



«АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТІҢ  
ТӘУЕЛСІЗ АГЕНТТІГІ» КЕМ

НУ «НЕЗАВИСИМОЕ АГЕНТСТВО  
АККРЕДИТАЦИИ И РЕЙТИНГА»

INDEPENDENT AGENCY FOR  
ACCREDITATION AND RATING

# REPORT

the results of the work of the external expert Commission for the evaluation for compliance with primary standards (Ex-Ante) specialized accreditation of educational programs of higher and postgraduate education (approved from of 25 may 2018 No. 68-18/1-OD)  
6B07204 Pharmaceutical production technology

**NLC "KARAGANDA INDUSTRIAL UNIVERSITY"**  
**in the period from 12 to 14 October 2020.**

*Addressed to  
To the Accreditation  
Council of People's Deputies*



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**(I) LIST OF DESIGNATIONS AND ABBREVIATIONS**

**AIS**-automated information system  
**DB**-Databases  
**VOOD** – External evaluation of academic achievements  
**University** – higher education institution  
**Technical College** – higher technical educational institution  
**VEC**-external expert commission  
**SSO** – State mandatory standard of education  
**DOT**-Distance Education technologies  
**UNT**-Unified National Testing  
**ECTS** – European Credit Transfer System  
**GxP** – ... Good Practice (good pharmacy practice)  
**GMP** – Good manufacturing practice (good manufacturing practice)  
**IEP** – Individual educational plan  
**KSIU**-Karaganda State Industrial University  
**KIU** – Karaganda Industrial University  
**KTA**-Comprehensive testing of applicants  
**QED**-Catalog of elective disciplines  
**MES RK** – Ministry of Education and Science of the Republic of Kazakhstan  
**MOS**-Modular educational program  
**IAAR** – Independent Agency for accreditation and rating  
**NAS** – National Academy of Sciences  
**NLC** – non-profit limited company  
**OP**-Educational programs  
**TS** – Teaching staff  
**PhD** – Doctor of Philosophy  
**RK** – Republic of Kazakhstan  
**RUMS**-Republican Educational and Methodological Council  
**RUP**-Working Curriculum  
**QMS**-Quality Management System  
**TVE** -Technical and vocational education  
**LLP**-limited liability partnership  
**SC**-Standard Curriculum  
**PPT**-Pharmaceutical production technology  
**EMCD**-Educational and methodological complex of the discipline  
**UMD**-Educational and Methodical Department  
**UMC**-Educational and Methodological Council

## (II) INTRODUCTION

In accordance with Order No. 79-20-OD of 24.09.2020. From October 12 to 14, 2020, the Independent Accreditation and Rating Agency (hereinafter referred to as the IAAR) conducted an external expert commission to assess the compliance of the educational program 6B07204. Pharmaceutical Production Technology (3rd cluster) NLC "Karaganda Industrial University" (hereinafter-KarIU) (Temirtau) meets the criteria of the standards of primary (ex-ante) specialized accreditation of the educational program of the organization of higher and postgraduate education (approved on May 25, 2018 No. 68-18 / 1-OD).

The report of the external expert Committee (VEC) provides an assessment of conformity submitted to the undergraduate criteria standards primary (ex-ante) specialized accreditation the IAAR, the recommendations of the VEC for further improvement of the educational program and the profile settings of the educational program.

### **Composition of the VEC:**

1. Chairman of the IAAR Commission-Mikhail Smirnov, Candidate of Technical Sciences, Professor, NLC "Shakarim University of Semey" (Semey);
2. Foreign expert of IAAR-Alexander Vorontsov, Candidate of Technical Sciences, Associate Professor, Dean of the Faculty of "Innovative Technologies of Mechanical Engineering", Yanka Kupala Grodno State University (Grodno, Belarus);
3. Foreign expert of IAAR-Narkevich Mikhail Yuryevich, Candidate of Technical Sciences, Associate Professor, Magnitogorsk State Technical University named after G. I. Nosov (Magnitogorsk, Russia);
4. IAAR expert-Abilmazhinov Yermek Tolegenovich, Doctor of Technical Sciences, Associate Professor (Associate Professor), NLC "Shakarim University of Semey" (Semey);
5. IAAR expert-Tashatov Nurlan Narkenovich, Candidate of Physical and Mathematical Sciences, Associate Professor, L. N. Gumilyov Eurasian National University (Nur-Sultan);
6. IAAR expert-Akaev Aibek Muratbekovich, Associate Professor, PhD, D. Serikbayev East Kazakhstan Technical University (Ust-Kamenogorsk);
7. IAAR expert - Vadim Markovsky, Candidate of Technical Sciences, Associate Professor, Toraiyrov University (Pavlodar);
8. IAAR expert-Torlanova Botagoz Ongarovna, Candidate of Pharmaceutical Sciences, Associate Professor, South Kazakhstan Medical Academy (Shymkent);
9. IAAR expert-Kartbayev Timur Saatdinovich, PhD, Academician of MAIN, Almaty University of Energy and Communications (Almaty);
10. IAAR expert - Aliya Kairatovna Aldungarova, PhD, Associate Professor, Toraiyrov University (Pavlodar);
11. IAAR employer - Sergey Kutlin, Director of the training center "Logic-Soft", nominated by the Chamber of Entrepreneurs of the Karaganda region (Karaganda);
12. IAAR student-Asanov Alikhan Altinbekuly, 2nd year master's student of OP "Construction", Karaganda Technical University, leader of the Alliance of Students of Kazakhstan in the Karaganda region (Karaganda);
13. IAAR student – Kuishybayeva Roza Maratkizi, 2nd year master's student of OP "Automation and Management", K. I. Satpayev Kazakh National Technical University (Almaty);
14. IAAR student-Kozhanova Adema Tlekkyzy, 3rd year student of OP "Pharmaceutical Production Technology", S.D. Asfendiyarov Kazakh National Medical University (Almaty);
15. Observer from the Agency-Kanapyanov Timur Yerbolatovich, PhD, Manager of International Projects and Public Relations of IAAR (Nur-Sultan)..

### (III) REPRESENTATION OF THE EDUCATIONAL ORGANIZATION

Non-profit limited Company " Karaganda Industrial University "( hereinafter referred to as KarIU, University, university) was established in September 2006 on the basis of JSC "Karaganda Metallurgical Institute". In accordance with Government resolution No. 705 of July 25, 2006, Karaganda metallurgical Institute was reorganized by Decree of the Cabinet of Ministers of RK dated 19.03.1993 from the Plant-Vtuz at the Karaganda metallurgical combine created, in turn, on the basis of branch of the Karaganda Polytechnic Institute in 1963 based on the Resolution of the CPSU Central Committee and USSR Council of Ministers №533 dated 9 may 1963 and of the Decision of the CPC Central Committee and the Council of Ministers of Kazakh SSR №615 dated 1 August 1963. In October 2001, in accordance with the Decree of the Government of the Republic of Kazakhstan dated 11.05.2001, Order No. 623, Karaganda Metallurgical Institute became a closed joint-stock company. On May 3, 2005 it was re-registered as JSC "Karaganda Metallurgical Institute".

The structure of the Karaganda Metallurgical Institute included three full-time faculties, a correspondence faculty, and a Kazakh department, where training was conducted in metallurgical, machine-building, construction, chemical and economic areas. There was a military department that trained signalmen-reserve officers. For the implementation of pre-university training at the Institute, the lyceum "Koktem" and the college were organized. Post-graduate training of specialists was carried out according to postgraduate and master's programs. In 2004, the Karaganda Metallurgical Institute began to switch to the credit technology of student education and training of engineering and technical personnel in accordance with the three – level system: bachelor – master-doctor Phd.

In 2006, the Karaganda State Industrial University was established on the basis of the Karaganda Metallurgical Institute. (Resolution of the Government of the Republic of Kazakhstan dated July 25, 2006, No. 705). This made it possible to expand the range of specialties in which the university trains engineering and technical personnel.

In June 2020, KSIU moved to a non-profit joint-stock company and was renamed Karaganda Industrial University (KarIU).

Training of personnel at cariu is carried out in 57 educational programs of bachelor's, master's and doctoral studies.

For more than 50 years, about 24 thousand people have become graduates of the university. More than 14,000 of them received engineering education during the years of independence. In general, for the period from 2015-2020, an average of 93.3% of graduates were employed.

Today, the university has 3 faculties: "Metallurgy and Mechanical Engineering", "Energy, Transport and Management Systems", "Economics and Construction", which include 12 departments. There is also a technical and economic college. The university has 59 specialized laboratories, a metallurgy center with 12 professional laboratories. On the basis of the university, the Karaganda regional center of the Cisco Network Academy was opened.

Library resources. The University has a modern library and reading room, which has more than 260 thousand copies of educational, educational and methodological, scientific literature in Kazakh, Russian and foreign languages. More than 30 titles of newspapers and magazines are issued annually. The University library is located in the main academic building of the university. In the periodicals hall, which is located inside the subscription, there are 12 computerized seats, with the ability to access the Internet and access the electronic resources of the library. The reading room is designed for 42 reading places. The fund of the reading room is located in 2 tiers in a systematic order, which ensures the completeness of the disclosure of funds and their accessibility to readers. For the convenience of readers, Wi-Fi is available on the subscription and in the reading room. On 01.01.2020 year, the Fund of Scientific library of University is 274 556 copies. storage units. Of these, in the state language-102,999 copies, in

English-1163 copies. Including on electronic carriers -55 975 copies. The library area is 1219 m<sup>2</sup>. The library has a specialized library program IRBIS-64, which is regularly updated.

