the links to Applicants (kaznu.kz) Incoming (kaznu.kz))

The development strategy of the EP meets the needs of the state for qualified personnel with knowledge and skills to carry out activities in the field of nuclear medicine.

The development and implementation of the EP is carried out on the basis of research work (R&D) Teaching staff and doctoral students. The interaction between scientific research, teaching and learning can be traced:

- in publications of scientific papers (monographs, articles in journals indexed in Scopus and KOKSONVO, materials of scientific-practical and methodological conferences);

- in the use of the results of scientific research in updating the EP. KazNU doctoral students [https://www.kaznu.kz/content/files/pages/folder17928/1.%20%D0%94%D0%B8%D1%81%D1%81%D0%B5%D1%80%D1%82%D0%B0%D1%86%D0%B8%D1%8F%20%D0%A1%D0%B0%D0%B9%D1%80%D0%B0%D0%BD%D0%B1%D0%B0%D0%B5%D0%B2%D0%B0%20%D0%94%D0%B0%D1%80%D1%85%D0%B0%D0%BD%D0%B0%20\(2022\).pdf](https://www.kaznu.kz/content/files/pages/folder17928/1.%20%D0%94%D0%B8%D1%81%D1%81%D0%B5%D1%80%D1%82%D0%B0%D1%86%D0%B8%D1%8F%20%D0%A1%D0%B0%D0%B9%D1%80%D0%B0%D0%BD%D0%B1%D0%B0%D0%B5%D0%B2%D0%B0%20%D0%94%D0%B0%D1%80%D1%85%D0%B0%D0%BD%D0%B0%20(2022).pdf) ,

conducting scientific research at the INP partner enterprise (Institute of Nuclear Physics <https://inp.kz/ru/>) are part of the educational process of KazNU, as well as curators of scientific and industrial practices included in the EP, They are full-time teachers and practitioners of the INP (Deputy Director General for Scientific Work of the INP Daniyar Maralovich Dzhansheytoev,

Scientific Secretary of the INP Askhat Kausovich Bekbayev, Mukhametuly B., Burtebaev N., Valiolda D., Serikov A.Zh.)

- in participating and taking prizes of students in republican and international conferences and Olympiads.

Students, undergraduates and doctoral students actively participate in the annual Republican Research and Development University and the International Scientific Conference of Students and Young Scientists "Farabi Alemi". The result of the combination of teaching and scientific research of students are the publications of students (https://docs.google.com/file/d/1-eIBgFifGZo4nzo8iKCVmlOkUUK6iPH6/edit?usp=doclist_api&filetype=msword), certificates, diplomas and diplomas (<https://drive.google.com/drive/folders/1eH58uHlk4sxoXZv4AC2UXj6wknbKXZY9>),

Enterprises, institutes, medical institutions that are places of scientific and research practices under contracts, the main place of work of part-time teachers, and the main employers for graduates are also co-authors of the EP, customers for the development of modules and trajectories of the EP and actively participate in the publication process, as well as in joint scientific developments involving students.

The following table 4 shows the partnership of the faculty and developers of the EP with republican scientific organizations and centers https://drive.google.com/drive/folders/1NR3JZszZzIAaup_Mfv78JpyDW2XSAS_B?usp=share_link

Table 4 – Partner companies

| № п | Partners: scientific organization, research institute, research center, laboratory (city) | Area, directions of scientific cooperation | Terms of implementation | Availability of a scientific and technical cooperation agreement (no. and date of signing) |
|--------|--|--|-------------------------|--|
| 1 | 2 | 3 | 4 | 5 |
| 1 | JSC "National Center for Space Research and Technology" | Research of materials for nuclear and thermonuclear reactors | 2016-2021 | - |
| 2 | Institute of Nuclear Physics, Almaty, Kazakhstan | Research of materials for nuclear and thermonuclear reactors | 2018-2023 | 01.09.2018 |
| 3 | JSC "Kazakh Research Institute of Oncology and Radiology", hereinafter referred to as "KazIOR" | Academic, scientific and industrial cooperation | 2019-2024 | - |
| 4 | V. G. Fesekov Astrophysical Institute (AFIF) | Academic, scientific and industrial cooperation | 2022-2027 | 01.02.2022 |
| 5 | LLP Physical and Technical Institute | Academic, scientific and industrial cooperation | 2019-2023 | 02.09.2019 |
| 6 | LLP "National Scientific Oncological Center" | Academic, scientific and industrial cooperation | 2022-2027 | 01.07.2022 |

| | | | | |
|---|---------------------------------|---|-----------|------------|
| 7 | LLP Oncological Center "Sunkar" | Academic, scientific and industrial cooperation | 2022-2027 | 14.02.2022 |
|---|---------------------------------|---|-----------|------------|

The University and the developers of the EP are participants in the accreditation and certification processes, both internal and external-international accreditation agencies. The initiator is both external regulatory authorities and the university itself. Al-Farabi Kazakh National University took the position 1001-1200 in the Times Higher Education (THE) WUR - 2023 world university ranking (<https://www.timeshighereducation.com/world-university-rankings/al-farabi-kazakh-national-university>). Al-Farabi Kazakh National University has once again achieved high results in the international QS WUR ranking and improved its performance. In one year, the university moved up 25 positions within the Top 200, rising from 175 position to 150 place (<https://www.topuniversities.com/universities/al-farabi-kazakh-national-university>). Thus, Al-Farabi KazNU has once again proved its leading position not only among universities in Kazakhstan, but also throughout Central Asia and the CIS countries. The achievement of significant progress of KazNU is the result of transformation into a world-class research university, as well as the result of the dynamic work of management, teachers, scientists and students. Undoubtedly, this is an indicator of the university's high competitiveness and recognition in the international arena. On June 8, 2022, the results of the global Quacquarelli Symonds World University Rankings (QS WUR) were determined. 2,462 higher educational institutions participated in the QS WUR ranking, from which 1,422 of the strongest were selected. The list of the best universities in the world QS WUR has been published since 2004. In the QS WUR ranking, higher education institutions are evaluated according to six criteria:

- Academic reputation – 40%;
- Reputation among employers – 10%;
- The ratio of teaching staff to the number of students – 20%;
- Citation index – 20%;
- The share of foreign teachers – 5%;
- The share of international students – 5%.

The needs of the state consist in the development of a high-tech healthcare system, a healthcare system capable of providing clinical and service personnel is interested in technical specialists, in particular in nuclear medicine, trainees are interested in mastering demanded specialties of an interdisciplinary nature. A timely request for the development of the EP was made by representatives of relevant ministries, heads of medical institutions and diagnostic centers, in which there was always a vacancy for a medical physicist, laboratory assistant / radiologist technician.

The educational program on nuclear medicine was offered for the first time in the territory of the Republic of Kazakhstan. The development of this program is actively enriched by the availability of a material and technical base and a developed network of cooperation with medical and diagnostic institutions. The special attractiveness of the program is given by the presence of a similar program at the partner university – the Engineering Physics Institute of Biomedicine (IFIB) Department of Medical Physics (Kaf.035) at the National Research Nuclear University "MEPhI", Moscow, Russian Federation.

The development of the educational program is a multi-vector process, which takes into account the current and future interests of customers, performers and directly participants of the program-students. Traditional planning is applied, taking into account the balance between the state order, the number of incoming applicants, the request of the customer's organizations and the availability of material and technical base and qualified teaching staff. Consolidated planning or bottom-up planning assumes the redistribution of resources of a particular participant in the development and implementation of the EP, due to objective circumstances of development or reduction of needs for a particular element of the EP and its results (in the number of graduates, their qualifications and competencies, changes in funding). Targeted and adaptive planning is

initiated by the goal-setting of relevant ministries and forecasts of changes in the environment and goals of the living space of the EP.

The revision of the EP development plan is initiated by the state order for the training of specialists, the initiative proposal of the development group to expand the specification of the EP, as well as the results of the recruitment of applicants for bachelor's, master's and doctoral programs, adjusted for the employment of graduates of these trajectories of the EP. The formation of a group of developers, the formulation of the task of developing the EP takes place in a general manner, according to the developed procedures of the University.

The assessment of the achievements of the learning goals takes place according to the generally accepted procedures for assessing current and residual knowledge, the demand for graduates by employers, the popularity of the program among incoming applicants. The relevant structural units of the University, including the educational and methodological Department, the Departments of Science and Innovation, social development and innovation participate in monitoring the life cycle of the University according to their functional responsibilities.

On a mandatory basis, on the basis of last year's enrollment of students, taking into account the planned state order for training specialists, taking into account students of paid departments, educational and methodological, economic and other departments, an analysis is carried out for the availability of places in the dormitory for first-year students, classroom fund, including computer classes, in the context of two semesters and the total number of students at the faculty, provision of educational and methodological literature on the basis of syllabuses, EMCD and applications of teaching staff.

Resource analysis plans are used in the preparation and execution of applications for purchase, renovation, repair, classroom fund, and material and technical bases of laboratories and institutes at the University.

The main criteria for the success and relevance of the EP are the number of applicants' applications for this EP, the percentage of graduates' employment, the relevance of the EP when drawing up a state order for the training of specialists in this specialty.

The material and technical base of partner organizations for scientific practices is being developed, the qualitative composition of the EP in accordance with the current state of science and clinical medicine, means and methods of teaching. The purpose of this development is to ensure that the educational process meets the modern requirements of science, medicine and education, as well as to increase satisfaction with the educational process among all participants of the EP. The results are the continuous improvement of the EP and its attractiveness for all sides of the educational process.

Continuous improvement of EP processes is ensured by feedback from all EP participants, both during its development and on time of its execution, using operational mechanisms for managing EP processes provided for by the legislation of the Republic of Kazakhstan in the field of education and internal acts and regulations of the University.

Data from sociological surveys and programs of satisfaction of teaching staff and students with the results of training, as well as feedback from regulatory organizations, departments and accreditation agencies.

During the functioning of the EP and its development, the entire range of reporting provided for by laws and regulations in the organization of educational activities in higher educational institutions is used, including all indicators of academic performance, provision of practices, assessment of residual knowledge, qualifications of teaching staff performing this EP, etc.

Feedback and reporting results are used to adjust the goals and objectives of already developed and adopted EP, as well as to develop new EP.

