



«АККРЕДИТТЕУ ЖӘНЕ РЕЙТИНГТИҢ  
ТӘУЕЛСІЗ АГЕНТТІГІ» КЕМ

НУ «НЕЗАВИСИМОЕ АГЕНТСТВО  
АККРЕДИТАЦИИ И РЕЙТИНГА»

INDEPENDENT AGENCY FOR  
ACCREDITATION AND RATING

# REPORT

of external expert commission on the results of the evaluation  
of the educational programs 5B060200-"Informatics",  
5B060600-"Chemistry", 6M060200-"Informatics"  
of Aktobe Regional State University named after K.Zhubanov

28 November - 30 November, 2017

Aktobe 2017

**INDEPENDENT AGENCY FOR ACCREDITATION AND RATING**  
*External expert commission*

*Addressed to*  
*Accreditation advice of the IAAR*



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## (I) LIST OF SYMBOLS AND ABBREVIATIONS

**ARSU** – Aktobe Regional State University  
**AMP** – Administrative and management personnel  
**BD** – Basic Disciplines  
**EEAA** – External evaluation of academic achievements  
**EW** - Educational work  
**SAC** – State Attestation Commission  
**SSCE** – State Standard for Compulsory Education  
**DLT** – Distance Learning Technologies  
**UNT** – Unified National Testing  
**ICT** – Information and Communication Technologies  
**IS** – Information Systems  
**IC** – Individual curriculum  
**FL** – Foreign language  
**EC** – Elective course  
**CYA** – Committee for Youth Affairs  
**ESCC** – Education and Science Control Committee of the Ministry of Education and Science of the Republic of Kazakhstan  
**CT** – Complex testing  
**CTT** – Credit Technology Training  
**QED** – Catalog of elective disciplines  
**MES of the RK** – Ministry of Education and Science of the Republic of Kazakhstan  
**MEP** – Modular educational programs  
**NAS** – National Academy of Science of the Republic of Kazakhstan  
**SRW** – Scientific Research work  
**SRWU** – Scientific research work of undergraduates  
**SRWS** – Scientific Research work of students  
**STC** – Scientific and Technical Council  
**PD** – profiling disciplines  
**GED** - General educational disciplines  
**EP** - Educational Programs  
**MS** – Major subjects  
**AS** – Academic staff  
**EPD** – Editorial and Publishing Department  
**WC** – Working curriculum  
**DLS** – Distance Learning System  
**IWU** – Independent work of undergraduates  
**IWS** – Independent work of students  
**IWSGT** – Independent work of students under the guidance of a teacher  
**SC** – Standard curriculum  
**TSS** – Training and support staff  
**AA** – Accounting and Audit  
**EMC** – Educational-methodical complex  
**EMCD** – Educational-methodical complex of discipline  
**EMCP** – Educational-methodical complex of practice  
**EMCS** – Educational-methodical complex of specialty  
**TMC** – Teaching and Methodology Council  
**PhD** – Doctor of Philosophy  
**EEMC** – Electronic educational and methodical complex  
**EEMCD** – Electronic educational and methodical complex of discipline

## (II) INTRODUCTION

In accordance with Order No. 46-17-OD of September 25, 2017 of the Independent Accreditation and Rating Agency, from November 28 to 30, 2017, the external expert commission assessed the conformity of educational programs 5B060200-Informatics, 5B060600-Chemistry, 6M060200-Informatics of Aktyubinsk Regional State University named after K. Zhubanov to the standards of specialized accreditation of the NAAR (approved on February 24, 2017 No. 10-17-OD, fifth edition).

The report of the external expert commission (EEC) contains an assessment of the submitted educational programs to the criteria of the NAAR, recommendations of the EEC for further improvement of educational programs and profile parameters of the educational programs of K. Zhubanov Regional State University of Aktobe.