The number of students. The contingent of full-time students as of October 01, 2020 is 2257 people, of which: on the basis of a state educational grant – 811. Distance learning – 659, evening training - 117, correspondence training - 440, undergraduates-53, of which 34 are under state order and doctoral students-18, of which 18 are under state order.

Staff of the university. Currently (as of 01.10.2020), the total number of full-time teachers at the university is 111 people, including 7 doctors of science, professors, 37 candidates of science, associate professors, PhD doctors - 12, undergraduates - 39. The average age of teaching staff at the university is 49 years.

The university has the following positive indicators:

- According to the Webometrics Ranking, the university ranks 66th (out of 122 universities).

- In KarIU, there is a UMO RUMS in the direction of "Metallurgy".

- The university has a unique educational, research and production laboratory base with semi-industrial installations in metallurgy and mechanical engineering, a factory-laboratory of 3D engineering (Department of Technological Machines and Transport), a regional center of the Cisco Network Academy and the SOTHEBY's information and communication center have been opened.

- Since 2018, the University has awarded Grants from the Academic Council of the University to graduates of schools – winners of the essay and multimedia projects competition.

- 5 joint educational programs have been developed (alsu, TSU Research Institute, Nosov Moscow State Technical University, Gorbachev State Technical University, Astrakhan State University).

- 5 students of the university are winners of the Republican contest "Best Student" and "Best Master's Student".

- Participation of cariou in the 30th and 31st International FRC Festivals in Sochi at the invitation of the President of the International FRC Union A.V. Maslyakov.

- For three years, active and successful students of Karaganda Industrial University, at the invitation of the head of the Office of the First President of the Republic of Kazakhstan – Elbasy, participate in the Republican training seminar in the Library of the First President of the Republic of Kazakhstan - Elbasy N. A. Nazarbayev.

- The University has a regional office "Rouhani gear", which is a dialogue platform for all ethnic and cultural associations of the city.

Training of personnel in cariou is carried out in accordance with the State license for educational activities in the field of higher and postgraduate professional education No. AB 0137432 dated 03.02.2010, appendix to the license for educational activities 02.04.2019, Astana.

Educational program 6B07204-Technology of pharmaceutical production (OP "PPT") is implemented in Cariou 2019 (License (License AB №0137432, the Application for a license Order by the acting Chairman of the Committee for control in education and science Ministry of education and science of the Republic of Kazakhstan from 02 April 2019 No. 330) (Appendix 2.1, 2.2).

The term of study is 4 years (on the basis of secondary education) and 2.5 years (on the basis of technical and vocational education and on the basis of higher professional education).

This educational program attracted graduates of schools and colleges of the corresponding profile.

The contingent of students on this educational program in the 2019 school year following – at the time of application for initial accreditation contingent to 88, then due to the outflow of students due to the pandemic 1 year graduated 84 people, with 52 people trained by the state educational grant on a fee basis 17 people and 15 people enrolled in distance learning full-time.

The total number of students enrolled in the OP "PPT" on 01.09.2020 is 134 people-1-2 courses, of which 84 people are enrolled in the 2nd course.

In 2020, a master's degree program was opened under the educational program "Pharmaceutical Production Technology".

The implementation of the OP "PPT" is carried out at the Department of "Chemical Technology and Ecology" since 2019. The Department of Chemical Technology and Ecology was initially organized as the Department of Chemical Technology in 1963, then, as the list of educational programs was expanded, it underwent a number of reorganizations and renaming in different years.

In 2007, the Department of "Chemical Technology" was joined by the section "Ecology", as a result of which the department was named "Chemical Technology and Ecology".

Since September 2018, the department is headed by Candidate of Chemical Sciences, Associate Professor Kabieva Saule Kazhhanovna.

The total staff of the department consists of 11 people, including 1 Doctor of Sciences, 5 candidates of Sciences, 1 doctor of PhD, 4 masters, of which 8 people participate in the implementation of the OP, including the head of the department, including 1 professor, 4 associate professors (candidate of Sciences).

Since this OP is undergoing primary accreditation, there is no information about the employment of graduates, academic mobility of students (sets of 2019 and 2020), participation in the ratings of educational programs, etc.

#### **(IV) DESCRIPTION OF THE VEC VISIT**

The work of the WEC (cluster 3) was carried out on the basis of the Program online visit of the expert Commission on primary OP specialized accreditation of bachelor 6B07204 - "Pharmaceutical production technology" NLC "KarIU" in the period from 12 to 14 October 2020.

To obtain objective information about the quality of educational programs and the entire infrastructure of NLC "KarIU", to clarify the content of self-assessment reports, meetings were held: with the Rector, Vice-rector for Academic Affairs, Vice-rector for Research and International Relations, Director of the Department for Educational Work and Youth Policy, Director of the Department for Human Resources, Director of the Department for Academic Policy, Director of the Department for Digital Transformation, Director of the Department for Operation and Development of Infrastructure, Director of the Department of Science and Innovation, the head of the office of technology commercialization, Director of Department for international cooperation, head of sector technical support sector Manager of support of information technology, Deputy chief accountant, head of the science library, head of sector document management Director of the Office of the Registrar, head of service centre students, the head of the center "Career", the head of the sector of accreditation, ratings and QMS, head of the preparatory Department "Foundation", the Deputy Dean at faculty "metallurgy and mechanical engineering", Deputy Dean of the Department "Energy, transportation and control systems", Deputy Dean of the faculty "Energy, transport and system management, heads of departments, staff of the Department "Chemical technology and ecology" - 5 person, students of the 2nd course (10 people). In total, 44 people took part in the meetings with the participation of experts of the 3rd cluster.

During the visual inspection of the university, the VEC was presented with a video describing the University's infrastructure as a whole.

Experts of the 3rd cluster visited the following laboratories online in Building A: "Processes and devices" (room 305), "Physical and chemical methods of analysis" (room 311), "Analytical Chemistry" (room 313), "Chemical technology of polymers" (room 316), Computer class (room 301a), in building B – laboratory "Organic Synthesis". All presented laboratories are used for conducting practical training and laboratory classes for students of 1-2 courses. During the online viewing, the faculty of the department acquainted the experts of cluster 3 with the research work carried out at the department, as well as with the prospects for the development of the department.



For the successful operation of the Department in the "Cloud" was uploaded the requested documents on the preparation of educational materials for accredited OP (with a list of issued textbooks, as well as indicating the literature, has been sent to print), a list of computer programs used in the educational process for students OP "6B07204 Pharmaceutical production technology" (further – OP on "PPT").

## **(V) DESCRIPTION OF THE PREVIOUS ACCREDITATION PROCEDURE**

Accreditation of the Bachelor's degree in the specialty 6B07204 - "Pharmaceutical production technology" in the NLC "Karaganda Industrial University "(Temirtau) was not previously carried out.

## **(VI) COMPLIANCE WITH PRIMARY (EX-ANTE) STANDARDS) SPECIALIZED ACCREDITATION (APPROVED BY NO. 68-18/1-OD DATED MAY 25, 2018)**

### **6.1. STANDARD " EDUCATIONAL PROGRAM MANAGEMENT»**

#### **The evidence part**

KarIU has documented the University's Mission, Quality Policy and Quality Objectives, approved at all levels of management, and aimed at confirming that all services provided by the university meet the requirements of consumers. The current updated versions of the University's Quality Policy and Quality Objectives were documented in 2018. (<https://kgiu.kz/qms/politics/>). The University aims at the realization of the Mission, Vision and Strategy of the NLC "KarIU" and involves the creation of a competitive, highly qualified specialists in the field of Pharmaceutical production technology, has a modern system of knowledge and competences necessary for active participation in industrial-innovative development of Kazakhstan that are in demand in the sphere of Economics in Kazakhstan and in the global scientific and educational space, as well as for the development of socially-oriented, highly cultured and competent person. As a priority of OP "6B07204-Pharmaceutical production technology" is to ensure Kazakhstan's pharmaceutical industry highly qualified and competitive human resources capable of working in modern pharmaceutical companies, complying with international GxP standards, the University attracts to the formation of OP undergraduate "PPT" staff of the Department of Chemical technology and Ecology, and employers.

The basis for the management of the educational program Director of the OP together with the management of the University (Educational-methodical Council of the University) with the participation of all stakeholders on the development Plan of OP "6B07204-Pharmaceutical production technology", which is aimed at improving the conditions for receiving full, quality professional education in accordance. Thus, the OP for "PPT" is aimed at implementing the above-mentioned strategic priorities for the development of the economy of the Republic of Kazakhstan.

The development plan of OP "6B07204-Pharmaceutical Production Technology" was developed by the graduating department and considered at the extended meeting of the Department "Chemical Technology and Ecology" dated September 02, 2019, Protocol No. 1 with the participation of representatives of all interested parties, on the basis of proposals and amendments to which changes were made to the project.