By promptly adjusting the set goals and objectives, as well as redistributing the internal resources of the organization of the EP administrator.

The development strategy of the EP meets the needs of the state for qualified personnel with knowledge and skills to solve scientific and technological problems of introducing nuclear

technologies into healthcare, including nuclear medicine, providing research and development, and forming highly professional research teams in this field. And also able to practically apply interdisciplinary knowledge in the diagnosis and treatment of diseases and disorders of the functioning of the human body using physical methods. The successful implementation of an educational program is determined based on its goals and plans, purposeful and effective implementation, which is reflected in the content of each educational program. The development plan and goal of the EP are drawn up on the basis of an analysis of the external and internal environment with the involvement of all interested parties: Teaching staff, employers, students, determining the satisfaction of students and teaching staff, employees, available and necessary resources, etc. This affects the content of the programs.

The development plan and goals of the EP are as open as possible, accessible to all interested parties. To prepare a development plan and the content of the EP, first, all persons of interest in the training of specialists in the field of medical physics are involved. Discussion of strategic documents is held at meetings of collegial bodies – the Employers' Council, student self-government, Faculty Council, Academic Council. Information about the University's mission and strategy is posted on the University's website and sent to departments. Based on the strategy and policy in the field of quality, significant changes have taken place – IT centers and the Bologna Process Center have been created. The quality assurance policy is supported by the university management, structural divisions of the University and teaching staff, employees, and students. Quality assurance and improvement activities are carried out through monitoring, reporting, analysis of results and taking measures to improve the efficiency of the university. All interested persons can influence the content of the EP development plan based on the choice of elective disciplines of the EP and have the right to vote when approving the plan, based on the results of the interview, their opinion is taken into account and changes are made to the catalog of elective disciplines.

The mechanism of formation of the EP plan consists of the following stages: 1) at a meeting with parents, graduates and employers, the need for an educational program and its specialization is determined; 2) the level of satisfaction of employers and graduates of the EP and its specialization is determined; 3) as a result of such control of the EP, its strengths and weaknesses are identified, adjustments are made to the EP to optimize it; 4) the adjusted plan of the EP is discussed at the meeting of the department and is coordinated with employers and the EMC of the University.

In this regard, all interrelated educational components are focused on the implementation of the state program – the training of highly qualified specialists who are competitive in the world market, standards and recommendations in the field of quality assurance developed by the European Association for Quality Assurance of Higher Education are taken into account. All educational activities are based on the principle of "result-oriented management".

The university has a database of internal and external regulatory legal acts regulating business processes within the framework of the EP (including management, development, implementation, monitoring and evaluation). ([link to the document https://www.kaznu.kz/ru/20484/page /](https://www.kaznu.kz/ru/20484/page/))

During the development of the educational program and during its implementation, connections with internal and external stakeholders are taken into account on an ongoing basis. The internal stakeholders of the educational program are teaching staff and students. External stakeholders are employers, graduates of the educational program with whom constant communication is maintained, seminars, round tables are held to improve the quality of the implementation of the EP.

In order to ensure the participation of all interested persons in the management of the educational program on the basis of the OHPO in 2022, an Academic Committee was established in the field of training "Physical and Chemical Sciences", one of the tasks of which is to develop and update the EP on an ongoing basis, taking into account the current and future needs of the labor market, as well as ensuring effective interaction of the main participants in the educational

and scientific process (academic staff, employers and students) in the development and updating of the EP. In addition, the Academic Committee participates in the assessment of the quality of the EP, academic and digital modernization of educational activities, determining the minimum educational and scientific, personnel, information and library, educational and laboratory and other resources for the implementation of the EP and ensuring their accessibility for students. The committee includes: academic staff (OHPO teaching staff), students and employers. The composition of the Committee is approved by the order of the Chairman of the Board-Rector (https://drive.google.com/file/d/1hWqosoTTqeSUNnHuuw6nDXeHYD1UDyNn/view?usp=share_link) The Chairman, Co-Chairs and Secretary of the Committee are elected by open vote at the first meeting. All participants have the right to vote.

Analytical part

Analyzing the compliance of the EP with the standards for international accreditation in accordance with the IAAR standards, it should be noted that the parameters of the standard "Management of the educational program".

Students according to the EP have the opportunity to meet their needs in obtaining a specialty focused on the development of professional and research skills. Individualization of students' education is provided by the possibility of choosing their preferred disciplines from the list of disciplines of all three cycles in the curricula and catalogs of the EP (in the sections of the component of choice). Conditions for differentiation and individualization of training, additional, more in-depth study of specialized courses are created in the cycle of core disciplines of the EP.

The quality assurance policy is controlled within the framework of the strategic directions of QMS development <https://www.kaznu.kz/ru/4828>.

The quality management of Nuclear Medicine is carried out through systematic interaction between teaching, research and training.

The transparency of the management system of the EP development process is based on an internal audit of the organization of the EP development processes, their compliance with the standards and documents of relevant ministries and regulatory agencies, as well as the involvement of representatives of employers and cooperating organizations in the EP development process.

The EP development plan is adopted in accordance with the state program for the development of higher and postgraduate education, the EP Development Strategy, is based on the volume of the state order for training specialists, the number of teaching staff and the available material and technical base of the university.

Thus, as a result of the analysis of compliance with the criteria of the NAAR according to the standard "Management of the educational program", it can be stated that compliance is more satisfactory.

Strengths/best practice according to EP "6B05310-Nuclear medicine", "8D05309-Nuclear medicine":

- not identified according to this standard.

Recommendations for EP "6B05310-Nuclear medicine", "8D05309-Nuclear medicine":

- according to this standard, no.

Conclusions of the EEC by criteria:

According to the standard "Educational Program Management" educational programs "6B05310-Nuclear medicine", "8D05309-Nuclear Medicine" have 15 satisfactory positions.

6.2. The standard “Information Management and Reporting”

The evidentiary part

The assessment of the quality of information management is carried out on the basis of an analysis of methods and forms of information collection and analysis, decisions of collegial bodies and management made on the basis of facts; surveys of information systems and software used in the organization of education for the purpose of information management; surveys of information resources of the organization of education, interviewing and questioning students, teaching staff and stakeholders.

At the current level of production development, prompt access to a variety of information obtained in modern information and communication technologies is required. The Al-Farabi Kazakh National University has an Institute of Information Technologies and Innovative Development, the main purpose of which is to provide effective information and technical support for the university's educational process, the functioning of a complex of technical means (CTS) using new modern information technologies to improve the quality of educational services provided by the university. To achieve this goal, the departments of the IT infrastructure development Department solve the tasks of maintaining the university's IT infrastructure, which include planning the development and modernization of network and server infrastructure, providing computer equipment to university departments, administration of network and server resources, system and technical support of computer equipment, video surveillance and access control systems.

The Department for the Development of the IT infrastructure of the University-a consists of 3 departments:

- IT Resource Planning and Management Department
- Service Support Department
- Situational Monitoring Center

All the necessary information is posted on the university's website. Official website of Al-Farabi Kazakh National University: <https://www.kaznu.kz> . Each department presents its information on the university's website. Here, information about the events taking place in Kazakh, Russian, and English is provided for the student.

Official website of Al-Farabi Kazakh National University <https://www.kaznu.kz> is the main platform for accessible and transparent information.

Information and software complex <https://univer.kaznu.kz/user/login?returnUrl=%2f> (UNIVER) is a system of administration and management of educational activities of the university with a full cycle of coverage of the educational process.

The UNIVER system allows you to manage the following processes: management of the admissions committee and analysis of the recruitment of the contingent; management of educational activities (formation of curricula, certification, etc.); management and organization of electronic educational document flow for the entire technological cycle of the educational process; management and monitoring of the organization of the database of electronic educational and methodological materials for each discipline; management registration for disciplines; management and organization of an additional semester; formation of various types of schedules (classes, exams, curatorial hours); organization of a system of statistical analysis and reporting on the main tasks of the educational process; organization of a system of administration, management of software support and use of the system in the educational process, for rapid response to the elimination of incidents and analysis of the user's history with the system.

Scientific Library of Al-Farabi Kazakh National University (KazNU) - <https://elibrary.kaznu.kz/ru/node/69> It is a cultural and spiritual center for students, faculty and teaching staff. It contains textbooks, monographs, wonderful examples of fiction, rare books of the XVI-XIX centuries, more than 200 thousand copies of periodicals.

There is a transparent system for dealing with complaints received both in written and oral form, as well as in the form of a questionnaire, including anonymous.

- A survey of teachers "Teacher through the eyes of colleagues" is conducted annually;
- the survey "Curator-adviser through the eyes of students" is conducted once a semester;
- the questionnaire "Social adaptation of first-year students" – is conducted annually.

To study the external environment, a survey of employers is conducted on the level of knowledge of university graduates. In the study of the internal environment, a survey of employees and students is conducted about the conditions of study and work, about the security of the workplace, about the quality of services provided, about the quality of work in canteens, wardrobes, etc. Surveys are conducted on the topic of corruption at the university and religious extremism.

After each examination session, the QMS Department conducts a questionnaire among students "Teacher through the eyes of students". The survey is conducted anonymously twice a year. The results of the survey are processed by the sociological laboratory of the university, advantages, disadvantages and recommendations are identified, the results are brought to the attention of the management, which takes measures to eliminate shortcomings and improve processes. The purpose of the survey is to obtain reliable objective data about the studied object, process. The main tasks of sociological research in the Kazakh National University. al-Farabi: identification of the main problems in the functioning of the educational, scientific and educational process; identification of the main forms and methods of improving the quality and level of teaching. The results of sociological research are stored in the department that conducted the sociological research. According to the results of the survey, the problems of poor equipment of some classrooms with posters and insufficient number of measuring instruments were revealed. To solve this problem, new posters and measuring tools for the EP have been purchased.