EEC composition:

1. Chairman of the Commission - Pak Yuri Nikolaevich, Doctor of Technical Sciences, Professor of Karaganda State Technical University (Karaganda);
2. Foreign expert - Tayirov Mitalip Muratovich, Doctor of Physics and Mathematics, Professor of Batken State University (Kyzyl-Kya, Kyrgyz Republic);
3. Foreign expert - Vyazmin Yuri Nikolaevich, Cand. Sc. Pedagogy, Professor, Director of the Center for Additional Professional Education and Innovative Technologies of L. and M. Rostropovich State Institute of Arts of Orenburg, expert of the Guild of Experts in the field of vocational education of the National Accreditation Centre (Orenburg, The Russian Federation);
4. Expert - Zhanara Y. Aubakirova, Doctor of Economics, Professor of the Department of Economics of the Higher School of the al-Farabi Kazakh National University (Almaty);
5. Expert - Kulakhmetova Mergul Sabitovna, Cand. Sc. Philology, Associate Professor of S. Toraigyrov Pavlodar State University (Pavlodar);
6. Expert - Tatarinova Lola Furkatovna, Cand. Sc. Law, Associate Professor of the University "Turan" (Almaty);
7. Expert - Duisembiev Marat Zholdasbekovich, Ph.D., Associate Professor of the Department, L.N. Gumilev Eurasian National University (Astana);
8. Expert - Kokshinova Svetlana, Honored Worker of Kazakhstan, Dean of the Pedagogical Faculty of the Kazakh National Academy of Choreography (Astana);
9. The employer - Damilia B. Kunanova, Head of the Human Capital Development Department of the Chamber of Entrepreneurs "Atameken" of Aktobe oblast (Aktobe);
10. Student - Baimaganbetova Aidana Samatkyzy, 3rd year student of Kazakh-Russian International University (Aktobe);
11. Student - Tynyshtik Aidana Boltekyzy, 4<sup>th</sup> year student of S. Baishev Aktobe University (Aktobe);
12. Student - Bashimova Muldir Askarkhizy, 4<sup>th</sup> year student of Kazakh-Russian International University (Aktobe);
13. IAAR Observer - Niyazova Guliyash Balkenovna, Project Manager for Institutional and Specialized Accreditation of Higher Education Institution of the IAAR (Astana).

## (III) PROFILE OF THE ORGANIZATION OF EDUCATION

Kudaibergen Zhubanov Aktobe Regional State University (K. Zhubanov ARSU) is one of the leading regional universities in western Kazakhstan. The university is the legal successor of the Aktobe Pedagogical Institute, founded in 1966. In 1990, the institute was named after the first Kazakh professor-linguist Kudaibergen Zhubanov. On May 7, 1996 the institute was reorganized into the K.Zhubanov Aktobe University. January 31, 2001 the university received the status of a "state" one.

By the Decree of the Government of the Republic of Kazakhstan dated 03.02.2004 No. 128 the university was reorganized with the separation of the Aktobe Pedagogical Institute from its structure. By the Decree of the Government of the Republic of Kazakhstan No. 529 of May 29, 2013, the K. Zhubanov Aktobe State University and the Aktobe State Pedagogical Institute were reorganized, by merging into the Kudaibergen Zhubanov Aktobe Regional State University.

The mission of the university is to prepare competitively trained specialists who are in demand on the labor market for the western region and the country as a whole, and in the spirit of Kazakhstan patriotism.

The Vision of the University: the development of the University that is competitive within the country, oriented toward the status of a spiritual center of the western region and a national university.

K. Zhubanov ARSU conducts academic activity in training specialists according to state license No. 13014680 issued by the Ministry of Education and Science of the Republic of Kazakhstan on September 17, 2013 in 8 directions of higher education "Education" (22 specialties), "Humanities" (4 specialties), "Law" ( 1 specialty), "Art" (2 specialties), "Social sciences and business" (7 specialties), "Natural sciences" (6 specialties), "Technical sciences and technologies" (10 specialties), "Services" (2 specialties) and in 20 specialties of postgraduate education (19 Master's degree programs and 1 PhD).

The material and technical base of the university that meets modern requirements consists of 7 educational buildings, a Park of innovative technologies, a training and production site, research laboratories, the Palace of Students (800 seats), the Palace of Youth (900 places), training facilities, sports complex, sports facilities, swimming pool "Dolphin", in all buildings there are dining rooms, gyms, medical centers, 2 student dormitories (1200 places) and 1 hostel (500 seats) is in the phase of putting into operation, Center of Student Services, "Media Center", Institute "Confucius" library. Also in the university there are the following specialized rooms: M. Aryn, G. Nuryshev, D. Berkimbaev, K. Zhubanov.

The scientific base of the university includes: Research Institute "Institute for Humanitarian Research"; research centers: "Applied Mathematics and Informatics", "Radiation Physics of Materials", "History, Ethnography and Archeology"; Educational and production center; scientific laboratories "Nanotechnology", "Zhubanov studies".