As the participation of representatives of stakeholders – businesses, scientific community, faculty and students in collegial bodies of management of the University is one of the most important components of successful development of OP, then a part of the enlarged meeting of the Department "Chemical technology and ecology" includes the following employers: DSC, Professor head of the laboratory "Synthesis of biologically active substances"

Institute of organic synthesis O. A. Nurkenov (Karaganda), corresponding member of NAS RK, doctor of chemistry, head of laboratory of International research and production holding "Phytochemistry" B. I. Tuleuov and Ph. D., Director of LLP "Karaganda Pharmaceutical Plant" Tolokonnikov E. G.

### **The analytical part**

The adequacy of measures aimed at the management of the educational program, supported by the available University resources, primarily the presence of Cariou License to conduct educational activities for training of the higher school (License AB №0137432) and the license Application (Order of the acting President of the Committee for control in education and science Ministry of education and science of the Republic of Kazakhstan from 02 April 2019 No. 330).

At the University, the positioning of the OP for "PPT" is determined by the following criteria: ensuring an appropriate level of education, a state-issued diploma, a fixed tuition fee, the availability of state grants, the presence of traditions, more than half a century of history, good reputation, modernity. Also, an important role in the positioning of the OP is the presence of the intellectual-educational environment: modern technologies of developing training system electives, elective courses, intellectual competitions of different levels (subject and inter-subject Olympiads, contests, tournaments, intellectual marathons, etc.), support system for gifted students, e-library, free access to full-text resources, which occupy a special place in the intellectual development of students.

The circle of stakeholders in the development and discussion of the OP, the OP Development Plan includes representatives of relevant organizations and institutions that represent the interests of specialists in the field of pharmaceutical production, and express opinions on its structure, content and compliance with the priorities and prospects for the development of the pharmaceutical industry of the Republic of Kazakhstan.

Among the activities aimed at the implementation of the Development Plan for the "PPT" are: the opening of a multilingual group, an increase in the share of teaching staff who speak English, international activities, the development of dual training, academic mobility programs for teaching staff and students.

Plan development was based on analysis of existing conditions and resources of the University, its educational activities were also taken into account key provisions of the implemented educational programs, queries practitioners.

However, at the time of accreditation (and earlier), the Development Plan of OP "6B07204-Pharmaceutical Production Technology" approved on 02.09.2019 was not presented on the University's website. It is recommended to place it on the page "Department" or on the page "Educational and methodical work of faculties" with simultaneous presentation of all changes made to the approved plan.

Since one of the evaluated criteria in the standard "Management of the educational program" for the accreditation of the OP is the implementation of risk management by the university management, it should be noted that the laboratories available at the department have created conditions for conducting practical and theoretical classes only in such basic disciplines as "Inorganic Chemistry", "Organic Chemistry", "Analytical Chemistry", "Processes and Devices of Chemical Technology», however, it has not been demonstrated the conditions for the provision of educational services in the relevant pharmaceutical disciplines with the provision of appropriate laboratory equipment, medicine, etc.

The self-assessment report shows that the teachers of the department responsible for the implementation of OP 6B07204-Pharmaceutical Production Technology will be trained in advanced training courses, but does not provide information on the training of the head of the department and the head of the OP in the educational management program.

Strengths/best practice according to OP 6B07204 – "Pharmaceutical production technology»: no.

**Recommendations for OP 6B07204 - " Pharmaceutical production technology»:**

- develop a mechanism for implementing transparency in the development of the development plan of the OP based on an analysis of its functioning (internal standard or documented procedure) with the definition of the responsible person;
- determine the volume and terms, as well as make public purchases for the 2021-2022 academic year of the necessary equipment, chemical reagents and medicines for equipping educational laboratories intended for mastering the disciplines of the pharmaceutical profile of the 3rd year (in accordance with the RUP);
- the management of the University to organize in the current academic year the passage of advanced training of the head of OP "6B07204-Pharmaceutical production technology" in the field of education management.

**Conclusions of the VEC on the criteria:**

According to the standard "Management of the educational program", the educational program 6B07204 - "Pharmaceutical production technology" has:

Strong positions-0,  
Satisfactory positions – 12,  
Positions that suggest improvement – 3,  
Unsatisfactory positions – 0

**6.2. STANDARD " INFORMATION MANAGEMENT AND REPORTING»**

***The evidence part***

General information about the university, the activities of the main departments, achievements and other information is available on the official website of the University [www.kgiu.kz](http://www.kgiu.kz)

The website contains the rector's blog, which provides communication with all interested parties (students and their parents, employers, teaching staff). There is information on all departments of the university. Parents can get information about students' academic achievements. The web portal of the university contains information on the following sections: education, science, applicants, library, university life, specialties, faculties and departments. On the site you can get information about the OP: scientific activities, international cooperation, information about the PPP, the Development Plan of the OP, CEDs, mops, etc.

The basis of information management is primarily the collection and analysis of information, which is carried out by periodic intra-university checks of the UMCD and the readiness of departments for the academic year, for each semester, internal audits, questionnaires of students, teaching staff, employers on the educational portal. The results of the analysis of the collected information is submitted to the University management for making decisions on restructuring of the University, on changes in the OP, the changes to the development Plan of OP and other documents.

Information management processes are carried out in accordance with the regulatory documents of the cari QMS P 4-27-1-2019 "On the official website of the KSIU", QMS P-4-27-2019 "On informing the public".

The university has an educational portal (<http://system.kgiu.kz/>).

There are subsystems for inter-session testing and student questionnaires, a distance learning system, e-mail between university departments, a bulletin board, etc. Assessment of students' knowledge is recorded in the AIS "Platonus" (<http://platonus.kgiu.kz/>).

Access to information is delimited by the use of individual usernames and passwords.

***The analytical part***

The analysis of the information on the OP for "PPT", presented on the university's website, is available to all participants of the OP. The development plan of OP "6B07204-Pharmaceutical Production Technology" was brought to the attention of teachers, students and employers through the Internet, meetings of the department and joint seminars and round tables. If necessary, all of them can participate in the procedures for changing and adjusting the OP development plan.

However, at the moment, the Report on the implementation of the points of the Development Plan of the OP "6B07204-Pharmaceutical Production Technology" is not available to the public through the cariu Internet resources, since the OP was first implemented only in the 2019-2020 academic year. At the same time, it should be noted that not all the activities included in this plan for the 2019-2020 academic year have been implemented. This is due to unforeseen force majeure circumstances – the introduction of quarantine in the country and the transition of the educational process to distance learning technology.

At the University, work on internal information is carried out according to the QMS StO II. 7-04. 02-2018 "Internal information".

The University ensures the confidentiality and integrity of information stored in the databases of information systems (in the internal resources of cariu). Access to the protected data of information systems is granted only to users who have the right to it. A username and password are used to authenticate users.

In the implementation of communication with the subjects of the educational process and other interested parties, the University actively uses the largest channel of communication technologies – the Internet. It makes it possible to constantly fill in and update existing information on the cariu website, electronic document management, in the database of AIS "Platonus", the KariU Portal, etc.

The system of information security of students, feedback is implemented through a system of social and control measures, starting from the first day of his studies and ending with the defense of his thesis. The system allows you to determine the degree of student satisfaction with the learning process and provides feedback to students through the information bases of the AIS "Platonus", the Portal of KSIU, where all the achievements of the student who has his login and password are noted. (<http://platonus.kgiu.kz/>)

***Strengths/best practice according to OP 6B07204 – " Pharmaceutical production technology»:*** no

***Recommendations for OP 6B07204 - "Pharmaceutical production technology":*** no

***Conclusions of the VEC on the criteria:***

According to the standard "Information management and reporting", the educational program 6B07204 - "Pharmaceutical production Technology" has:

Strong positions-0,

Satisfactory positions – 16,

Positions that suggest improvement – 0,

Unsatisfactory positions – 0.

### **6.3. STANDARD " DEVELOPMENT AND APPROVAL OF BASIC EDUCATIONAL PROGRAMS»**

***The evidence part***

Developed by the Department of Chemical Technology and Ecology OP "6B07204-Pharmaceutical production technology" for the preparation of bachelors in the field of pharmaceutical production in its content corresponds to one of the main principles of the Bologna Declaration: "from general to particular".

The developed OP on "PPT" was discussed at an extended meeting of the department with the invitation of employers and students, considered at the Faculty Council, presented at the UMS of the University and approved by the Academic Council of the University. The head of the department is responsible for carrying out these procedures. The development and approval of the OP was carried out in accordance with the QMS StO II.8-03.01-2018 "Design and development of educational services", QMS StO II.8-02.01-2018 "Processes related to consumers", QMS P 4-25-1-2018 "On the development of a modular educational program".

***The analytical part***

The cycle of basic disciplines of OP on "PPT" includes university components and elective components, which give students the basic knowledge and skills necessary for further study of the PhD cycle and mastering the basics of pharmaceutical production technology. Graduates of this OP can continue their master's degree in all known areas of pharmaceutical production technology.

The content of educational programs was developed taking into account the Dublin Descriptors and the European Qualifications Framework and is currently being implemented through working curricula and programs (typical for general education disciplines and syllabuses), presented on the University's website.