The procedures regulating the life cycle of students (from admission to completion) are reflected in the Academic Policy of Al-Farabi Kazakh National University (<https://www.kaznu.kz/ru/20484/page/>), which is based on the norms of the Law of the Republic of Kazakhstan dated July 27, 2007 No. 319-III "On Education" (as amended and supplemented on 08/28/2021) (<https://adilet.zan.kz/rus/docs/Z070000319>); Standard rules of activity of organizations of higher and (or) postgraduate education (approved by the Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 30, 2018 No. 595 (with amendments and additions). as of 09.06.2021) (<https://adilet.zan.kz/rus/docs/V1800017657>); State mandatory standards of higher and Postgraduate education (Order of the Ministry of Education and Science of the Republic of Kazakhstan dated October 31, 2018 No. 604 dated 07/23/2021) (<https://adilet.zan.kz/rus/docs/V1800017669/history>); Rules of the organization of the educational process on credit technology of training (Order of the Ministry of Education and Science of the Republic of Kazakhstan dated April 20, 2011 No. 152 of amendments and additions to 06.05.2021) (<https://adilet.zan.kz/rus/docs/V1100006976>); Standard rules for admission to training in educational organizations implementing educational programs of higher and postgraduate education (Order of the Ministry of Education and Science of the Republic of Kazakhstan No. 600 dated 09.08.2021) (<https://adilet.zan.kz/rus/docs/V1800017650/history>) and others. regulatory legal acts of the Ministry of Science and Higher Education of the Republic of Kazakhstan, as well as internal regulatory documents of the University.

All submitted educational programs undergo an external examination in accordance with the established procedure and are included in the national Register of educational programs.

Analytical part

The conducted analysis of compliance with the criteria of the IAAR according to the standard "Information Management and reporting" allowed us to state that most of the criteria are satisfactory. A strong point in terms of information management and reporting is the presence of a situational management center functioning at the university. It provides opportunities for

interactive collection and analysis of information for monitoring and monitoring current activities, operational decision-making.

The management of the educational program, as well as other areas of activity, is carried out on the basis of the collection, analysis and use of relevant information. The EP management uses a variety of methods to collect and analyze information. Information management is especially important for new programs that are being developed by the university for the first time and can be innovative at the national level.

During the visit, the experts reviewed the information system "UNIVER", which allows creating a unified educational environment at the university and ensuring integration into the global educational space. It also provides support for a high-tech educational process; allows you to deploy an e-learning platform; forms the foundation for building a self-organizing university management system; creates an effective university management system, accounting and reporting; expands the accessibility and openness of education; provides an increase in the rating of the university in the educational services market; increases the efficiency and quality of managerial decision-making, as well as improving control over their execution; makes it possible to distribute the results of the study to the management systems of other educational organizations. The system has such a function as the organization of multilingualism, and is represented by three user interfaces in Kazakh, Russian and English. The information system ensures the organization of synchronous work of all participants in the educational process, is a completely web-based solution that allows all users of the system to remotely perform their functions in the system without being tied to the workplace. Provides secure user access to data through personalized access, as well as to the differentiation of user rights by category of tasks to be solved. The system keeps records of user actions.

Also during the visit, the experts were shown the scientific library of KazNU – one of the largest university libraries in the Republic of Kazakhstan, founded in 1934.

The Scientific Library is a widely branched network of subscriptions and reading rooms located in academic buildings. The number of seats in the halls is more than 1100. Every year the Scientific Library registers about 900 thousand visits, issues up to 1.9 million copies of books, magazines, newspapers. More than 700 titles of Kazakh and Russian periodicals are issued. The Scientific Library strives to maximize the use of its rich information potential by readers.

The library's reading rooms are very popular among students, the halls are well equipped with auxiliary funds, and a variety of periodicals are presented. Several specialized halls are located compactly, geographically close to each other. The funds of the reading rooms attract the attention of students from other universities of the city.

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

Strengths/best practice on EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine":

- The Situational Management Center functioning at the university is definitely a strong point of the organization of education in terms of information management and reporting. It provides opportunities for interactive collection and analysis of information for monitoring and monitoring current activities, operational decision-making.

Recommendations for EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear medicine":

- according to this standard, no.

Conclusions of the EEC by criteria:

According to the Information Management and Reporting standard, the educational programs "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine" have 1 strong and 15 satisfactory positions.

6.3. The standard "Development and approval of the educational program"

The evidentiary part

In order to control the quality of the development of the EP "8D05309 – Nuclear Medicine", the program undergoes an evaluation procedure within the university and is sent for external examination to representatives of employers, the public and the academic environment. The purpose of the examination is to improve the quality of educational programs. The examination of educational programs and methodological documents is based on the principles of transparency, objectivity, and systematic organization of expert work.

Educational programs of the university are developed in the areas of training for which the university has a license for the right to conduct educational activities, within the framework of groups of educational programs according to the classifier of training areas.

Each educational program has a coordinator who is appointed by the decision of the Academic Council of the Faculty and coordinates the work on the design, development and implementation of an educational program focused on achieving learning outcomes in accordance with qualification requirements, with the involvement of all stakeholders, including students and employers.

It is not allowed to change the content of the educational program (change of disciplines) after completing the registration of students for disciplines and the formation of individual curricula.

The academic policy of KazNU, methodological guidelines and instructions describe all the procedures for evaluating and developing EP (link to document [2.8. Academic Educational Program | Al-Farabi Kazakh National University \(kaznu.kz\)](#))

The revision and adjustment of the content of the existing EP taking into account changes in the labor market, the requirements of employers and the social request of society, as well as the results of monitoring, professional standards are carried out annually.

EP "8D05309 – Nuclear Medicine" was approved on 27.08.2021, and EP "6B05310 - Nuclear medicine" - on 23.07.2019.

The University considers the successful employment of graduates as the main indicator of the effectiveness of educational activities. The University encourages long-term multilateral cooperation with employers in order to update the content of educational programs in accordance with the demands of the labor market; attracts practical teachers from among employers to conduct training sessions, including on the basis of third-party organizations, as well as to participate in the final certification of graduates, in order to ensure the competitiveness and demand of graduates of KazNU.

To promote employment, there is a Career and Professional Development Center, which ensures the involvement of employers in holding various events at the university in order to inform students and graduates of KazNU about employment opportunities and professional internships.

The purpose of the educational program is to train qualified specialists who meet the current requirements of the specialty "Nuclear Medicine", have academic and professional skills, are able to combine theoretical knowledge with applied research skills to solve problems in the field of nuclear medicine

There was no revision according to the EP data.

The graduate model of the Bachelor's degree program in nuclear Medicine can be seen at the following link ([For applicants \(kaznu.kz\)](#))

The graduate model of the doctoral program in nuclear medicine may include the following elements:

Specialized knowledge in the field of nuclear medicine, understanding and skills in using its basic methods and technologies. A graduate of a doctoral program should have in-depth

knowledge in the field of physics and radiation safety, an understanding of chemistry, biology, medicine, in terms of interaction with his specialty.

The model of a doctoral graduate in nuclear medicine is usually created by analyzing the requirements of the labor market and the needs of employers for qualified specialists in this field. Also, to create a graduate model, the results of research and analysis of educational programs in other countries and leading universities of the world can be used ([For applicants \(kaznu.kz\)](#))

Responsible persons are the coordinator and developers of the EP: M. Abishev, Y. Zaripova, K. Dyusebaeva, G. Serikakhmetova

The educational program in nuclear medicine was developed based on the analysis of current trends and needs in the medical industry, as well as based on best practices and experience existing in the international community.

When developing a nuclear medicine EP, modern achievements in the field of nuclear medicine and molecular medicine, as well as the capabilities of modern medical technology, are considered.

The higher the level of training, the deeper and more comprehensive knowledge and skills should be mastered by the student.

The model of a graduate of a doctoral program in nuclear medicine, as a rule, provides for the student to acquire knowledge and skills in such areas as physics and chemistry of radioisotopes, biology of cells and tissues, methods of research of biomedical objects using radioisotope technologies, principles and methods of diagnosis and treatment of diseases using radioactive drugs and equipment.

Analytical part

As a result of the analysis of compliance with the IAAR criteria according to the standard "Development and approval of an educational program", it can be stated that compliance is more satisfactory.

Having analyzed the work of the EP according to this standard, the commission notes that the university has a system of assessment of the EP based on the use of various methods of collecting, processing and analyzing information in the context of the EP and the University as a whole. The data testifying to the involvement of teaching staff, students and university staff in the process are presented.

A survey of students, teaching staff using information and communication technologies is being conducted, which was confirmed by the participants of the focus groups. The results containing the evaluation of educational programs are heard at the meetings of the department.

The Dean's Office and the university services carry out systematic work on registration and analysis of information on the current, intermediate and final certification of students in disciplines, courses and performance indicators for courses and subsequently the transfer score is calculated.

The members of the commission note that the reverse informing of stakeholders on improving the quality of the EP, the measures taken, the proposals taken into account from stakeholders is organized quite well, which was confirmed by graduates, students, employers.

At meetings with focus groups of teaching staff, students, to the question of what active teaching methods are used, both groups gave convincing answers and gave examples of the forms of training used in specific disciplines. Students noted that these forms of education motivate more to attend classes and contribute to better assimilation of the material.

In general, the Al-Farabi Kazakh National University monitors educational and other processes, for which appropriate procedures and regulations have been developed. The monitoring results are used to improve the educational program, aimed at the student's progress. Feedback is maintained between teachers and students, including a questionnaire system of satisfaction with educational and other activities of the university, aimed at improving the educational program.

Strengths/best practice on EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine":

- according to this standard, no.

Recommendations for EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear medicine":

- according to this standard, no.

Conclusions of the EEC by criteria:

According to the standard "Development and approval of the educational program", the educational program "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine" has 12 satisfactory positions.

6.4. The standard "Continuous monitoring and periodic evaluation of educational programs"

In order to control the quality of the development of the EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine", the program undergoes an evaluation procedure within the university and is sent for external examination to representatives of employers, the public and the academic environment. In order to manage and improve the activities of Al-Farabi Kazakh National University, regular monitoring is carried out in various areas, including individual educational programs. The monitoring system is an important tool for managing the quality of university activities.