In the Park of innovative technologies there are: 16 scientific laboratories, the project office "Spiritual Modernization", the Commercialization Office, the Research Center "Applied Mathematics and Informatics", the Research Center "Chinese studies", the technical offices, the printing house.

The structure of the university includes: 10 faculties (Physics and Mathematics, Foreign languages, Natural Sciences, Philology, Engineering, History, Economics and Law, Pedagogy, Vocational and Part-time Department). There are 31 departments at these faculties.

The university has the following structural units: the Department for Academic Affairs and Educational Quality Assessment, the Department of Science and Innovation Programs, the Department of Social Affairs and Youth Policy, the Financial and Economic Department, the Center for International Cooperation, the Institute of Continuing Education, the Center for Digital Technologies, the Admission Commission.

As of October 1, 2017, the student number is 10,473 people. They are: 7808 full-time students, 2665 part-time students. 2712 students are a state grant holders. 4570 students are from regions, other regions and countries. The number of employed graduates in 2017 was 1,682 people (74.7%).

The total number of the academic staff is 670 people. The number of teachers with academic degrees is 292 (45.8%), including 27 Doctors of sciences, 252 Cand. Sc., 13 PhDs, holders of honored titles in the field of arts, physical culture and sports - 6, Masters - 194.



#### (IV) DESCRIPTION OF THE EEC VISIT

The work of the EEC was carried out on the basis of the program of the visit of the expert commission for the specialized accreditation of educational programs at K. Zhubanov Regional State University of Aktobe from November 28 to 30, 2017.

To obtain objective information about the quality of the accredited educational programs and the entire infrastructure of the university, the contents of the self-assessment reports were refined: meetings with the rector, vice-rectors in the areas of activity, deans, department heads (Department for Academic Affairs and Education Quality Assessment, Financial and Economic Department, Department of Scientific and Innovation Programs, Institute of Continuing Education, Center for International Cooperation, Digital Technologies, Department of management of personnel and legal services, the department of postgraduate education, the department of vocational guidance and pre-university training, the organization of records management, the accreditation and rating department, the scientific library, the registrar office, the admissions office, etc.), heads of departments, teachers, students, graduates, employers. Totally, 112 people took part in the meetings (table 1).

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

Category of participants	Amount
Rector	1
Pro-rectors	3
Heads of structural subdivisions	16
Faculty Deans	5
Heads of Departments	7
Teachers	20
Students, postgraduates	20
Graduates	20
Employers	20
Total	112

During the tour, the members of the EEC familiarized themselves with the state of the material and technical base, visited the Dean's office of the Physics and Mathematics Faculty, the Department of Informatics and Information Technology, lecture rooms, the park of innovative technologies, the student service center, the Confucius Institute, the Students Palace, the Youth Palace, sports complexes, Health Centre, Students' hostel and University museum.

Within the framework of the EEC visit, observation of classes was organized.

Table 1. Observation of classes. 5B060200 –"Informatics", 6M060200 –"Informatics" EP

Date, time and classroom	Discipline, the theme of classes	Teacher's name	Program	Methodical support
11/29/2017, 3 lesson, 410 lecture hall	Algorithms and data structures  Topic: "Dynamic Structure Design »	Cand. Sc. Pedagogy, Associate Professor Baibaktina A.T.	5B060200- Informatics, 1 year, Kazakh department	PC, Borland Pascal 7.0 software, methodical instructions for laboratory studies, and the EMCD.

29.11.2017., 3-lesson, 406 lecture hall	Structure,: Topic: "Structures in dynamic memory. Lists »	Cand. Sc. Physics and Mathematics M.Zh. Talipova	5B060200- Informatics, 1 year, Russian department	PC, Borland Pascal 7.0 software, methodical instructions for laboratory studies, EMCD.
11/29/2017, 3-lesson, 509 lecture hall	Programming in Scada systems, Theme: "Techno ST language. Techno FBD language»	lecturer Sarsenbaeva Z.K.	5B060200- Informatics, 3rd year, Kazakh department	PC, TRACE MODE, methodical indication for laboratory labs, EMCD.