Training plans are developed in the forms provided by the credit technology of training: working training plans (RUP); individual training plans of students (IUP).

Since the content of the OP is subject to change and adjustment (in accordance with changes in the labor market), it provides a certain list of elective disciplines, which are presented in the QED, also posted on the university's website. The University provides a mechanism for making changes to the QED through the approval procedure. Changes in the cycle of compulsory disciplines are determined by new regulatory documents, letters of the Ministry of Education and Science of the Republic of Kazakhstan.

A distinctive feature of the OP for "PPT" developed at cariu is that this program is developed taking into account the interdisciplinary directions: chemical technology of organic compounds, synthesis of biologically active substances, pharmacology, pharmacy, biochemistry, physiology, toxicology, that is, the cornerstone of this OP is the training of process engineers who have the skills of chemical synthesis of medicinal substances. This interdisciplinary nature of the program will create favorable conditions for future graduates in employment.

The OP for "PPT" provides all types of industrial practice to deepen and consolidate the knowledge gained by students in the study of basic and core disciplines of the specialty; to study the organization of labor, to master practical skills in the use of various technologies and various tools at enterprises.

According to the analysis of the curriculum (RUP) by the experts of the 3rd cluster was identified that the approved Rūpa OP on "PPT" does not always adhere to rational sequence in the study of basic and specialized disciplines, So, in Rupa scheduled study of the discipline "Organic chemistry" in the 4th semester, and the study of the discipline "Analytical chemistry" to 3rd semester. In the opinion of experts of the 3rd cluster, it is optimal to first master the discipline "Organic Chemistry", and then – the discipline "Analytical Chemistry". The University also plans to study such disciplines as " Fundamentals of Pharmaceutical Technology "and" Technology of dosage forms and Biopharmaceuticals " in the 3rd year in one (5th) semester. In the opinion of experts of the 3rd cluster, to form the planned learning outcomes, it would be more logical (even based on the name of the disciplines) for students to first master the discipline "Fundamentals of pharmaceutical Technology" in the 5th semester, and the discipline "Technology of dosage forms and Biopharmaceuticals" to study in the 6th semester.

**Strengths/best practice according to OP 6B07204 – " Pharmaceutical production technology»: no**

***Recommendations for OP 6B07204 - " Pharmaceutical production technology»:-***  
review and approve at the Educational and Methodological Council of the university the rational

sequence of mastering the disciplines included in the educational program "Pharmaceutical production technology", taking into account their impact on the formation of learning outcomes

***Conclusions of the VEC on the criteria:***

***According to the standard "Development and approval of basic educational programs", the educational program 6B07204 - "Pharmaceutical Production Technology" has:***

Strong positions - 0,  
Satisfactory positions – 11,  
Positions that suggest improvement – 1,  
Unsatisfactory positions - 0

**6.4. STANDARD " CONTINUOUS MONITORING AND PERIODIC EVALUATION OF BASIC EDUCATIONAL PROGRAMS»**

***The evidence part***

At the University, each implemented OP is planned for annual review and improvement, passing external and internal examination procedures and ensuring the quality of educational services. Thus, the continuous monitoring of the quality of the OP for "PPT" includes internal and external evaluation of the OP.

Thus, in an internal evaluation of OP include: the rating Department and rating teaching staff involved in the implementation of this OP, the definition of the functions responsible for implementation of the OP by "PPT" in high school (i.e. other departments), self-assessment of OP within the framework of specialized accreditation, assessment of quality of teaching, including using the elements of DOT, the analysis of the results of interim certification etc.

External evaluation includes the OP – results of the EAEA (to be held for OP by "PPT" in the 2021-2022 academic year), specialized accreditation, the ranking of OP, Final state certification of students and others on the basis of the requirements of RK legislation and internal standards of the University.

Analysis of individual protocols presented in the Appendices to the Self-assessment Report showed that the department in accordance with the established schedule at the system level controls all types of activities (classroom, teaching, research, educational, independent work of students, etc.) with discussion at weekly operational meetings.

Currently, for the first time implemented at the University OP on "PPT" on the basis of internal assessment-review and approval of the Self-assessment Report - was submitted for external evaluation, that is, for consideration by an external expert commission within the framework of specialized primary accreditation.

***The analytical part***

In cariu, monitoring and evaluation of all implemented programs is carried out at the level of the department, dean's office and rector's office, with mandatory analysis and consideration of reports on the dynamics of the program's activities at meetings and making appropriate decisions for their implementation.

All interested parties take part in the periodic assessment and revision of the OP, which allows us to identify real production requests formulated by employers and other stakeholders. Employers ' participation in the revision of the OP is carried out by:

- participation of representatives of employers in the examination of OP, including in the formation of the content of practice-oriented disciplines;
- participation of students who can give their suggestions for teaching disciplines, including topics, changing the format of classes.

The analysis of the documents submitted for consideration by the external expert commission (Self-assessment Report, Appendix to the Self-Assessment Report) showed that for the external assessment of the OP "PPT" during its approval and implementation for

implementation in cariu, review was carried out by employers and stakeholders to identify real production requests formulated by employers and other stakeholders. During the reporting period, obtained reviews of the OP from the head of the laboratory of International scientific-production holding "Phytochemistry", doctor of chemistry, corresponding member of NAS RK Tuleuova, B. I., leading researcher of the laboratory of organic synthesis of Tomsk state University, D. H. N., Professor Bekibaev A. A., head of laboratory of Institute of organic synthesis, doctor of chemistry, Professor O. A. Nurkenov.

The criteria for external expert organizations are: professional activity in the field of pharmaceutical technology; the presence in the staff of a specialist who has completed training at a university in the specialty "Pharmaceutical production technology", an academic degree, etc.

Since the implementation is only considered OP with the 2019-2020 school year at faculty meetings of the methodological seminar, the issues of adjustment of the content of existing courses in the specialty and to eliminate redundant or introducing new elective courses to the present time was not considered.

Since the monitoring and periodic evaluation of the OP is aimed at the development and improvement of the OP itself, the expanded meeting of the Department of Chemical Technology and Ecology with the invitation of stakeholders and employers approved the Development Plan of the OP " Pharmaceutical Production Technology "for 2019-2022 (protocol" 1 of 02.09.2019). However, it should be noted that this document was not posted on the university's website at the time of the visit of the VEC.

***Recommendations for OP 6B07204 - " Pharmaceutical production technology»:***

- post the Development Plan of OP 6B07204 - "Pharmaceutical production technology" on the University's website, as well as annually update information on changes made to the OP.

Conclusions of the VEC on the criteria:

According to the standard "Continuous monitoring and periodic evaluation of basic educational programs", the educational program 6B07204 - "Pharmaceutical production technology" has:

Strong positions-0,

Satisfactory positions – 8,

Positions that suggest improvement – 1,

Unsatisfactory positions – 0.

**6.5. STANDARD " STUDENT-CENTERED LEARNING, TEACHING AND ASSESSMENT OF ACADEMIC PERFORMANCE»**

***The evidence part***

Training within the framework of the OP on "PPT" takes place for various groups of students. The training is conducted in Russian and the state languages. Groups based on trilingualism were created. For graduates of TVE organizations and persons with other higher education, training is conducted in an abbreviated form with the use of DOT (in KarIU 14 +1 = 15 students). Students are organized in a separate group.

Students are provided with information materials (<https://kgiu.kz/student/>), namely, a reference guide; an academic calendar for the academic year; individual curricula; catalogs of elective disciplines; working curricula of disciplines (Syllabus).

Students whose training is carried out on a contractual basis can form their own IEP with a smaller number of disciplines than provided for in the basic curriculum, while the duration of training in the selected disciplines increases.

Advisor of the Department of Chemical Technology and Ecology Kapparova T.S. works with each student and helps in determining his individual plan for the academic semester.

Thus, each student can choose different learning paths based on the CED.

**The analytical part**

Conducting open classes, seminars aimed at the application of innovative technologies

and teaching methods was initiated by the UMC of the University, the Faculty Council and the educational and methodological Council of the specialty. Over the past year, open classes with the use of innovative training technologies were conducted by: Isanova B. Kh., Amanzhol I. A., PhD Arbut G. S. Their experience is implemented by other teachers. Student-centered teaching methods make the course much more intensive, as they allow you to give more material and touch on a wider range of problems, educate students' independent work skills and promote the development of critical and non-standard thinking.

The level of knowledge of students is evaluated on a professional basis, taking into account modern developments in the field of organization of control of educational achievements. To check the educational achievements of students, the following types and forms of control of students' knowledge are provided: current control, boundary control, final control with putting down the results of boundary controls and intermediate certification in the statement in the AIS "Platonus". Responsibility for the organization and conduct of interim certification is assigned to the deans of faculties and heads of departments (QMS StO II. 10-01. 01-2018 "Control process"). The testing procedure is provided with a database of test tasks for each discipline, automated programs for combining options, processing results, and forming an examination sheet. The questions of examination papers given in the syllabus.