The purpose of monitoring is to assess the quality of managerial, educational, research and educational work of the university, on the basis of which optimal solutions are selected for the organization of effective activities of Al-Farabi Kazakh National University. Monitoring is carried out in the following areas: educational programs, teaching staff activities and teaching effectiveness, student satisfaction and conditions for their personal development, research activities and its effectiveness, material, technical, library and information resources. The Department of Theoretical and Nuclear Physics monitors and periodically evaluates the educational programs "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine" to achieve the goal of EP and the full formation of the planned learning outcomes. To improve the quality of the EP and increase its effectiveness, the EP is updated taking into account the results of monitoring and based on requests from stakeholders. EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine" are developed in accordance with the state mandatory standards of higher and postgraduate education, the national qualifications framework, the industry qualifications framework, the International Standard Classification of Education and the European Qualifications Framework, the Academic Policy of OHPE. All EP departments of KazNU undergo an external examination in accordance with the established procedure and are included in the national Register of educational programs. In the process of developing the EP and monitoring educational activities within the framework of the EP, all interested parties are involved, including students and employers, a SWOT analysis is carried out, which is the basis for improving and reviewing the results of the EP. EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine" are aimed at the formation of students' personal and professional competencies that ensure the formation of both relevant academic knowledge and necessary skills and skills that can affect their personal development and can be used both in their future career and in research activities.

OHPE demonstrates the existence of a documented procedure for monitoring and periodic evaluation to achieve the goal and continuous improvement of the EP. Constant monitoring and periodic evaluation of the EP at the university is carried out by three methods: the method of questioning and interviewing, the method of systematic and direct tracking of the learning

outcomes of students, the method of external expert assessments. The analysis of monitoring procedures and periodic evaluation of the educational program "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine" is carried out on the basis of: analysis of the curriculum, catalog of elective disciplines, individual plans of students, internal regulatory documents regulating the implementation of the educational program, their monitoring and evaluation; minutes of collegial bodies and meetings of departments; interviewing and questionnaires of students, teaching staff and interested parties; the results of observations of the activities of support services.

Monitoring and evaluation of the EP is also aimed at ensuring orientation of the EP to global trends in the development of higher and postgraduate education: multidisciplinary, student-centered, innovative, focused on the formation of systemic thinking and social communication; orientation to national trends - internationalization, integration of education, science and production, digitalization, spiritual revival; compliance with strategic priorities of KazNU, comparability with a SURVEY of Universities in the top QS-200.

OHPE provides a revision of the structure and content of the EP, taking into account the changes taking place in the educational environment, in the country's economy and current trends in the development of the world economy: 1) current and future market needs (the need for specialists and requirements for them, employment prospects for graduates, namely their deficit or surplus); 2) development of professional standards; 3) updating of the state mandatory standard of higher and postgraduate education. The Center for the Bologna Process and Academic Mobility has established that the EP should be updated at least once within four years from the date of inclusion in the Register of the UHEMS. In the absence of an update, the Operator excludes it from the Registry. Nevertheless, the OHPE can make an unscheduled update of the EP when updating the SMSE, developing new PS and receiving requests from stakeholders.

Responsible for the timely revision of the EP are the head of the department, the coordinator and the developers of this EP, who are appointed by the decision of the Academic Council of the Faculty and coordinate the work on the design, development and implementation of the EP, focused on achieving learning outcomes in accordance with the qualification requirements, with the involvement of all interested parties. On the basis of the OHPE, an Academic Committee has also been established in the field of training "Physical and Chemical Sciences", one of the tasks of which is to develop and update the EP on an ongoing basis, taking into account the current and future needs of the labor market. As part of the work of this committee, academic staff, students and employers are involved in updating the EP. The composition of the Committee is approved by the order of the Chairman of the Board-Rector (https://drive.google.com/file/d/1hWqosoTTqeSUNnHuuw6nDXeHYD1UDyNn/view?usp=share_link)

In order to control the quality of EP development, the program undergoes an evaluation procedure within the OHPE and is sent for external examination to representatives of employers, the public and the academic environment. The examination of educational programs and methodological documents is based on the principles of transparency, objectivity, and systematic organization of expert work.

The analytical part.

As a result of the analysis of compliance with the IAAR criteria according to the standard "Monitoring and periodic evaluation of the educational program", it can be stated that the compliance is satisfactory.

Having analyzed the work of the EP according to this standard, the commission notes that the university has a system of monitoring and evaluation of the EP, also aimed at ensuring the orientation of the EP to global trends in the development of higher and postgraduate education: multidisciplinary, student-centered, innovative, focused on the formation of systemic thinking and social communication; orientation to national trends – internationalization, integration of

education, science and production, digitalization, spiritual revival; compliance with the strategic priorities of KazNU, comparability with the survey of Universities in the top QS-200.

A survey of students, teaching staff using information and communication technologies is being conducted, which was confirmed by the participants of the focus groups. The results containing the evaluation of educational programs are heard at the meetings of the department.

When monitoring and reviewing the EP, the opinion of the teaching staff of the department and the faculty as a whole is taken into account. At the meetings of the department and the Academic Council of the Faculty, the results of the monitoring of the EP, the need for its revision and amendments to the EP are discussed. In addition, the university annually hosts methodological conferences, round tables on the organization and improvement of the educational process, which are attended by teaching staff. For example, the research developments of the teaching staff of the Department of Theoretical and Nuclear Physics were reflected in the disciplines of the EP "6B05310 - Nuclear Medicine" and "8D05309 – Nuclear Medicine", which can be assessed as the introduction of individual innovative proposals <https://www.kaznu.kz/ru/11672/page/>.

Students, teaching staff and employers have the right at any time to send their comments, complaints and suggestions on any issues related to the organization and quality of the scientific and educational process to the University through oral or written appeals addressed to the responsible persons. Consideration of appeals is carried out in accordance with the established procedure by authorized officials or commissions and councils. Ignoring appeals by authorized officials is regarded as non-fulfillment of functional duties and may serve as a basis for taking administrative measures on the part of the University management.

The members of the commission note that the reverse informing of stakeholders on improving the quality of the EP, the measures taken, the proposals taken into account from stakeholders is organized quite well, which was confirmed by graduates, students, employers.

In general, Al-Farabi Kazakh National University carries out constant monitoring and periodic evaluation of the educational program and other processes, for which appropriate procedures and regulations have been developed. The monitoring results are used to improve the educational program, aimed at the student's progress. Feedback is maintained between teachers and students, including a questionnaire system of satisfaction with educational and other activities of the university, aimed at improving the educational program.

Strengths/best practices of the EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine":

- not identified according to this standard.

Recommendations for EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine":

- there are no recommendations for this standard.

Conclusions of the EEC by criteria:

According to the standard "Continuous monitoring and periodic evaluation of educational programs", the educational programs "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine" have 10 satisfactory positions.

6.5. The standard "Student-centered learning, teaching and assessment of academic performance"

The evidentiary part

Student-centered learning processes have been introduced into this educational program, contributing to motivation, self-reflection and involvement of students in the educational process.

KazNU named after al-Farabi ensures respect for various groups of students. It also pays attention to their needs, provides a flexible learning trajectory, makes it possible to use various forms of teaching, a variety of pedagogical methods. Provides regular feedback on the techniques and methods used to evaluate and adjust pedagogical methods, promotes mutual respect between the teacher and the student; the availability of appropriate procedures for responding to student complaints.

The university has the following documentation for assessing the level of achievement of the program goals: "Regulations on ensuring the quality of the educational process at Al-Farabi Kazakh National University", "Regulations of the Academic Committee on the Quality of Education at the Faculties of the University", "Methodological recommendations for the examination of educational programs of Al-Farabi Kazakh National University", "Guidelines for the development of control and measuring materials intended for evaluating learning outcomes: intermediate control, final control, state exam, protection of pedagogical and industrial practices".

- When implementing student-centered learning, academic groups are formed by the language of instruction (with Kazakh and Russian as the language of instruction).

- To master the educational program, students annually determine and sign an individual curriculum (IC). The IC determines the individual educational trajectory of each student.

- With the help of a curator-adviser, the student determines his IC based on the catalog of disciplines (modules).

- Within the framework of student-centered learning, the student is a central participant in the implementation of the educational program, therefore, when ensuring the quality of the educational process, the interests of students are taken into account first of all. In the conditions of credit technology of training for the full development of the educational program, a large amount of independent work of students is carried out, which is divided into two parts: independent work, which is carried out under the guidance of a teacher, and the part that is carried out completely independently.

- The main form of assessment of students' learning within the framework of the credit-modular system is a point-rating assessment of the quality of students' knowledge. The rating system for monitoring students' academic work is introduced in order to motivate them to study the subject and improve the quality of training specialists. The methods used to assess the student's academic achievements meet the criteria of reliability and validity, and are student-oriented.

- The choice and scope of the student's independent work is a central aspect of effective learning within the framework of student-centered learning.

- Effective teaching methods used in the implementation of training: encouragement of the student; transparency of evaluation criteria; personality-oriented approach; practice-oriented training.

- When studying disciplines, special attention is paid to such elements as:

- obtaining the latest scientifically-based theoretical knowledge and experimental discoveries that allow solving a theoretical or applied problem or are a major achievement in the development of specific scientific areas;

- mastering modern theoretical, methodological and technological achievements of science, technology and production based on modern methods of data processing and interpretation using computer technology and performed using modern research methods;

- offer specific practical recommendations, independent solutions to management tasks of a complex, cross-functional nature;

- mastering international best practices in the relevant field of knowledge.
- Teachers know the methods of testing and verifying students' knowledge. Teachers regularly undergo advanced training in this area. The evaluation criteria and methods will be published in advance, and the evaluation demonstrates the level of achievement of the students of the planned learning outcome. The assessment is carried out in a consistent manner, and is carried out in accordance with the established rules. For a certain discipline in one semester: boundary control 1; boundary control 2; final control $((BC1+BC2)/2 \cdot 0.6 + FC \cdot 0.4)$. Boundary control (BC) is the control of students' academic achievements within the framework of an academic discipline, carried out according to the academic calendar. The final control of the discipline is carried out in the form of a final exam with the involvement of alternative examiners.

Students can get tips on the learning process. All types of control involve assessing the formation of expected learning outcomes within a 100-point scale. A formal appeal procedure is envisaged.

To assess the level of achievement of goals and improve the effectiveness of the educational program at the cathedral level, a questionnaire of teachers through the eyes of students and a questionnaire of teachers through the eyes of colleagues was introduced.

To support the scientific work of KazNU students, scientific circles, scientific conferences, scientific seminars, round tables are organized on a regular basis, collections of scientific articles, abstracts of scientific conferences are published.