Table 2. Observation of classes. 5B060600 – "Chemistry"

№		Subject	Subject occupations	Type of lessons	Course	Time
1	Tastanova L.K.	Technical thermodynamics	Compressor and refrigerating installations	practical	3 Kaz	9 <sup>30</sup> - 10 <sup>20</sup> 208ПC
2	Makhambetova Zh. K.	Chemistry	Corrosion	laboratory	1 Kaz	9 <sup>30</sup> - 10 <sup>20</sup> 109
3	Apendina A.K.	Chemistry	Corrosion	laboratory	1 Kaz	9 <sup>30</sup> - 10 <sup>20</sup> 111
4	Karaturina A.M.	Oil and oil products analysis	Determination of physical and chemical parameters of light petroleum products	laboratory	4 Kaz	8 <sup>30</sup> - 09 <sup>20</sup> 102
5	Agisheva A.A.	Polymers Chemistry	Chemical properties of polymers	lecture	3 Rus	12 <sup>40</sup> -13 <sup>30</sup>
6	Almuratova K.K.	Chemistry of coordination compounds	Obtaining complex compounds of copper, silver and iron	laboratory	2 Kaz	12 <sup>40</sup> -14 <sup>30</sup>
7	Duzelbayeva S.D.	Mechanisms of reaction in organic chemistry	Oxidation-Reduction Reactions	laboratory	2 Kaz	12 <sup>40</sup> -14 <sup>30</sup>
8	Beketova G.K.	OXT	Types of chemical reactors	practical	4 Kaz	9 <sup>30</sup> - 10 <sup>20</sup> 207



During the observation of the educational process, the classes of teachers of the EP 5B060200, EP 5B060600—"Chemistry" were visited, the information is given in Table 1, 2 above. The course of lessons, students' notes, quality and teaching methods were analyzed. Questions about the topic were asked to students. Teachers used the following pedagogical technologies: group work, front-line interviews, business games, etc.

There was organized a visit to the branches of the departments – "Information and Computing Center" of the Committee on Statistics of the Ministry of National Economy of RK, HydroEcoResource LLP; bases of practices - LLP IC "StroyTechno", City Center for Technical Creativity, JSC "AZHS"

The practice bases generally correspond to the profile of accredited programs, the administration is friendly and interested in trainees, some of the employees are graduates of accredited programs.

The events planned within the framework of the visit of the EEC ERR facilitated detailed familiarization of experts with the university's educational infrastructure, material and technical resources, faculty, representatives of employers' organizations, students and graduates. This allowed the members of the EEC ERR to conduct an independent assessment of the correspondence of the data set out in the self-assessment reports of the university's educational programs to the criteria of the specialized accreditation standards of the EEC ERR.

Within the framework of the planned program, the recommendations on improving the University's activities developed by the EEC on the results of the examination were presented at the meeting with the administration on November 30, 2017.

## (V) CONFORMITY TO SPECIALIZED ACCREDITATION STANDARDS

### **5.1. Standard "Management of the educational program"**

#### **The Evidence**

The educational activity of the University is carried out in accordance with the normative legal acts of the Republic of Kazakhstan in the sphere of higher education. In accordance with the development of educational services in the region, according to the stated mission, the goals and objectives at the university are the processes of planning and distribution of tasks assigned. Based on the long-term analysis of the development of the market of educational services, a policy has been defined and the Strategic Plan of the K. Zhubanov ARGU for 2014-2018. The strategic plan of the university was changed in accordance with the orders of the Minister of Education and Science of the Republic of Kazakhstan from December 15, 2014 No. 520; from "14" April 2016 № 276 (US, Minutes No. 2 dated 08.02.2017).

In connection with the adoption of the Strategic Plan of the Ministry of Education and Science of the Republic of Kazakhstan for 2017-2021 (Order of the Ministry of Education and Science of the Republic of Kazakhstan of December 29, 2016), the University adopted the Strategic Plan for the Development of the University for 2017-2021 (US, Minutes No. 11 of May 10, 2017), which reflects questions on the main strategic directions of development of its activities.

In accordance with the Strategic Development Plan of the University developed plans for the development of the EP (Minutes: meetings of the Department of Chemistry and Chemical Technologies № 10 of May 12, 2017;

Plans for the development of the EP are formed taking into account the availability of financial, information, labor, material and technical resources, is based on the mission of the university in accordance with the principles, objectives, tasks.

Information on the content of the plans for the development of educational programs is posted on the stands of the department and faculty, as well as on the website of the Faculty of Natural History.