The knowledge assessment system allows you to determine the level of mastering theoretical knowledge, practical skills and research skills at different stages of training. It should be noted that the teachers of the department have started their own research in the field of teaching methods of educational disciplines of the OP. This is evidenced by published head. the Department of Kabaevoy C. co-authored the article "Technology of evaluation of educational achievements of students majoring in Pharmaceutical production technology at the Medical University of Karaganda" in proceedings of scientific conference "Transformation of education: the contents, technologies, quality", dedicated to the Day of the First President of the Republic of Kazakhstan (December 2019), which undoubtedly is a strong point in the activities of the Department.

Monitoring of students' satisfaction with teaching methods and the form of knowledge assessment is carried out by questioning them once a year.

Strengths/best practice according to OP 6B07204 – «Pharmaceutical production technology»

Strengths include:

- The presence in the Department "Chemical technology and ecology" jointly with the Medical University of Karaganda experience conducting their own research in the field of methods of teaching of disciplines of the educational program, namely co-authored the article "Technology of evaluation of educational achievements of students majoring in Pharmaceutical production technology at the Medical University of Karaganda»

***Recommendations for OP 6B07204 - " Pharmaceutical production technology»: no.***

***Conclusions of the VEC on the criteria:***

According to the standard "Student-centered learning, teaching and assessment of academic performance", the educational program 6B07204 - "Pharmaceutical Production Technology" has:

Strong positions – 1,

Satisfactory positions – 9,

Positions suggesting improvement-0,

Unsatisfactory positions – 0.

## **6.6. STANDARD " STUDENTS»**

***The evidence part***

The number of students of bachelor OP by "PPT" in Cariou was formed on the basis of competition on the state educational grant and contract (commercial basis): in the 1st semester of



the 2019-2020 school year to 88, but during the introduction in the Republic of Kazakhstan in the spring of 2020 quarantine 4 people left our country and was expelled from the University.

Undergraduate education is conducted on the basis of general secondary (secondary general), technical and professional, higher (higher professional) education. Persons entering the training program 6B07204 - " Pharmaceutical Production Technology "are subject to the requirements established by the Ministry of Education and Science of the Republic of Kazakhstan - the UNT certificate with a passing score of " 50 " or KTA (for college graduates). The work of the admissions committee is based on the QMS of PP 15-58-14. 34-2019 "On the Admissions Committee" (<https://kgiu.kz/abiturient/priemnaya-komissiya/>). Applicants can always get information about the OP for "PPT" and its content (MOS, QED, RUP) on the university's website.

The system for assessing the number of ECTS credits completed is based on the total labor intensity of the student's work required for the development of the educational program.

#### ***The analytical part***

The Department of Chemical Technology and Ecology is the issuing department for the OP in "PPT" and supervises students throughout the entire period of study. At the OP by the rector of the University appointed Advisor lecturer of this Department Kapparova T.S., which helps freshmen to adapt to the educational process at the University, in choosing an educational path and watching the whole process of students ' educational achievements. First-year students receive information and advice about the features of the educational process at the university from the curators of academic groups, who provide explanations on the academic policy intended for students, on the requirements for intermediate and final certification, on the rules for retaking exams in disciplines, on the procedure for expressing complaints, etc.

The department has introduced bilingualism-classes in certain disciplines ("General Chemical Technology", etc.) in the Kazakh stream are conducted in Russian. Teaching staff of the department are preparing for the opening of a multilingual group with the study of individual disciplines in English. Part of the teaching staff speaks a foreign language. Others have signed up for express English language courses as part of grant funding.

The program of academic mobility under the accredited OP has not yet been implemented at cariu, but in general, its implementation at the University is determined primarily by the presence of agreements on mutually beneficial cooperation with foreign universities and universities of the Republic of Kazakhstan, countries of near and far abroad in the field of science and education (see the University's website on the Main page section "Our Partners"). Within the framework of the OP for "PPT", the department has started work on concluding agreements on training under the academic mobility program with the Karaganda State University named after E.A. Buketov (g. Karaganda) and NLC "Medical University of Karaganda".

The Career Center has been created to provide students with adequate professional assistance in making career decisions and finding a job during their studies at the university or after graduation.

When implementing the OP, special attention is paid to attracting students to research work. The Department of Chemical Technology and Ecology is planning to carry out research work by performing program term papers and theses in the educational laboratories of the department.

To develop the creative, intellectual and sports potential of students, there are student creative associations and collectives: choreographic ensemble "Altair"; Kazakh and Russian leagues of the debate club; press center "KSIU studentterinin khabarshysy"; discussion club "Abadan", sports sections in various directions, etc.

#### **Strengths/best practices for OP 6B07204 - "Pharmaceutical Production technology"**

- no.

***Recommendations for OP 6B07204 - " Pharmaceutical production technology»: no.***

Conclusions of the VEC on the criteria:

According to the standard "Students", the educational program 6B07204 - "Pharmaceutical production technology" has:

Strong positions-0,

Satisfactory positions – 14,

Positions that suggest improvement – 0,

Unsatisfactory positions – 0.

## 6.7. STANDARD «TEACHING STAFF»

### *The evidence part*

At the Department of Chemical Technology and Ecology, the staff of teachers who ensure the implementation of the OP for "PPT" is formed in accordance with the QMS P 4-19-2018 "Rules for competitive replacement of positions of teaching staff and researchers" from highly qualified and competent teachers who have a fairly extensive experience in scientific, pedagogical and practical activities (Appendix 20).

Information about teachers involved in the implementation of the OP is available on the University's website (<https://kgiu.kz/faculty/fmis/chairs/htie/structure/>), it contains contact information, area of research interests, main achievements, availability of developments, information about professional development.

The work of the teaching staff is carried out in accordance with the Code of Ethics and Academic Integrity of the Teaching Staff and employees.

The department has an internal control system. For this purpose, a schedule of mutual visits of classes for semesters of the academic year is drawn up, the results of which are discussed at meetings of the department, and recorded in the minutes. There is also a schedule of open classes and seminars. The open lesson is discussed at the meeting of the scientific and methodological seminar of the department, and is formalized by a protocol.

The teacher's workload is reflected in the teacher's individual plan. It is considered at a meeting of the department and approved by the deans of the faculty. Without the decision of the department, it is forbidden to make changes to it. Every year, the faculty reports on the implementation of individual plans at the meetings of departments.

The practice of planning an educational and methodical publication has been introduced at the departments. For this purpose, every year the library draws up a list of disciplines that are insufficiently provided with literature. In accordance with this information, for the implementation of the OP for "PPT", teachers of the department developed and released 6 titles of educational and methodological literature of the pharmaceutical profile in 2019-2020, as well as 1 manual was sent to the press.

### *The analytical part*

The staff of the Department of Chemical Technology and Ecology is formed based on the volume of the academic load of the department and the contingent of students. Currently, the department has 11 teachers, including 1 Doctor of Medical Sciences, 4 candidates of Chemical Sciences, 1 Candidate of Biological Sciences, 1 Candidate of Technical Sciences, 1 Doctor of Philosophy (PhD), 3 masters of Engineering and Technology. The degree of the department is 73%. The department has 2 holders of the state grant "The best teacher of the university" in 2008-Isanova B. Kh., 2012-Kabieva S. K.

All teachers of the department, leading classes in 1-2 courses in the disciplines of OP "PPT" have a basic education that meets the qualification requirements of the educational program. This requirement is mandatory and strictly enforced in competitive selection of PPP as it is included in the list of criteria for licensing of educational activities of the MES RK.

It should be noted that for the development of the personnel of the department, as well as for conducting classes in the disciplines of the 3rd and 4th courses in 2017, masters Mantler S. N., Abilkanova F. Zh., Zhumanazarova G. M. entered the doctoral program at the Karaganda State University named after E. A. Buketov.

**Strengths/best practices for OP 6B07204 - "Pharmaceutical Production technology"**

- no.

***Recommendations for OP 6B07204 - " Pharmaceutical production technology»: no.******Conclusions of the VEC on the criteria:***

According to the standard "Teaching staff" educational program 6B07204 - "Pharmaceutical production technology" has:

Strong positions-0,

Satisfactory positions – 9,

Positions suggesting improvement-0,

Unsatisfactory positions – 0.

## **6.8. STANDARD " EDUCATIONAL RESOURCES AND STUDENT SUPPORT SYSTEMS»**

***The evidence part***

So as to ensure the quality of educational services and to guarantee sustainable development of educational organizations is to continuously improve infrastructure in the University to systematically work on improvement of material and technical resources that allows to carry out all types of theoretical and practical training of students under OP "PPT" at the 1st and 2nd courses in the curriculum, and also to carry out research work faculty on a comprehensive research theme of the Department involving students.

Students of OP on "PPT" have access to the use of all material resources presented on the university's website (<https://kgiu.kz/abuniv/mtbase/>)

To replenish the resource fund, based on the submission of the department, applications for the purchase of resources are submitted to the public procurement department. The results of public procurement are published on the web portal of Public Procurement of the Republic of Kazakhstan and the web portal of the University.

To ensure the educational process, independent training of students, the university library is provided with textbooks and teaching aids and scientific works, including in the state language. So, the main fund of the library for OP on "PPT" is-6194 units, of which in the Kazakh language – 4554, including: textbooks-4502, of which in the state language – 4437 units. The library user has the opportunity to use the database of electronic catalogs of the scientific library, which reflects the entire library fund, as well as full-text databases of electronic resources: to the resources of the Republican Interuniversity Electronic Library, the Kazakhstan National Electronic Library, to the world electronic resources of Thomson Reuters, Elsevier, Sciverse Scopus.