Independent work under the guidance of the teacher is carried out in contact with the teacher according to a separate schedule of the teacher. This type of work includes consultations on the most difficult issues of the curriculum, homework, course projects (works), control of semester papers, reports and other types of independent work tasks.

All types of independent work are necessarily described in the syllabus of the discipline with the indication of specific tasks, evaluation criteria and the schedule of tasks.

All types of written works of students are subject to mandatory verification for plagiarism.

Analytical part

Thus, as a result of the analysis of compliance with the IAAR criteria according to the standard "Student-centered learning, teaching and assessment of academic performance", it is satisfactory.

The University considers feedback as one of the most effective mechanisms for ensuring the quality of the educational process and student satisfaction. The University has a system for monitoring educational activities on an ongoing basis:

- the questionnaire "Teacher through the eyes of students" is conducted annually following the results of the autumn and spring semester;
- questionnaire "Evaluation of the effectiveness of courses" – conducted at the end of the course;
- sociological survey of graduates of Al-Farabi Kazakh National University "Support your Alma Mater" is conducted annually;
- questionnaire "Assessment of student satisfaction" based on the methodology of QS University Rankings Methodology (Student Satisfaction) – conducted annually;
- a survey of teachers "Teacher through the eyes of colleagues" is conducted annually;
- the survey "Curator-adviser through the eyes of students" is conducted annually;
- the questionnaire "Social adaptation of first-year students" – is conducted annually.

The members of the commission note that the Al-Farabi Kazakh National University is constantly monitoring educational activities. The monitoring results are used to improve the "**Student-centered learning, teaching and assessment of academic performance**" of the educational program, aimed at feedback and student satisfaction. Feedback is maintained between teachers and students, including a system of questionnaires, a sociological survey of graduates, a survey of teachers of educational processes and other types of university activities aimed at improving the educational program.

Strengths/best practices of the EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine":

- not identified according to this standard.

Recommendations for EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine":

- there are no recommendations for this standard.

Conclusions of the EEC by criteria:

According to the standard "Student-centered learning, teaching and assessment of academic performance", the educational programs "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine" have 10 satisfactory positions.

6.6. The Standard "Students"

The evidentiary part

The contingent of students is formed at the expense of the republican budget or the local budget, or funds received from the republican budget within the framework of targeted transfers, as well as tuition fees at the expense of citizens' own funds and other sources. On the website of KazNU named after al-Farabi, the regulations on the student of KazNU are published. This provision is discussed by groups of students together with advisors <https://www.kaznu.kz/ru/11509/page/>.

The necessary documents for the student are published on the KazNU website in the documentation section <https://www.kaznu.kz/ru/16243/page/>.

Table 5. The contingent of students for 2022-2023

| Name of EP | Number of students |
|----------------------------|---------------------------|
| 6B05310 - Nuclear medicine | 18 |
| 8D05309 – Nuclear medicine | 2 |

The policy of forming a contingent of students includes career guidance work during the year. City and district schools are assigned to each department of the university, "Open Days" are held, information about the specialty is placed on the university's website, in social networks <https://www.kaznu.kz/ru/19289/news/one/35739/>

A presentation week is provided for undergraduate and doctoral students of the EP, the purpose of which is to inform about the requirements of the EP and the specifics of its implementation. Heads of departments, teachers conduct introductory classes, where students are

introduced to the specifics of studying the EP and the department. The introductory course is conducted in order to familiarize the disciplines and the formation of the IC.

The policy of contingent formation is regulated by the "Regulations on the formation of a contingent of students" and includes the order of contingent planning; student enrollment; contingent movement; student expulsions; provision of academic leave; monitoring and analysis <https://www.kaznu.kz/ru/20562/page/>

Applicants are enrolled in the contingent of students of educational programs of higher higher and postgraduate education (bachelor's degree, doctoral degree) at the University on the basis of Standard admission rules for training in organizations implementing educational programs of higher and postgraduate education <https://adilet.zan.kz/rus/docs/V1800017650>.

Admission of foreign citizens for undergraduate studies on a fee-based basis is carried out based on the results of an interview conducted by the University's Admissions Committee during a calendar year. At the same time, enrollment of foreign citizens is carried out in accordance with the academic calendar 5 (five) days before the beginning of the next academic period (semester).

For admission, applicants submit an application for admission to the Admissions Committee of the University, attaching documents to it, a list of which is posted on the university's website in the "Applicants" section ("Bachelor's degree" / "Doctoral studies"). Documents in a foreign language are provided with a notarized translation into Kazakh or Russian.

Admission of foreign citizens to study under the educational programs of postgraduate education on the basis of contracts for the provision of paid educational services is carried out during the calendar year in accordance with the academic calendar. Educational documents issued by foreign educational organizations undergo the nostrification procedure in accordance with the procedure established by the legislation of the Republic of Kazakhstan, during the first academic period of study after enrollment.

Citizens of the Republic of Kazakhstan, who enroll on the basis of a state grant, conclude a contract on working out at least 3 (three) years in the order determined by the Government of the Republic of Kazakhstan.

To participate in the competition for a state educational grant for training, applicants submit an appropriate application, to which is attached a certificate with test scores to the Admissions Committee of KazNU or any other university. In the application, the applicant indicates a group of educational programs and up to three universities of study. The decision on the award of a state grant and the issuance of a corresponding certificate to the applicant is made by the Republican Competition Commission. The dean of the faculty, heads of the department, advisors, teaching staff of the departments introduce students to the corporate ethics of the University. The "Code of Honor of Students" is fixed on the university's website <https://www.kaznu.kz/ru/23307/page/>.

Analytical part

Thus, as a result of the analysis of compliance with the IAAR criteria according to the "Students" standard, it can be stated that compliance is more satisfactory. The educational process of the EP is accompanied by the research work of students in scientific circles and clubs of the department. Academic mobility is carried out in the form of educational or scientific internships. The EP provides for the annual departure of students abroad in order to improve their skills, collect materials for scientific papers, and receive consultations from foreign scientists.

It should be noted that students of the educational program "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine" have the opportunity to engage in research and preparation of

master's theses on the basis of the Almaty Cancer Center, which is engaged in the diagnosis and administration of treatment of oncological diseases at various stages of their development and manifestation.

The management of the EP provides an opportunity for external and internal mobility of students, there is a mechanism for recognizing the results of academic mobility of students.

The practical training of students is an important direction in the educational process. Contracts and reports on the practice of EP – Nuclear Medicine. https://drive.google.com/drive/folders/16L-Qdg_kWjLNtFOzGM-DtDJmdUR9w11A?usp=sharing

The members of the commission note to the Al-Farabi Kazakh National University according to the EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine", according to the "Students" standard, 12 criteria have been disclosed, of which 12 are satisfactory.

Strengths/best practices of the EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine":

- not identified according to this standard.

Recommendations for EP "8D05309 – Nuclear medicine":

- The university administration needs to open a dissertation council on the educational program "8D05309 – Nuclear Medicine" for the subsequent defense of doctoral dissertations (until May 2025).

Conclusions of the EEC by criteria:

According to the "Students" standard, the educational programs "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine" have 11 satisfactory positions and 1 position suggesting improvement.

6.7. The standard "Teaching staff"

The evidentiary part

The structure of the department, the staffing table and the management system of the teaching staff is formed by the personnel policy of the university and repeats on a reduced scale the structure of the management bodies of scientific, personnel and educational activities of the university. The head of the department is the head of the department, then the deputies for educational and methodological work, as well as for science and innovation, other public and elected positions held by the teaching staff are additionally designated.

Currently, the staff of the department, on a permanent basis, includes staff, teachers of practice from the Almaty Cancer Center (Ishkinin Evgeny Ivanovich), the Institute of Nuclear Physics (Dzhanseitov D.M., Mukhametuly B., Burtebaev N., Bekbaev A., Serikov O.I.), the Astrophysical Institute (Aimuratov E.K.), and the Institute of Ionosphere (Seifullina B.), Institute of Physics and Technology of NAS RK. Young doctoral students who have completed the course of study in the educational programs of the master's degree and doctoral studies, employed in scientific institutions of the Republic, near and far abroad do not lose touch with the graduating department and teaching staff, providing for joint use the research capacities of their organizations,

joint publications and opportunities for further employment of graduates of the educational programs of the department.

Personnel policy is carried out in accordance with the following documents, Laws of the Republic of Kazakhstan and Orders of relevant ministries with amendments and additions relevant at the time of submission of the report:

Labor Code of the Republic of Kazakhstan dated November 23, 2015 No. 414-V ZRK;

Civil Code of the Republic of Kazakhstan dated December 27, 1994 No. 268-XIII;

Law of the Republic of Kazakhstan "On Education" dated July 27, 2007 No. 319-III;

Law of the Republic of Kazakhstan dated February 18, 2011 "On Science" No. 407-IV;

Order of the Ministry of Education of the Republic of Kazakhstan dated 10/30/2018 No. 595 "On approval of standard rules for the activities of educational organizations of appropriate types" (Appendix No. 5 "Standard Rules for the activities of educational organizations implementing educational programs of higher and (or) postgraduate education"), (with amendments and additions by Order of the Ministry of Education of the Republic of Kazakhstan dated 06/09/2021 No. 282);

Order of the Ministry of Education and Science No. 634 dated November 16, 2018 "On approval of qualification requirements for educational activities and a list of documents confirming compliance with them";

Order of the Minister of Education and Science of the Republic of Kazakhstan No. 128 dated March 31, 2011 "On approval of the Rules for awarding academic titles (Associate Professor, Professor)".

The rules of competitive replacement of positions of teaching staff and researchers of NJSC "Al-Farabi Kazakh National University"

([https://www.kaznu.kz/content/files/pages/folder24416/Rules of %20competitive%20substitution%20PPS.pdf](https://www.kaznu.kz/content/files/pages/folder24416/Rules%20of%20competitive%20substitution%20PPS.pdf)).

The staffing of the department in terms of employees serving the EP and those who have passed the competitive selection procedures fully meets the requirements of the regulatory documents of the regulatory authorities and the university itself.