The implementation of educational programs and their scientific level are determined by the formulated goals, consistent with the tasks of the departments. The objectives of the programs correspond to the interests of consumers of educational services and sufficiently provide the expected level of vocational training of graduates.

The model of graduate EP 5B060200-"Informatics", 5B060600-"Chemistry", 6M060200-"Informatics" was formed in the university. In the development of the model of the graduate the academic staff, graduates and students of the university took part. Models for accredited programs include general and professional competencies and are part of the relevant modular educational programs.

The university has the following types of curricula: the standard curriculum (SC), the curriculum (WC). Curricula are developed on the basis of standard curricula for specialties for the entire period of study, State compulsory education standards and Rules for the organization of the educational process on credit technology training. In accordance with the State Educational Establishment of the Republic of Kazakhstan in the curricula, the ratio of the volume of the disciplines of the cycles of the GD, BD, and profiling disciplines is maintained. In the development of strategic documents the possible risks are taken into account (reduction of the number of students, financial crisis, a surplus in the production of frames, etc.) by adjusting the educational trajectories, which are reflected in QED. The strategic documents taken into account the risks caused by dramatic changes of normative documents regulating the activities of universities, force majeure caused by climatic cataclysm. Participation in managing EP through actualization, taking into account labor market needs and the latest achievements of science; planning the volume of loans for the study of elective disciplines; definition of course policy; scheduling the schedule for passing control tasks; organization of knowledge control of students; adjustment of forms and methods of teaching disciplines taking into account the results of quality monitoring; updating of the theme of final works; work in the composition of the educational and methodological council, state attestation commissions; the formation of applications for the acquisition of modern literature.

For the organization and planning of the educational process at the university, here are structural divisions in whose functional duties includes certain positions. Management of the organization of the educational process and planning of the educational process (development together with faculties and departments of projects of working curricula, academic calendars, training programs, schedules of training sessions, examinations, use planning auditoriums, training laboratories, etc.), the formation of TS's teaching load and the schedule of the department and the faculty.

Evaluation of the effectiveness of the EP is systematically determined through discussion and analysis results of progress, passing all types of practices, the level of residual knowledge, quality of final work and state examinations at meetings of collegial bodies of the university. Measures to control the quality of the educational process conducted at different levels and recorded in the form of records, acts, certificates, reports, and discussed at the meetings of the department and the Faculty Council. Based on the analysis and assessment of control indicators, preventive and corrective events. Their effectiveness considered at meetings of the Departments: Department of Chemistry and Chemical Technologies (minutes of meetings of the department: №3 from 11/05/2015; №4, 05.12.2015; №5, January 8, 2016; №5 of 05.12.2016; №4 from 11/07/2016; №6 from 19.01.2017, the minutes of the Council of the Faculty of Natural Sciences: №6 from February 24, 2016; №4 from 24.11.2016; №7 of 22.02.2017).

Changes in the quality assurance policy based on the needs of the modern society in highly qualified personnel, flexible to changes in the labor market affected the organizational structure

of the university and its activities. The organizational and administrative structure of ARSU was optimized at the beginning of 2015-2016 academic year in order to avoid duplication functions (Minutes No. 2 of September 30, 2015). Recent changes in the organizational structure of the university were introduced in May 2017 (Minutes No. 11 of May 10, 2017).

After optimization, the structure of the university included 10 faculties, 31 graduates department for all. The university's EP (before optimization - 2 institutes, 7 faculties, 37 Universities departments). In the development plans of OP5B060200-Informatics, 5B060600 - Chemistry, 6M060200 - Computer science special attention is paid to personnel policy and upgrading the qualifications of the teaching staff. In order to develop teacher's professional level there attracts foreign teachers of Arabaev Kirghiz Technological University, Doctor of Technical Sciences, Academician Sulaimankulov H., Professor of Orenburg State University Ph.D. Kiriakova A.V., as well as professors of Sofia University of St. Konstantin Ohridsky, Ph.D. N.I. Popivanova and PhD V.T. Dimitrov, Professors from the Institute of Mathematics of the Academy of Sciences of the Republic of Uzbekistan Dr.Sc. Khasanova A.Kh., Professor of the Institute of System Analysis and Control State University "Dubna" Dr.Sc. Spivaka L.F. (Russia).