***The analytical part***

The classroom fund of the Department of Chemical Technology and Ecology includes 3 lecture halls for 30 and 60 seats; laboratory of "Organic Synthesis", designed to carry out scientific projects, diploma and master's theses related to the study of methods of fine organic synthesis, laboratory of "Physical and Chemical Analysis" for conducting laboratory classes in the discipline "Analytical Chemistry", laboratory of "Chemical Technology of polymers", designed to carry out scientific projects, diploma and master's theses related to the study of methods of polymerization and production of biologically active compounds for use in medical practice. The educational equipment used in the educational process reflects the specifics of educational programs. Conducted laboratory classes involve the acquisition and development of students ' skills to work on devices and installations of organic synthesis, deepening knowledge of the processes and devices of chemical-technological and chemical-pharmaceutical production in the laboratory "Processes and devices".

However, it should be noted that these laboratory set furniture, technological equipment (devices, units, laboratory glassware) used chemical reagents are not suitable for the development of the 3 year such disciplines pharmaceutical profile as "principles of

pharmaceutical technology", "Technology of medicinal forms and biopharmacy", "Fundamentals of pharmacognosy", "Pharmaceutical commodity science", in 4th course-"Industrial technology of drugs", "Machines and machines for packing and packaging dosage forms", etc. To conduct practical and laboratory classes in the above disciplines, classrooms should be equipped with equipment, medicines, plant raw materials and chemical reagents so that students master practical skills in the preparation of granules, tablets, injectable solutions, suppositories, ointments, syrups, gelatin capsules, extraction preparations, etc.

Computer fund of the department – 15 units, 2 laptops, 4 printers, 1 scanner, 1 copier, 1 projector, 1 screen. In the educational process, students who master the OP in "PPT" use such computer programs as Origin-a platform for numerical data analysis and scientific graphics, Chem Office, ACDLabs - packages of specialized programs - for the discipline "Information Technologies in the pharmaceutical industry" and the implementation of course design, the Compas 3D program designed to perform course and diploma projects, and an application for the acquisition of the Comsol program was submitted. All computers of the department have access to the Internet, that is, students and faculty of the department have free access to the Internet via wired access points (Wi-Fi) from any classroom of the department. A similar opportunity is available for students of OP on "PPT" , living in dormitories of the University.

The need of the laboratory for material resources is determined by the volume of the educational load on the main disciplines of the department and the volume of research work carried out at the department.

**Strengths/best practices for OP 6B07204 - "Pharmaceutical Production technology"**  
**- no.**

***Recommendations for OP 6B07204 - " Pharmaceutical production technology»:***

- to create educational laboratories of pharmaceutical profile at the department to ensure the conduct of classes in the 3rd year in the 2021-2022 academic year in the disciplines of pharmaceutical profile and further in the 4th year in the 2022-2023 academic year;
- equip the newly created pharmaceutical training laboratories with the necessary laboratory equipment, reagents and medicines to ensure that classes are held in the 3rd year in the 2021-2022 academic year in such disciplines as" Fundamentals of Pharmaceutical Technology"," Technology of dosage Forms and Biopharmaceuticals", "Fundamentals of Pharmacognosy"," Pharmaceutical Commodity Science", in the 4th year-" Industrial Technology of medicines"," Machines and automata for packaging and packaging of dosage forms", etc.for the formation of training results presented in the OP.

**Conclusions of the VEC on the criteria:**

According to the standard "Educational resources and student support systems", the educational program 6B07204 - "Pharmaceutical Production Technology" has:

Strong positions-0,

Satisfactory positions – 6,

Positions that suggest improvement-2,

Unsatisfactory positions – 0.

## **6.9. STANDARD " INFORMING THE PUBLIC»**

***The evidence part***

Provision and constant updating of information on the activities of the University as a whole, as well as on the educational services provided at cariu, is carried out in accordance with the approved internal standard of the QMS P 4-27-2019 "On informing the public" on the university's website <https://kgiu.kz/> and in the media. Informing the public about cooperation and interaction with partners within the framework of the OP, including scientific/consulting organizations, business partners, social partners and educational organizations, is carried out through the university's website, through ads in the media, on social media pages.

To address current issues, there is an email address of the Dean of the faculty, head of the department. All interested persons have free access to the staff of the department and the dean's

office.

***The analytical part***

All information about the OP for "PPT", including mops, rups and QED, is available on the university's website under the heading "Specialties", "Faculties and Departments". Information about teaching, the content of disciplines, the Policy of the department is indicated in syllabuses, umkds, which are placed in the AIS "Platonus". The appraisal procedure common for all OP, regulated by normative documents of MES and QMS of the University.

Teachers of the department annually give visiting lectures to students of district, city and regional schools. The department has a stand that informs about the specifics of the specialty, the results and achievements of the Department.

**Strengths/best practices for OP 6B07204 - "Pharmaceutical Production technology"**

- no.

***Recommendations for OP 6B07204 - "Pharmaceutical production technology": no.***

***Conclusions of the VEC on the criteria:***

According to the standard "Public awareness", the educational program 6B07204 - "Pharmaceutical production technology" has:

Strong positions-0,

Satisfactory positions – 10,

Positions that suggest improvement – 0,

Unsatisfactory positions – 0.

**6.10. STANDARD " TECHNICAL SCIENCES»**

***The evidence part***

The educational program 6B07204 - "Pharmaceutical production technology" is included in the group of technical sciences. Almost all innovations in engineering and technology are associated with the production of industrial medicines in accordance with the requirements of international standards of GMP, so the training of practice-oriented specialists of pharmacists-technologists who are able to solve professional problems in various branches of pharmaceutical production is of particular relevance today.

In the opinion of the experts cluster 3, such professional training can be given only by those professionals who have some work experience in pharmaceutical industry and know the practical value of the standards GxP, especially the standard of GMP, approved by Order of the Minister of health and social development of Kazakhstan from may 27, 2015 No. 392 (Annex 3 to the order MES RK №392).

***The analytical part***

In contrast to such areas of activity as metallurgy, coke chemistry, etc., the production of medicines is an activity based on the implementation of the requirements of the international standard of Good Manufacturing Practice (GMP), which guarantees the quality of medical and pharmaceutical products while providing the population with safe and effective medicines.

Realizing the importance of close interaction with production, the department has planned activities in the following areas: invitation to conduct classes for trained specialists from production; organization of production practices of students; scientific cooperation with enterprises; internships of teachers of the department in production; invitation to work on a permanent basis of specialists with long experience in pharmaceutical production, etc.; excursions to enterprises in the field of specialization (factories, research institutes, laboratories, etc.); conducting individual classes or entire disciplines at pharmaceutical enterprises; conducting seminars to solve practical problems that are relevant for enterprises that produce pharmaceutical and medical products, etc.

**Strengths/best practices for OP 6B07204 - "Pharmaceutical production technology"**

- no.

***Recommendations for OP 6B07204 - " Pharmaceutical production technology»:***

- to implement the disciplines of the pharmaceutical profile, include in the staff of the graduating department for this OP as a full-time teacher a specialist who has sufficient experience in the pharmaceutical enterprise and basic education in the specialty " Pharmaceutical production technology "or in the specialty"Pharmacy".

***Conclusions of the VEC on the criteria:***

According to the standard "Technical sciences", the educational program 6B07204 - "Pharmaceutical production technology" has:

Strong positions-0,

Satisfactory positions – 4,

Positions that suggest improvement – 1,

Unsatisfactory positions – 0.



**(VII) OVERVIEW OF STRENGTHS/ BEST PRACTICES FOR EACH STANDARD**

*For OP 6B07204 – "Pharmaceutical production technology»:*

*According to the Standard "Educational program Management"*

Strengths/best practices: none.

*According to the Standard "Information Management and Reporting"*

Strengths/best practices: none.

*According to the Standard "Development and approval of basic educational programs"*

Strengths/best practices: no.

*According to the Standard "Continuous monitoring and periodic evaluation of basic educational programs"*

Strengths/best practices: no.

*According to the Standard "Student-centered learning, teaching and Assessment of academic performance",*

the strengths/best practices can be attributed to:

\* The Department of "Chemical Technology and Ecology" has a joint experience with the Medical University of Karaganda in conducting its own research in the field of teaching methods of academic disciplines of the educational program, namely, the article "Technology of evaluating educational achievements of students of the specialty Pharmaceutical production technology at the Medical University of Karaganda" published in co-authorship.

*According to the Standard "Learners"*

Strengths/best practices: none.

*According to the "Faculty" Standard of*

Strengths/best practices: none.

*According to the Standard "Educational resources and student Support systems"*

Strengths/best practices: none.

*According to the "Public Awareness" Standard of*

Strengths/best practices: none.

*According to the Standard "Technical Sciences"*

Strengths/best practices: none.