The following table 6 shows data on the total number of full-time teaching staff and part-time teachers of the department participating in the implementation of the EP (lectures, seminars, laboratory and practical classes, industrial practice) on an ongoing basis and on the principle of rotation or replacement. A total of 45 people, excluding teaching and support staff in laboratories and accepted for grant funding projects for engineering and laboratory positions, and somehow involved in the maintenance of educational and research activities related to the EP.

Table 6. Teaching staff of the department

| Department | Total | Staff | Part - timers | Number of teaching staff participating in the work of the PhD-doctoral councils | Number of full-time teaching staff participating in the implementation of projects (and % of participation from the total number of teaching staff of the fact) |
|---------------------------------|-------|-------|---------------|---|---|
| Theoretical and Nuclear Physics | | | | | |

| | | Total | d.s | c.s | PhD | Total | d.s | c.s | PhD | | |
|-------|----|-------|-----|-----|-----|-------|-----|-----|-----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Total | 45 | 40 | 10 | 13 | 17 | 5 | 1 | | 4 | 5 | 19 |

The table shows data on the total number of doctors and candidates of sciences among full-time employees and part-timers, the number of teaching staff participating in the work of PhD doctoral councils and the number of employees leading their own grant financing projects with leading organizations of Al-Farabi Kazakh National University and third-party organizations.

Analytical part

Thus, according to the "Teaching Staff" standard, it can be argued that compliance with the criteria is satisfactory. The staff of the Department of Theoretical and Nuclear Physics is mainly involved, as well as practical teachers, which is very important for the training of specialists in this field. The analysis of interviews with teaching staff shows that the main encouragement of activity is carried out for publication activity, and other indicators are not directly encouraged, but are taken into account indirectly when calculating the rating of teachers. One of the areas requiring improvement is the stimulation of all forms of academic mobility of teaching staff. This indicator remains at a very low level for teaching staff in the educational programs under consideration. Perhaps it is just necessary to include this indicator with the teaching staff incentive system.

Strengths/best practices of the EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine":

- not identified according to this standard.

Recommendations for EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine":

- The management of the EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine" should provide for measures aimed at developing academic mobility of teaching staff (until May 2025).

Conclusions of the EEC by criteria:

According to the "Teaching Staff" standard, the educational programs "6B05310 - Nuclear Medicine" and "8D05309 – Nuclear Medicine" have 8 satisfactory positions and 1 position suggesting improvement.

6.8. The standard "Educational resources and student support systems"

The evidentiary part

Material and technical resources for the implementation of the EP include an academic building with the necessary classroom fund, including classrooms with electronic interactive whiteboards and computer video projectors, educational and research laboratories and computer classes.

Al-Farabi Kazakh National University practices electronic services for users – corporate information management systems of the university <https://www.kaznu.kz/Content/univer.html> ,

the Univer 2.0 system, which integrates electronic means of communication between teaching staff and students, including SDO "Oqylyq" and "Moodle".

The Scientific Library of Al-Farabi Kazakh National University was founded simultaneously with the university in 1934. In 2012, the library was moved to a new modern five-storey building with a total area of 17,856.6 m², equipped with new technologies and communication solutions.

The Al-Farabi Library, being the information, educational and cultural center of the university, contributes in every possible way to obtaining high-quality education and training of highly qualified specialists; provides a book fund and modern electronic resources corresponding to the educational programs of the university; is in a continuous process of interaction with faculties and departments studies the needs of users, provides information services, regularly holds exhibitions of new arrivals, and also develops cooperation with other universities of the city and the republic. In the daily educational and scientific process of the university, the library strives to create optimal conditions for its users.

All the activities of the library are aimed at making the reader feel comfortable, receive the necessary information, due attention of the staff and moral satisfaction from each visit.

The Al-Farabi Library is a structural subdivision of the Al-Farabi Kazakh National University, providing information and library services for educational, research processes for 25 thousand students and undergraduates studying at 16 faculties of the university and 3,000 people. Teaching staff (teaching staff) and university staff. There are 3 departments in the structure of the Library, in which 82 employees work: the department of acquisition and storage of fixed assets; the Department of information services; management of automation of library and information processes

Analytical part

Based on the information received during the visit, in general, it can be argued that the EPs have generally satisfactory positions on this standard. Educational resources and student support systems are implemented at the proper level. On the other hand, it was noticeable that the material and technical database of educational programs can be updated with more modern equipment. In addition, during the inspection of the university territory, it was found that not all the territory meets the needs of people with disabilities. Since inclusive education is important, the management of the educational organization should pay more attention to this factor.

Strengths/best practice according to the EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine":

- there are none according to this standard.

Recommendations for EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine":

- The management of the educational organization should consider the possibility of including in the development plan the improvement of material and technical support for the EP "6B05310 - Nuclear Medicine" and "8D05309 – Nuclear Medicine". It is also necessary to ensure the availability of infrastructure for students with limited opportunities throughout the university. (until May 2025)

Conclusions of the EEC by criteria:

According to the standard "Educational resources and Student Support Systems", the educational programs "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine" have 8 satisfactory positions and 1 position suggesting improvement.

6.9. The standard "Informing the public"***The evidentiary part***

The activities of the faculty, interaction with teachers, students, representatives of society, universities, foreign countries are published in the form of announcements, reports, news on the university's website in the news section, as well as in the periodical "Kazakh University". The university has accounts in social networks <https://www.facebook.com/FarabiKaznu/> - Facebook, https://instagram.com/farabi_university - Instagram, in Telegram - <https://t.me/kaznu34> where there is free access for all users of networks to express their opinions or participate in the discussion of certain aspects of the university's work. The activities of the university are also actively monitored by periodic paper and online versions of various media, as well as the country's TV channels.

Interaction with students and teachers during the educational process is implemented through an internal website <https://www.univer.kaznu.kz/> / Students have access to the content of the EP, which they study, as well as to all educational materials, the library. Through a personal account on this website, students receive and submit individual assignments. Teachers ensure timely uploading to the UMDK website, check assignments, set scores, which are reflected in students' diaries. Through this website, students and teachers receive press releases of upcoming events, participate in questionnaires and enroll in additional distance courses.

Issues requiring the involvement of a wide range of scientists, citizens, students from different countries are presented at conferences, round tables.

Analytical part

During a thorough analysis of the pages of the faculty and department on the official website of the university, as well as these pages on social networks, very limited information on the educational programs under consideration was found. Of course, the activities of the department are covered in the media space, but for such educational programs that are on the way of their formation and can become branded in a certain sense, the promotion of these EP is not at the proper level.

This factor acquires additional significance in the context of the fact that the recruitment of students for these EP is not so significant yet, although there is certainly a potential for the growth of the contingent. Based on this, the management of the EP should step up work in terms of promoting these EP in the mass media.

Strengths/best practice according to the EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine":

- there are none according to this standard.

Recommendations for EP "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine":

- The management of the EP should more actively inform the public with up-to-date data on the educational program and its specifics through the media, information networks. This may include expert presentations, discussions and clarification of topical issues related to the development of the country and education (on an ongoing basis).

Conclusions of the EEC by criteria:

According to the standard "Educational resources and Student Support Systems", the educational programs "6B05310 – Nuclear Medicine" and "8D05309 – Nuclear Medicine" have 9 satisfactory positions and 1 position suggesting improvement.



(VII) OVERVIEW OF STRONG POINTS/BEST PRACTICE FOR EACH STANDARD

Recommendations for «6B05310 — Nuclear Medicine» and «8D05309 — Nuclear Medicine» EPs:

In accordance with standard 1, «Educational Program Management»:

- have not been identified in accordance with this standard.

In accordance with standard 2, «Information Management and Reporting»:

- The Situational Management Center operating at the university is definitely a strong point of the educational organization in terms of information management and reporting. It provides opportunities for interactive collection and analysis of information to control and monitor current activities, prompt decision-making.

In accordance with standard 3, «Development and Approval of an Educational Program»:

- have not been identified in accordance with this standard.

In accordance with standard 4, «Continuous Monitoring and Periodic Evaluation of an Educational Program»:

- have not been identified in accordance with this standard.

In accordance with standard 5, «Student-centered Learning, Teaching and Assessment of Students' Performance»:

- have not been identified in accordance with this standard.

In accordance with standard 6, «Students»:

- have not been identified in accordance with this standard.

In accordance with standard 7, «Faculty Members»:

- have not been identified in accordance with this standard.

In accordance with standard 8, «Educational Resources and Student Support Systems»:

- have not been identified in accordance with this standard.

In accordance with standard 9, «Public Awareness»:

- have not been identified in accordance with this standard.

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

Recommendations for «6B05310 – Nuclear Medicine» and «8D05309 – Nuclear Medicine» EPs:

In accordance with standard 6, «Students»:

- The university administration should open a dissertation council for the educational program, «8D05309 – Nuclear Medicine» for the following defense of doctoral dissertations (until May 2025).

In accordance with standard 7, «Faculty Members»:

- The management of the EPs «6B05310 – Nuclear Medicine» and «8D05309 – Nuclear Medicine» should envisage activities aimed at the development of academic mobility of the teaching staff (until May 2025).

In accordance with standard 8, «Educational Resources and Student Support Systems»:

- The management of the educational organization should consider the possibility of including the improvement of material and technical support for the EPs, «6B05310 – Nuclear Medicine» and «8D05309 – Nuclear Medicine» in the development plan. It is also necessary to ensure the availability of infrastructure for students with disabilities throughout the university (until May 2025).