Experts note that an important role in the training of specialists, namely in the formation of their professional competencies are played by various types of practices, provided by the State Educational Standard of the Republic of Kazakhstan 2012 from 23.08.12 № 1080. Upon termination of the practice, students present to the department a report and a diary, signed by the head of the practice base.

The Academic staff of the departments carry out: analysis of data obtained during systematic questioning, identifying the needs of the labor market in teachers, taking into account the provisions of the State Program for the Development of Education of the Republic of Kazakhstan in 2011-2020; real positioning of educational programs involving and in accordance with the requests of key stakeholders: students, employers and TS. Discussion of development plans for the EP is public in nature, since meetings involving different stakeholders took place in accordance with the schedule.

#### **Analytical part**

EEC IAAR holding meetings, interviews with the Rector, Vice-rectors, Heads of departments, Heads of structural units, students, professors and teachers, representatives of employers' organizations and graduates, and also carrying out a questionnaire of the faculty composition and students, detailed familiarization of experts with the educational infrastructure university, material, technical and information-methodical resources and the following documents are noted by the necessary documents. Transparency and collegiality processes of formation of the development plan for the EP is confirmed by the participation in it of all collective, interested people, employers. This is evidenced by the activities. Academic Council, Rector's office, educational-methodical, scientific-technical council, providing management of the main processes of the university. Mechanisms implementation of business processes, including management of educational activities detailed in the normative documents of the university. Effectiveness of development of the EP is confirmed by the fact that students show high results in various IT competitions, following the results of professional practices have thank you letters, positive feedback from employers. Graduates of accredited EP are in demand on the labor market, and employment in the first year after graduation from the university in accordance with EP 5B060200- Informatics on average for three years is 94.4%, EP 5B060600 - Chemistry - 80.2%.

Educational programs provide for the possibility of building individual educational trajectory, accounting for personal needs and opportunities for students. Formation of individual educational trajectories occurs on the basis of SECS, MEC, IEP - determine the individual educational trajectory of each trainee separately and are formed for each. The academic year is



personally trained with the help of an adviser. The university has developed the practice of coordinating the content of educational programs with employers; involve employers in conducting classes, management of practices, reviews of final works and methodological developments teachers; To include employers in the state attestation commissions; assess the satisfaction of employers with the quality of training specialists. For example, annually, in consultation with employers, is updated from 10% to 30% elective subjects of the educational program. To determine the level of satisfaction of internal needs, each. During the academic period, students, teachers and employees of the university. Questionnaires used for the survey: "The teacher through the eyes of a student", "Quality of educational process ", " Student's satisfaction with training in ARSU", "Satisfaction with the organization of industrial practice", "The effectiveness of the curator". The questionnaire the Academic staff, conducted during the visit of the EEC IAAR, showed that the involvement of the AS in the process of making managerial and strategic decisions is very good and good - 99%, at the same time, 1% of AS are not involved in this process. Satisfaction of the AS's requirements with the content of EP is 99%.

#### **Strengths/best practices:**

- Transparency and evidence of the processes of managing the implementation and development educational programs through activities;
- adequacy of the development plan for educational programs to available resources;
- a clear definition of those responsible for business processes, unambiguous distribution of job responsibilities for staff, differentiation of functions collegial bodies involved in the implementation of the EP;
- availability of information systems accompanying the educational process for accredited educational programs.

#### **Items requiring improvement**

- representativeness of representatives of stakeholder groups in the adoption decisions on the management of the educational program. In terms of development, the EP does not compliance with the available financial, logistical resources of the university.
- There are no external reviews to EP 5B060600 – "Chemistry", 5B060200 – "Informatics", 6M060200 – "Informatics".
- The lack of an update on the site of the departments "Chemistry and Chemical Technology" up-to-date information on the development of the educational program of OP 5B060600 – "Chemistry".

#### **EEC recommendations**

- Continue the implementation of consulting and research work in the priorities of national policy in the field of education, science and innovative development.
- In the development of EP 5B060200 - Informatics, 5B060600 - Chemistry, 6M060200- Informatics of the trajectory of elective disciplines is tied to the subject of scientific-research works.

**Conclusions** of the EEC on the standard "Management of the educational program", accredited educational programs 5B060200 – "Informatics", 5B060600 – "Chemistry", 6M060200 – "Informatics" have 4 strong, 12- satisfactory, 1- needs to be improved.