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

*For OP 6B07204 – "Pharmaceutical production technology»:*

*According to the Standard " Educational program management»*

**Recommendations:**

- develop a mechanism for implementing transparency in the development of the development plan of the OP based on an analysis of its functioning (internal standard or documented procedure) with the definition of the responsible person;
- determine the volume and terms, as well as make public purchases for the 2021-2020 academic year of the necessary equipment, chemical reagents and medicines for equipping educational laboratories intended for the development of 3rd-year disciplines (in accordance with the RUP);
- the University management should ensure that the head of the OP "6B07204 – Pharmaceutical Production Technology" passes advanced training in the field of education management in the current academic year.

*According to the Standard " Information management and reporting»*

Recommendations: none

*According to the Standard " Development and approval of basic educational programs»*

Recommendations:

- review and approve at the Educational and Methodological Council of the university the rational sequence of mastering the disciplines included in the educational program "Pharmaceutical production technology", taking into account their impact on the formation of learning outcomes.

*According to the Standard " Continuous monitoring and periodic evaluation of basic educational programs»*

Recommendations:

- post the Development Plan of OP 6B07204 - "Pharmaceutical production technology" on the University's website, as well as annually update information on changes made to the OP.

*According to the Standard "Student-centered learning, teaching and assessment of academic performance»*

Recommendations: none

*According To The Standard " Students»*

Recommendations: none.

*According to the Standard " Teaching staff»*

Recommendations: none.

*According to the Standard "Educational resources and student support systems"*

Recommendations:

- to create educational laboratories of pharmaceutical profile at the department to ensure the conduct of classes in the 3rd year in the 2021-2022 academic year in the disciplines of pharmaceutical profile and further in the 4th year in the 2022-2023 academic year;
- equip the newly created pharmaceutical training laboratories with the necessary laboratory equipment, reagents and medicines to ensure that classes are held in the 3rd year in the 2021-2022 academic year in such disciplines as " Fundamentals of Pharmaceutical Technology," Technology of dosage Forms and Biopharmaceuticals," Fundamentals of



Pharmacognosy", " Pharmaceutical Commodity Science", in the 4th year- " Industrial Technology of medicines", " Machines and automata for packaging and packaging of dosage forms", etc.for the formation of training results presented in the OP.

***According to the Standard " Informing the public»***

Recommendations:

- management of accredited OP to provide full and objective information about the PPS involved in the implementation of the OP during the whole period of study, to include the staff of the reference Department (in addition to the main graduate Department), ensuring teaching of General and basic subjects.

***According to The Standard "Technical Sciences»***

***Recommendations:***

- to implement the disciplines of the pharmaceutical profile in the 2021-2022 academic year, include in the staff of the graduating department for this OP as a full-time teacher or part-time specialist who has sufficient experience in the pharmaceutical enterprise and basic education in the specialty "Pharmaceutical production technology" or in the specialty "Pharmacy".



**APPENDIX 1. EVALUATION TABLE «CONCLUSION OF THE  
EXTERNAL EXPERT COMMISSION»**

*According to the Standards of primary (ex-ante) specialized accreditation of the educational program of the organization of higher and postgraduate education (approved on May 25, 2018 No. 68-18/1-OD)*

№ п\п	№ п\п	Evaluation criteria	Position of the educational organization			
			Strong	Satisfactory	Implies improvement	Unsatisfactory
<b>Standard "Educational program Management"</b>						
1		The organization of higher and / or postgraduate education must have a published quality assurance policy. Quality assurance policies should reflect the relationship between research, teaching and learning.		+		
2		The organization of higher and (or) postgraduate education should demonstrate the development of a culture of quality assurance, including in the context of OP.		+		
3		Commitment to quality assurance should apply to any activity performed by contractors and partners (outsourcing), including the implementation of joint / double-degree education and academic mobility.		+		
4		Manual OP demonstrates a willingness to ensure the transparency of the development plan of OP based on the analysis of its functioning, the actual positioning of OO and focus its activities to meet the needs of the state, employers, students and other stakeholders. The plan should contain the terms of the beginning of the implementation of the educational program.			+	
5		The OP management demonstrates the existence of mechanisms for forming and regularly reviewing the OP development plan and monitoring its implementation, evaluating the achievement of training goals, meeting the needs of students, employers and society, and making decisions aimed at continuous improvement of the OP.		+		
6		The management of the OP should involve representatives of groups of interested persons, including employers, students and teaching staff in the formation of the development plan of the OP.		+		
7		OP leadership must demonstrate the individuality and uniqueness of the development plan of OP, its consistency with the national priorities and strategy of the organization and (or) post-graduate education.		+		
8		The organization of higher and (or) postgraduate education should demonstrate a clear definition of those responsible for business processes within the framework of the OP, an unambiguous distribution of job responsibilities of personnel, and the differentiation of functions of collegial bodies.		+		
9		The OP management must provide evidence of the transparency of the educational program management system.		+		

10		The management of the OP must demonstrate the existence of an internal quality assurance system for the OP, including its design, management and monitoring, their improvement, and fact-based decision-making.		+		
11		The management of the OP should carry out risk management, including within the framework of the OP undergoing primary accreditation, as well as demonstrate a system of measures aimed at reducing the degree of risk.			+	
12		The management of the OP should ensure the participation of representatives of employers, teaching staff, students and other interested persons in the composition of the collegial management bodies of the educational program, as well as their representativeness in making decisions on the management of the educational program.		+		
13		The OO should demonstrate innovation management within the framework of the OP, including the analysis and implementation of innovative proposals.		+		
14		The management of the OP should demonstrate evidence of readiness for openness and accessibility for students, teaching staff, employers and other interested parties.		+		
15		The management of the OP should be trained in educational management programs.			+	
Total according to the standard 15 criteria			-	12	3	-
<b>Standard "Information Management and Reporting"</b>						
16	1.	The OO should demonstrate the existence of a system for collecting, analyzing and managing information based on the use of modern information and communication technologies and software tools, and that it uses a variety of methods for collecting and analyzing information in the context of OP.		+		
17	2.	The management of the OP should demonstrate the existence of a mechanism for the systematic use of processed, adequate information to improve the internal quality assurance system.		+		
18	3.	OP management should demonstrate fact-based decision-making.		+		
19	4.	Within the framework of the OP, a system of regular reporting should be provided, reflecting all levels of the structure, including an assessment of the effectiveness and efficiency of the activities of departments and departments, and scientific research.		+		
20	5.	The OO should establish the frequency, forms and methods of evaluating the management of the OP, the activities of collegial bodies and structural divisions, senior management, and the implementation of scientific projects.		+		
21	6.	The OO should demonstrate the definition of the procedure and ensuring the protection of information, including the identification of responsible persons for the accuracy and timeliness of information analysis and data provision.		+		
22	7.	An important factor is the availability of mechanisms for involving students, employees and teaching staff in the processes of collecting and analyzing information, as well as making decisions based on them.		+		
23	8.	The management of the OP should demonstrate the existence of a mechanism for communication with students, employees and other stakeholders, as well as mechanisms for conflict resolution.		+		
24	9.	The OO should demonstrate that there are mechanisms in place to measure the degree of satisfaction with the needs of staff, staff and trainees within the framework of the OP.		+		
25	10.	The OO should provide for an assessment of the effectiveness and		+		

		efficiency of activities, including in the context of the OP.				
		Information intended for collection and analysis within the framework of the OP should take into account:				
26	11.	key performance indicators;		+		
27	12.	dynamics of the contingent of students in the context of forms and types;		+		
28	13.	academic performance, student achievement, and deduction;		+		
29	14.	satisfaction of students with the implementation of the OP and the quality of education at the university;		+		
30	15.	availability of educational resources and support systems for students.		+		
31	16.	The OO must confirm the implementation of the procedures for processing personal data of students, employees and teaching staff on the basis of their documentary consent.		+		
Total according to the standard 16 criteria			-	<b>16</b>	-	
<b>Standard "Development and approval of basic educational programs"</b>						
32	1.	The OO should define and document procedures for the development of the OP and their approval at the institutional level.		+		
33	2.	The management of the OP should ensure that the developed OP meets the established goals, including the expected learning outcomes.		+		
34	3.	The management of the OP should ensure that there are developed models of the OP graduate describing the learning outcomes and personal qualities.		+		
35	4.	The management of the OP must demonstrate the conduct of external examinations of the content of the OP and the planned results of its implementation.		+		
36	5.	The qualification awarded upon completion of the OP must be clearly defined and correspond to a certain level of the NSC.		+		
37	6.	The management of the OP should determine the impact of disciplines and professional practices on the formation of learning outcomes.			+	
38	7.	An important factor is the possibility of training students for professional certification.		+		
39	8.	The management of the OP must provide evidence of the participation of students, teaching staff and other stakeholders in the development of the OP, ensuring their quality.		+		
40	9.	The labor intensity of the OP should be clearly defined in Kazakhstan loans and ECTS.		+		
41	10.	The management of the OP should ensure that the content of academic disciplines and planned results correspond to the level of training (bachelor's, master's, doctoral).		+		
42	11.	The structure of the OP should provide for various types of activities that ensure that students achieve the planned learning outcomes.		+		
43	12.	An important factor is the correspondence of the content of the OP and the results of the training of the OP implemented by organizations of higher and (or) postgraduate education in the EHEA.		+		
Total according to the standard 12 criteria			-	<b>11</b>	<b>1</b>	
<b>Standard "Continuous monitoring and periodic evaluation of basic educational programs"</b>						
44	1.	The OO should define mechanisms for monitoring and periodic evaluation of the OP in order to ensure that the goal is achieved and meet the needs of students and society. The results of these processes should be aimed at continuous improvement of the OP.		+		