In accordance with standard 9, «Public Awareness»:

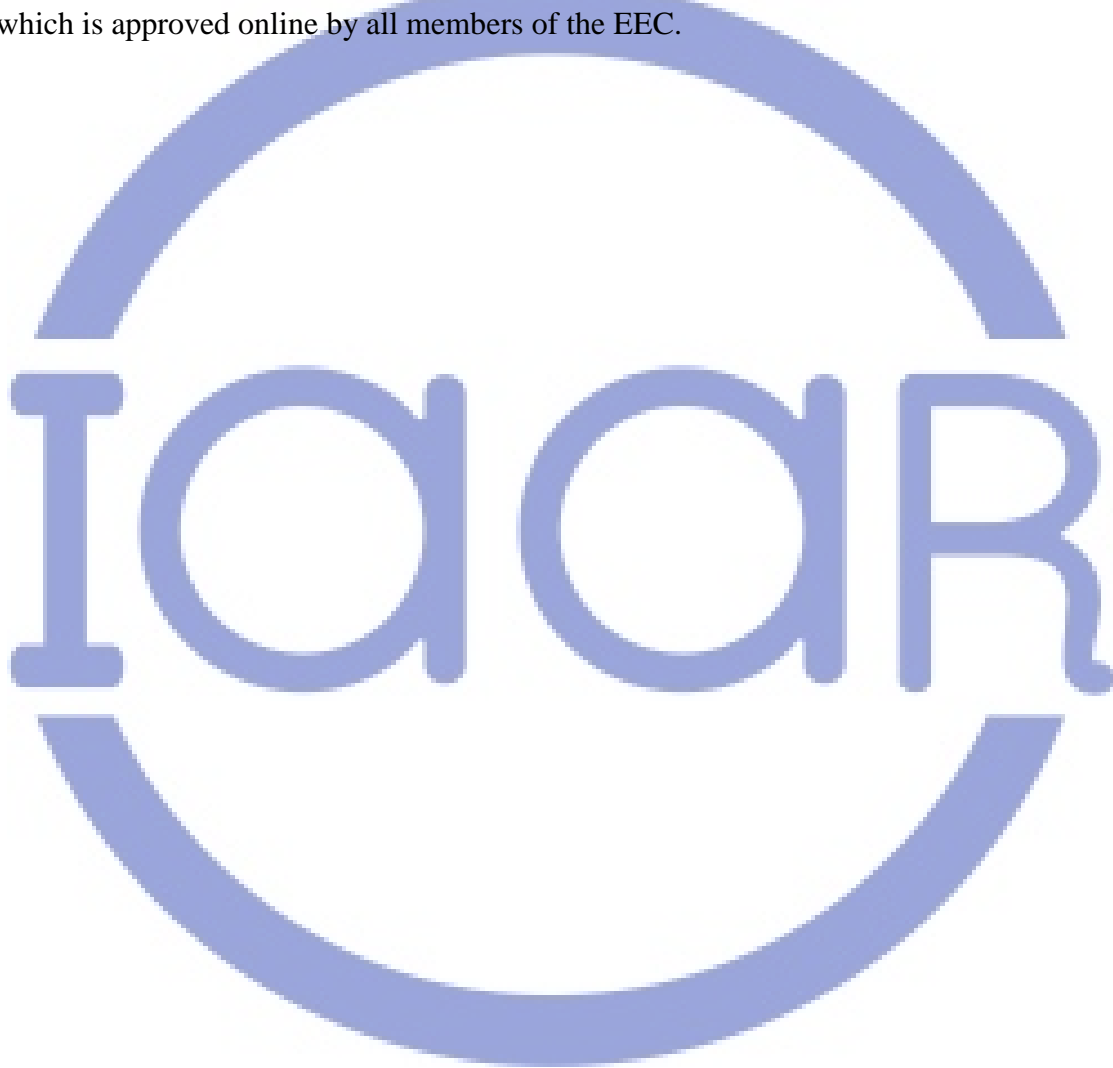
- The management of the EP should more actively inform the public with up-to-date information about the educational program and its specifics through the media and information networks. This may include expert presentations, discussions and explanation of current issues related to the development of the country and education (on an ongoing basis).

**(IX) OVERVIEW OF RECOMMENDATIONS FOR THE DEVELOPMENT OF
THE EDUCATIONAL ORGANIZATION**

It is necessary to ensure the availability of infrastructure for students with disabilities throughout the university.

(X) RECOMMENDATIONS TO THE ACCREDITATION BOARD

Members of the EEC came to a unanimous decision that the EPs, «6B05310 – Nuclear Medicine» and «8D05309 – Nuclear Medicine» are recommended to be accredited for 5 years, which is approved online by all members of the EEC.



**Appendix 1. Evaluation table «SPECIALIZED PROFILE PARAMETERS» for EPs,
«6B05310 – Nuclear Medicine» and «8D05309 – Nuclear Medicine»**

| № | № | Criteria for evaluation | The position of the organization of education | | | |
|---|-----|--|---|--------------|--------------------------|----------------|
| | | | Strong | Satisfactory | Improvement is suggested | Unsatisfactory |
| Standard 1, «Educational Program Management» | | | | | | |
| 1 | 1. | The organization of higher and (or) postgraduate education must have a published quality assurance policy, which reflects the relationship between scientific research, teaching and learning. | | + | | |
| 2 | 2. | Organization of higher and (or) postgraduate education must demonstrate the development of a quality assurance culture, including in the context of EP. | | + | | |
| 3 | 3. | A commitment to quality assurance must apply to any activity carried out by contractors and partners (outsourcing), including the implementation of joint/double-degree education and academic mobility. | | + | | |
| 4 | 4. | The management of the EP demonstrates transparency in the drafting of a development plan for the EP, containing a time frame for the start of implementation, based on an analysis of its operation, the real positioning of the EO and the focus of its activities on satisfying needs of the government, employers, students and other interested parties. | | + | | |
| 5 | 5. | The management of the EP demonstrates the availability of mechanisms for the formation and regular review of the development plan for the EP and monitoring its implementation, assessment of the achievement of learning goals, compliance with the needs of students, employers and society, decision-making aimed at constant improvement of the EP. | | + | | |
| 6 | 6. | The management of the EP must involve representatives of stakeholder groups, including employers, students and teaching staff in the formation of a development plan for the EP. | | + | | |
| 7 | 7. | The management of the EP must demonstrate the individuality and uniqueness of the EP development plan, its consistency with national priorities, and the development strategy for organization of higher and (or) postgraduate education. | | + | | |
| 8 | 8. | The organization of higher and (or) postgraduate education should demonstrate clear identification of those responsible for business processes within the EP, unambiguous distribution of job responsibilities of staff and distinction of roles of collegial bodies. | | + | | |
| 9 | 9. | The management of the EP must provide evidence of the transparency of the educational program management system. | | + | | |
| 10 | 10. | The management of the EP must demonstrate the availability of an internal quality assurance system for the EPs, involving its planning, management, and monitoring, improvement of these measures, and decision-making based on facts. | | + | | |
| 11 | 11. | The management of the EP must implement risk management, including risk management within the educational program undergoing primary accreditation, and demonstrate a system of measures aimed at risk reduction. | | + | | |

| | | | | | | |
|---|-----|---|----------|-----------|----------|----------|
| 12 | 12. | The management of the EP must ensure the participation of representatives of employers, teaching staff, students and other interested parties in the collegial governing bodies of the educational program, as well as their representativeness when making decisions on educational program management issues. | | + | | |
| 13 | 13. | The EO must demonstrate innovation management within the EP, including the analysis and implementation of innovative proposals. | | + | | |
| 14 | 14. | The management of the EP must demonstrate evidence of readiness for openness and accessibility for students, teaching staff, employers and other interested parties. | | + | | |
| 15 | 15. | The management of the EP must undergo training according to the programs of educational management. | | + | | |
| In total, according to the standard | | | 0 | 15 | 0 | 0 |
| Standard 2, «Information Management and Reporting» | | | | | | |
| 16 | 1. | The EO must demonstrate that it has a system for collecting, analyzing and managing information based on the use of modern information and communication technologies and software, and that it uses a variety of methods to collect and analyze information in the context of the EP. | + | | | |
| 17 | 2. | The management of the EP must demonstrate the availability of a mechanism of systematic use of processed, adequate information for improvement of the internal quality assurance system. | | + | | |
| 18 | 3. | The management of the EP must demonstrate fact-based decision making. | | + | | |
| 19 | 4. | Within the EP, a system of regular reporting must be provided, reflecting all levels of the structure which includes assessment of the effectiveness and efficiency of the activities of divisions and departments, scientific research. | | + | | |
| 20 | 5. | The EO must establish the frequency, forms and methods of assessing the management of the EP, the activities of collegial bodies and structural divisions, senior management, implementation of scientific projects. | | + | | |
| 21 | 6. | The EO must demonstrate the determination of the order and ensuring the protection of information, including the determination of staff responsible for the accuracy and timeliness of information analysis and data provision. | | + | | |
| 22 | 7. | One of the important factors is the availability of mechanisms for involving students, employees and teaching staff in the processes of the collection and analysis of information, as well as making decisions based on them. | | + | | |
| 23 | 8. | The management of the EP must demonstrate the availability of a mechanism for communication with students, employees and other interested parties, as well as mechanisms of conflict resolution. | | + | | |
| 24 | 9. | The EO must demonstrate that it possesses necessary mechanisms designed to measure degree of satisfaction of the needs of faculty members, staff and students within the EP. | | + | | |
| 25 | 10. | The EO must provide for an assessment of the effectiveness and efficiency of activities, including those in the context of the EP. | | + | | |
| | | <i>Information to be collected and analyzed within the framework of the EP should take into account:</i> | | | | |
| 26 | 11. | key performance indicator | | + | | |
| 27 | 12. | dynamics of the student population in terms of forms and types | | + | | |
| 28 | 13. | level of academic and other achievements of students and expulsion rate | | + | | |
| 29 | 14. | student satisfaction with the implementation of the EP and the quality of education at the university | | + | | |
| 30 | 15. | availability of educational resources and support systems for students | | + | | |