## **5.2. "Information Management and Reporting" standard**

### **The Evidence**

The university has introduced information management processes, including collection and analysis. Maintenance of the mission, goals, objectives and evaluation of their effectiveness are carried out in accordance with the current documented procedures called "Analysis by senior management". According to these procedures, the university collects and analyzes data to assess the effectiveness of the activity, determine the degree of implementation of the mission, goals and objectives, and opportunities for continuous improvement of the service provided.

In all university subdivisions, clerical work is conducted in accordance with the approved cases nomenclature, preservation and archiving of documents is ensured, work to transfer to electronic document circulation is underway. Operative acquaintance of performers with the information is carried out in electronic form through the address dispatch in the electronic document management system in the local network.

Most of the existing systems for the automation of the educational process allow to automate only certain sections of the educational process, for example, only the storage of student personal cards, or the formation of statements in the diploma, or personnel records, etc. In this regard, the advantage of AIS "Univer" is that it covers all these processes in interrelation.

Currently, in the AIS "Univer" there is a complete base of students for all levels of training and its forms, faculty and other employees, united in groups of users with individual rights, with differentiation of access to information resources.

The process of forming information in the AIS "Univer" consists of separate operations performed by the participants of the process, each of which is an automated processing of data related to one or another type of activity of the university. Getting an integrated result that is valuable for making managerial decisions depends on the effective availability of the system resources, and also on the timely input of data of all participants of the process.

### **Analytical part**

In order to identify the analysis for the current and future needs for specialists of various training fields, to expand the direct link between faculties and employers, to receive feedback from employers, to reveal information about the additional professional requirements of employers for graduates, general educational and personal qualities of graduates in 2014 was created the Graduate Association of K. Zhubanov ARSU, which is a public association, convened for the purpose of carrying out activities defined collectively interests, aimed at uniting the interests of university graduates.

Graduates of accredited EPs are successfully employed in their specialty not only in the Aktobe region, but also in other regions of the Republic of Kazakhstan. Graduates of EP 5B060600-Chemistry: Aliev D. - director of "Hydrocoresources" LLP, Nugayeva A. - head of Temir district branch of RSE on the REM "National Expertise Center" of the CPPH of the Ministry of Health of the Republic of Kazakhstan for Aktobe region, Krebaeva L.U., head of the laboratory of "Aktobemunaigas" CNPC, Serzhan M. - Inspector of the Mugalzhar District Public Health Administration, Zhumakhmet L. - chemist-lab assistant of "BatysEksoproekt" LLP RI, Kurmangaliyeva M. – specialist of the "National Center of Expertise", Bikeyeva A. – chemist-lab assistant of Aktobe Rail-Plant, Nurpisova A. - teacher of chemistry in the Nazarbayev Intellectual School, Talzhanova Zh. - Head of the department of the RSU Department of Ecology, Tlegenov A. - director of "Tabiyat tynysy" LLP, Bayturina S. – chemist of the "Aliya and Co", "BatysEkoproekt" LLPs, Kosubayev A. - chemist-lab assistant of "Aktobemunaigas" CNPC.

As the sources of information about the consumers' satisfaction with the level of educational services are used consumers' feedbacks, questionnaires, surveys, and messages in the media. The information obtained from these sources is used in the analysis of university management and corrective actions.

Experts note that the minutes of the departments' sessions reflect the analysis of results of the goal achievement of the EP, and also ways to improve the effectiveness of the educational program. Storage of documentation of the departments is carried out in accordance with the requirements of the cases nomenclature.

In general, the EEC points out that the University uses modern information systems, information and communication technologies and software tools for the purpose of adequate information management.

Questioning of students, conducted during the visit of the EEC IAAR, showed that satisfaction:

- with the utility of the organization's web site as a whole was satisfied with 98.7%, including 98% at the faculty;

- with the informing of the requirements in order to successfully complete this program - 99.3%;

- with the informing students about courses, educational programs, and academic degrees - 97.4%

***Strengths / best practices:***

- In the University has put on a proper level the work to ensure the measurement of the satisfaction degree, learning the implementation of the EP and the quality of education in the university;

- information management processes have been implemented, including collection and analysis;

- identification of opportunities to improve the quality of the EP;

- Introduction of the results of scientific research into the educational process.

**Items requiring improvement**

- Insufficient level of information analysis in order to identify and forecast risks.

- To develop annually 5B060600-Chemistry, SWOT-analysis of the department on the final informational data of the semester and the academic year, in order to identify and forecast risks, and develop ways to solve these risks.