		Monitoring and periodic evaluation of the OP should include: the				
45	2.	content of programs in the light of the latest scientific achievements in a particular discipline to ensure the relevance of the discipline taught;		+		
46	3.	changes in the needs of society and the professional environment;		+		
47	4.	workload and academic performance of students;		+		
48	5.	effectiveness of student assessment procedures;		+		
49	6.	expectations, needs and satisfaction of students with training in OP;		+		
50	7.	educational environment and support services and their compliance with the goals of the OP.		+		
51	8.	The OO, the management of the OP should define a mechanism for informing all stakeholders of any planned or undertaken actions in relation to the OP. All changes made to the OP must be published.			+	
52	9.	The management of the OP should develop a mechanism for reviewing the content and structure of the OP, taking into account changes in the labor market, the requirements of employers and the social demand of society.		+		
Total according to the standard 9 criteria			-	8	1	-
<b>Standard "Student-centered learning, teaching and assessment of academic performance"</b>						
53	1.	The management of the OP should ensure respect and attention to different groups of students and their needs, and provide them with flexible learning paths.		+		
54	2.	The management of the OP should provide for the use of various forms and methods of teaching and learning.		+		
55	3.	An important factor is the availability of own research in the field of teaching methods of educational disciplines of the OP.	+			
56	4.	The management of the OP should demonstrate the existence of feedback mechanisms for the use of various teaching methods and evaluation of learning outcomes.		+		
57	5.	The management of the OP should demonstrate the existence of mechanisms to support the autonomy of students with simultaneous guidance and assistance from the teacher.		+		
58	6.	The management of the OP must demonstrate that there is a procedure for responding to complaints from students.		+		
59	7.	The OO should ensure consistency, transparency and objectivity of the learning outcomes assessment mechanism for each OP, including the appeal.		+		
60	8.	The OO should ensure that the procedures for evaluating the learning outcomes of OP students are consistent with the planned results and goals of the program. Criteria and methods of evaluation within the framework of the OP should be published in advance.		+		
61	9.	In the OO, mechanisms should be defined to ensure that each OP graduate achieves learning outcomes and ensures the completeness of their formation.		+		
62	10.	Evaluators should be familiar with modern methods of evaluating learning outcomes and regularly improve their skills in this area.		+		
Total according to the standard 10 criteria			1	9	-	-
<b>Standard "Students"</b>						
63	1.	The OO should demonstrate the existence of a policy for the formation of a contingent of students in the context of OP from		+		

		admission to graduation and ensure transparency of its procedures. Procedures governing the life cycle of students (from admission to completion) should be defined, approved, and published.				
		The management of the OP should determine the order of formation of the contingent of students based on:		+		
64	2.	minimum requirements for applicants;		+		
65	3.	maximum size of the group during seminars, practical, laboratory and studio classes;		+		
66	4.	forecasting the number of state grants;		+		
67	5.	analysis of available material and technical, information resources, human resources;		+		
68	6.	analysis of potential social conditions for students, including the provision of places in the hostel.		+		
69	7.	The management of the OP should demonstrate its readiness to conduct special adaptation and support programs for newly enrolled and foreign students.		+		
70	8.	The NGO must demonstrate that its actions comply with the Lisbon Recognition Convention.		+		
71	9.	The NGO should cooperate with other educational organizations and national centers of the "European Network of National Information Centers for Academic Recognition and Mobility/National Academic Recognition Information Centers" ENIC/NARIC to ensure comparable recognition of qualifications.		+		
72	10.	The management of the OP should demonstrate the existence of a mechanism for recognizing the results of academic mobility of students, as well as the results of additional, formal and non-formal training.		+		
73	11.	The OO should provide opportunities for external and internal mobility of OP students, as well as readiness to assist them in obtaining external grants for training.		+		
74	12.	The management of the OP should demonstrate its readiness to provide students with places of practice, promote employment of graduates, and maintain communication with them.		+		
75	13.	OO needs to be able to provide graduates with OP documents confirming obtained qualifications, including achieved learning outcomes and the context, content and status of education and evidence of its completion.		+		
76	14.	An important factor is the availability of mechanisms for monitoring the employment and professional activities of graduates of the OP.		+		
Total according to the standard 14 criteria			-	<b>14</b>	-	-
<b>Standard "Teaching staff"</b>						
77	1.	The OO should have an objective and transparent personnel policy, including in the context of the OP, including recruitment, professional growth and development of personnel, ensuring the professional competence of the entire staff.		+		
78	2.	The PO must demonstrate that the staff capacity of the PPP corresponds to the development strategy of the PO and the specifics of the OP.		+		
79	3.	The management of the OP must demonstrate an awareness of responsibility for its employees and provide them with a favorable working environment.		+		
80	4.	The management of the OP should demonstrate a change in the role of the teacher in connection with the transition to student-centered learning.		+		

81	5.	The OO should determine the contribution of the PPP of the OP to the implementation of the development strategy of the OO, and other strategic documents.		+		
82	6.	The OO should provide opportunities for career growth and professional development of the staff of the OP.		+		
83	7.	The management of the OP should demonstrate a willingness to involve practitioners of the relevant industries in teaching.		+		
84	8.	The OO should demonstrate motivation for the professional and personal development of teachers of the OP, including encouragement for the integration of scientific activities and education, the use of innovative teaching methods.		+		
85	9.	An important factor is the readiness to develop academic mobility within the framework of the OP, to attract the best foreign and domestic teachers.		+		
Total according to the standard 9 criteria			-	<b>9</b>	-	-
<b>Standard "Educational resources and student Support systems"</b>						
86	1.	The OO should ensure that there are sufficient training resources and student support services that meet the objectives of the OP.			+	
87	2.	The OO must demonstrate the adequacy of material and technical resources and infrastructure, taking into account the needs of different groups of students in the context of OP (adults, working, foreign students, as well as students with disabilities).		+		
		OP management should demonstrate that there are procedures in place to support different groups of students, including information and counseling. The management of the OP must demonstrate that information resources correspond to the specifics of the OP, including:				
88	3.	technological support for students and teaching staff in accordance with educational programs (for example, online training, modeling, databases, data analysis programs);		+		
89	4.	library resources, including the collection of educational, methodological and scientific literature on general education, basic and profile disciplines on paper and electronic media, periodicals, access to scientific databases;		+		
90	5.	examination of research results, graduation papers, dissertations for plagiarism;		+		
91	6.	access to educational online resources;		+		
92	7.	functioning of WI-FI on the territory of the educational organization.		+		
93	8.	The OO should strive to ensure that the training equipment and software intended for use in the development of educational programs are similar to those used in the relevant industries.			+	
Total according to the standard 8 criteria			-	<b>6</b>	<b>2</b>	-
<b>Standard "Informing the public"</b>						
		The NGO must publish reliable, objective, up-to-date information about the educational program and its specifics, which should include:				
94	1.	expected learning outcomes of the educational program being implemented;		+		
95	2.	qualifications and / or qualifications to be awarded upon completion of the educational program;		+		
96	3.	teaching and learning approaches, as well as the system (procedures, methods and forms) of assessment;		+		
97	4.	information about passing scores and learning opportunities provided to students;		+		
98	5.	information about employment opportunities for graduates.		+		

99	6.	The management of the OP should provide for a variety of ways to disseminate information, including the media, information networks to inform the general public and interested persons.		+		
100	7.	Public awareness should include support and clarification of the national development programs of the country and the system of higher and postgraduate education.		+		
101	8.	The public organization should demonstrate the reflection on the web resource of information that characterizes it in general and in the context of educational programs.		+		
102	9.	An important factor is the availability of adequate and objective information about the PPP of the OP.		+		
103	10.	An important factor is to inform the public about cooperation and interaction with partners within the framework of the OP.		+		
Total according to the standard 10 criteria			-	<b>10</b>	-	-
<b>Standards in the context of individual specialties</b>						
<b>TECHNICAL SCIENCES</b>						
		Educational programs in the areas of "Technical sciences", for example, such as "Pharmaceutical production technology", etc., must meet the following requirements:				
104	1.	OP should include disciplines and activities aimed at obtaining practical experience and skills in General and majors in particular disciplines, including:		+		
105	2.	- excursions to the enterprises for specialization (plants, shops, research institutions, laboratories, educational-experimental farms, etc.)			+	
106	3.	- conduct individual sessions or entire disciplines in the enterprise specialization;		+		
107	4.	- conducting seminars to solve practical problems relevant to enterprises in the field of specialization, etc.; The		+		
108	5.	teaching staff involved in the education program should include as full-time teachers, practitioners who have long-term experience as a full-time employee at enterprises in the field of specialization of the education program.		+		
<b>Total according to the standard 5 criteria</b>			-	<b>4</b>	<b>1</b>	-
<b>TOTAL of 108 criteria</b>			<b>1</b>	<b>99</b>	<b>8</b>	