| | | | | | | |
|--|-----|--|----------|-----------|----------|----------|
| 31 | 16. | The EO must confirm the implementation of procedures for processing personal data of students, employees and teaching staff based on their documented consent. | | + | | |
| In total, according to the standard | | | 1 | 15 | 0 | 0 |
| Standard 3, «Development and Approval of an Educational Program» | | | | | | |
| 32 | 1. | The EO must define and document procedures for developing EPs and their approval at the institutional level. | | + | | |
| 33 | 2. | The management of the EP must ensure that the content of the EP corresponds to the established goals, including the intended learning outcomes. | | + | | |
| 34 | 3. | The management of the EP must demonstrate the availability of mechanisms for revising the content and structure of the EP, taking into account changes in the labor market, employer requirements and social demands. | | + | | |
| 35 | 4. | The management of the EP must ensure the availability of developed models of the EP graduate which describe learning outcomes and personal qualities. | | + | | |
| 36 | 5. | The management of the EP must demonstrate the conduct of external examinations of the content of EPs and the planned results of its implementation. | | + | | |
| 37 | 6. | The qualification awarded upon completion of the EP must be clearly defined and comply with a specific level of NQF and QF-EHEA. | | + | | |
| 38 | 7. | The management of the EP must determine the influence of disciplines and professional internships on the formation of learning outcomes. | | + | | |
| 39 | 8. | An important factor is the possibility of preparation of students for professional certification. | | + | | |
| 40 | 9. | The management of the EP must provide evidence of the participation of students, teaching staff and other interested parties in the development of the EP and ensuring of its quality. | | + | | |
| 41 | 10. | The management of the EP must ensure that the content of academic disciplines and planned results correspond with the level of education (bachelor's, master's, doctoral degrees). | | + | | |
| 42 | 11. | Various types of activities that ensure that students achieve planned learning outcomes should be envisaged in the structure of the EP. | | + | | |
| 43 | 12. | One of the important factors is the correspondence between the content of the EP and the learning outcomes of the EP implemented by higher education institutions (or) postgraduate studies in the EHEA. | | + | | |
| In total, according to the standard | | | 0 | 12 | 0 | 0 |
| Standard 4, «Continuous Monitoring and Periodic Evaluation of an Educational Program» | | | | | | |
| 44 | 1. | The EO must determine mechanisms for monitoring and periodically evaluating the educational program to ensure the achievement of the goal and satisfaction of the needs of students and society and demonstrate the direction of the mechanisms towards the continuous improvement of the educational program. | | + | | |
| <i>Monitoring and periodic evaluation of the EP should envisage:</i> | | | | | | |
| 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 | | + | | |
| 46 | 3. | changes in the societal needs and the professional environment | | + | | |
| 47 | 4. | student workload, academic performance and graduation of students | | + | | |
| 48 | 5. | effectiveness of student assessment procedures | | + | | |
| 49 | 6. | expectations, needs and satisfaction of students with the EP | | + | | |
| 50 | 7. | educational environment and support services, and their compliance with the goals of the EP | | + | | |

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| 51 | 8. | The management of the EP must demonstrate a systematic approach to monitoring and periodically assessing the quality of the EP. | | + | | |
| 52 | 9. | The EO, the management of the EP must determine a mechanism for informing all interested parties about any planned or taken actions in relation to the EP. | | + | | |
| 53 | 10. | All changes made to the EP must be made public. | | + | | |
| In total, according to the standard | | | 0 | 10 | 0 | 0 |
| Standard 5, «Student-centered Learning, Teaching and Assessment of Students' Performance»: | | | | | | |
| 54 | 1. | The management of the educational program must ensure respect and attention towards different groups of students and their needs, provide them with flexible learning tracks. | | + | | |
| 55 | 2. | The management of the educational program should provide for the usage of various forms and methods of teaching and learning. | | + | | |
| 56 | 3. | One of the important factors is the availability of own research in the field of teaching methods of the EP's academic disciplines. | | + | | |
| 57 | 4. | The management of the EP must demonstrate the availability of feedback mechanisms on the use of various techniques of teaching and learning assessment. | | + | | |
| 58 | 5. | The management of the EP must demonstrate the availability of mechanisms to support student autonomy with the simultaneous guidance and assistance from the educator. | | + | | |
| 59 | 6. | The management of the EP must demonstrate the availability of a procedure for responding to student complaints. | | + | | |
| 60 | 7. | The EO must ensure consistency, transparency and objectivity of the mechanism for assessing learning outcomes for each EP, appeal included. | | + | | |
| 61 | 8. | The EO must ensure that the procedures for assessing the learning outcomes of EP students comply with the planned results and goals of the EP, as well as ensure publication of criteria and evaluation methods in advance. | | + | | |
| 62 | 9. | The EO must define mechanisms for ensuring achievement of learning outcomes by each graduate of the EP and the completeness of the establishment of these learning outcomes should be ensured. | | + | | |
| 63 | 10. | Evaluators must be proficient in modern methods of assessment of learning outcomes and regularly improve qualifications in this field. | | + | | |
| In total, according to the standard | | | 0 | 10 | 0 | 0 |
| Standard 6, «Students» | | | | | | |
| 64 | 1. | The educational organization must demonstrate the availability of a policy for formation of student contingent in the context of EPs, ensure transparency and publication of its procedures regulating the life cycle of students (from admission to graduation). | | + | | |
| | | <i>The management of the EP must determine the procedure for forming student contingent based on:</i> | | | | |
| 65 | 2. | minimum requirements for applicants | | + | | |
| 66 | 3. | maximum group capacity when conducting seminars, practical, laboratory and studio classes | | + | | |
| 67 | 4. | predicting the number of government grants | | + | | |
| 68 | 5. | analysis of available material, technical, information resources and personnel potential | | + | | |
| 69 | 6. | analysis of potential social conditions for students, including provision of residency in dormitories | | + | | |
| 70 | 7. | The management of the EP must demonstrate availability to conduct special adaptation and support programs for newly admitted and foreign students. | | + | | |

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| 71 | 8. | The EO must demonstrate compliance of its actions with the Lisbon Recognition Convention and availability of a mechanism for recognizing the results of academic mobility students, as well as the results of additional, formal and informal learning. | | + | | |
| 72 | 9. | The EO should cooperate with other educational organizations and national centers of the «European Network of National Information Centers on Academic Mobility and Recognition/National Academic Recognition Information Centers» ENIC/NARIC to ensure comparable recognition of qualifications. | | + | | |
| 73 | 10. | The EO must provide the opportunity for external and internal mobility of students of the EP, as well as readiness to provide them with assistance in obtaining external grants for studying. | | + | | |
| 74 | 11. | The management of the EP must demonstrate its readiness to provide students with places for internships, assist in employment of graduates and maintain contact with them. | | + | | |
| 75 | 12. | The EO must envisage the possibility of providing graduates of the EP with documents confirming the obtained qualifications, including the achieved learning outcomes, as well as the context, content and status of the obtained education and evidence of its completion. | | | + | |
| In total, according to the standard | | | 0 | 11 | 1 | 0 |
| Standard 7, «Faculty Members» | | | | | | |
| 76 | 1. | The EO must have an objective and transparent personnel policy, including the EP, involving recruitment, professional growth and development of personnel, ensuring the professional competence of all staff. | | + | | |
| 77 | 2. | The EO must demonstrate accordance of personnel potential of the teaching staff with the specifics of the EP. | | + | | |
| 78 | 3. | The management of the EP must demonstrate awareness of responsibility for its employees and provide them with favorable working conditions. | | + | | |
| 79 | 4. | The management of the EP must demonstrate a change in the role of a teacher as the result of the transition to student-centered learning. | | + | | |
| 80 | 5. | The EO must determine the contribution of the teaching staff of the EP to the implementation of the development strategy of the EO and other strategic documents. | | + | | |
| 81 | 6. | The EO should provide opportunities for career growth and professional development of teaching staff of the EP. | | + | | |
| 82 | 7. | The management of the EP must demonstrate readiness for involvement in teaching of practitioners from relevant sectors of the economy. | | + | | |
| 83 | 8. | The EO must demonstrate the motivation for the professional and personal development of faculty members of the EP, including encouragement for the integration of scientific activities and education and the usage of innovative teaching methods. | | + | | |
| 84 | 9. | An important factor is the readiness to develop academic mobility within the EP, attract the best foreign and local teachers. | | | + | |
| In total, according to the standard | | | 0 | 8 | 1 | 0 |
| Standard 8, «Educational Resources and Student Support System»: | | | | | | |
| 85 | 1. | The EO must guarantee a sufficient number of educational resources and student support services to ensure achievement of the goal of the EP. | | + | | |
| 86 | 2. | The educational institution must demonstrate the sufficiency of material and technical resources and infrastructure, taking into account the needs of various groups of students of the EPs (adults, employed people, foreign students, as well as students with disabilities). | | | + | |

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| 87 | 3. | The management of the EP must demonstrate the availability of support measures for various groups of students, including communication (informing) and counseling. | | + | | |
| | | <i>The management of the EP must demonstrate the compliance of information resources with the specifics of the EP, including:</i> | | | | |
| 88 | 4. | technological support for students and teaching staff (for example, online training, modeling, databases, data analysis programs) | | + | | |
| 89 | 5. | library resources, including a fund of educational, methodological and scientific literature on general education, basic and major disciplines on paper and electronic medium, periodic publications, access to scientific databases | | + | | |
| 90 | 6. | examination of results of research work, graduation projects, plagiarism in dissertations | | + | | |
| 91 | 7. | access to educational online resources | | + | | |
| 92 | 8. | functional WI-FI on the territory of the educational organization | | + | | |
| 93 | 9. | The EO demonstrates planning for providing EP with educational equipment and software similar to those used in relevant sectors of the economy. | | + | | |
| In total, according to the standard | | | 0 | 8 | 1 | 0 |
| Standard 9, «Public Awareness» | | | | | | |
| | | <i>The EO must publish reliable, objective, up-to-date information about the educational program and its specifics, which should include:</i> | | | | |
| 94 | 1. | expected learning outcomes of the implemented educational program | | + | | |
| 95 | 2. | qualification and (or) qualifications which will be awarded upon completion of the educational program | | + | | |
| 96 | 3. | approaches to teaching, learning, as well as the system (procedures, methods and forms) of assessment | | + | | |
| 97 | 4. | information about passing scores and educational opportunities provided to students | | + | | |
| 98 | 5. | information about employment opportunities for graduates | | + | | |
| 99 | 6. | The management of the EP should provide a variety of ways to disseminate information, including the media and information networks to inform general public and stakeholders. | | | + | |
| 100 | 7. | Public awareness should envisage support and clarification of national development programs of the country and systems of higher and postgraduate education. | | + | | |
| 101 | 8. | The EO must demonstrate that the web resources reflect the information describing it in general and in the context of educational programs. | | + | | |
| 102 | 9. | One of the important factors is the availability of adequate and objective information about teaching staff of the EP. | | + | | |
| 103 | 10. | One of the important factors is informing the public about cooperation and interaction with partners within the EP. | | + | | |
| In total, according to the standard | | | 0 | 9 | 1 | 0 |
| TOTAL | | | 1 | 98 | 4 | |