**EEC's recommendations**

- Ensure the analysis of information on the quality and implementation of educational programs in order to identify and predict risks.

- Regular updating on the site of information on EP 5B060200-Informatics, 5B060600-"Chemistry", 6M060200-"Informatics", a cluster in three languages.

**Conclusions** of the EEC on the "Information Management and Reporting" standard, accredited educational programs EP 5B060200-Informatics, 5B060600 -"Chemistry", 6M060200- "Informatics" have 4 strong, 11-satisfactory, 2- need to be improved.

### **5.3. "Development and approval of educational programs" standard**

#### **The Evidence**

Accredited educational programs are developed in accordance with the scientific, theoretical and practical-oriented requirements for professional and social competencies. The implementation of the EP is aimed at forming the professional competence of future graduates, corresponding to the qualification frameworks of the bachelor and master, satisfying the needs of the labor market.

During the development of the EP, the degree of relevance in pedagogical personnel, indicators of the development of the training of personnel for the education system were taken into account, envisaged in the State Program for the Development of Education of the Republic of Kazakhstan for 2011-2020. Based on the analysis of the survey results conducted among secondary school graduates by region, were determined the needs of interested persons and employers.

For the implementation of the EP, the catalogs of elective disciplines are developed every year, in which the disciplines of the component are described with the choice of brief content, pre- and post-requisition.

Competent models of the graduate of accredited EP are a set of expected results of education, the achievement of which can demonstrate the learner at one or another stage of mastering the basic program or in the form of a set of competencies that every graduate of educational programs must master.



The graduate model gives an idea of him as a specialist able to perform professional functions and specific duties, be able to successfully interact with people and strive for self-improvement. The competence model of the graduate becomes the basis for designing the educational process in the form of a model for training a specialist - bachelor and master.

In accordance with the main directions of the State Program for the Development of Education of the Republic of Kazakhstan for 2011-2020 and the requirements of the Bologna Convention, the University in 2014-2015 academic year moved to the modular construction of educational programs aimed at improving and implementing competence-oriented education.

All interested parties participate in the development of the EP. For example, in the educational process of EP 5B060200-Informatics, following the recommendations of employers and managers of practices, the following disciplines were introduced: in the 2014-2015 academic year 1C: Accounting (LLP KCBC "Great Wall"), "Publishing databases on the Internet" (Center for Linear Development - Aktobe "KTZh" JSC NC), in the educational process 6M060200-Computer science was introduced the course "Multiprocessor systems and parallel data computation" (UASUP AZF branch of "Kazchrome" JSC TNK (minutes of the meeting of the Department of Informatics and Information Technology № 7, February 19, 2014). In the 2016-2017 academic year, recommendations of enterprises and organizations that are the bases of practices, elective disciplines have been introduced in CED EP: "Development of applications in the MS Office environment", "Programming in the MS Excel environment" (Minutes № 6 of 04.02.2017).

The department actively cooperates not only with production representatives, but also with science representatives. In the 2015-2016 academic year, a component for the selection of "Development of client-server database applications" was introduced (Spivak L.F., Doctor of Science, Professor, Dubna, Russia), focused on more in-depth study the possibilities of database management systems, and also the ways to create and use them (Protocol No. 7 of 25.02.2015). In EP 5B060600-Chemistry, according to the recommendations of the enterprise and the organization, which are the practice bases, only in the 2017-2018 academic year was introduced the elective discipline "Chemistry of Environmental Pollutants" "Hydrocoresurs-L" LLP (Minutes No. 5 dated January 19, 2017).

#### **Analytical part**

Experts point out that an important role in the training of specialists, namely in the formation of their professional competencies, is played by various types of practices, provided by the State Educational Establishment of the Republic of Kazakhstan 2012 from 10/23/12 № 1080.

The specific nature of the EP affects the inclusion of elective disciplines, which together influence the formation of professional competencies in students and is reflected in the disciplines of all cycles. The balance between disciplines is respected in accordance with regulatory requirements. The structure of the EP is formed by the University independently on a collegiate basis.

Specificity of the EP is reflected in the individual educational trajectories of students, which are built taking into account the expected results, professional competencies and prospective places for the passage of practices, employment.

In the EP there are components for training students for future professional activities, developing core competencies, intellectual and academic skills. In the undergraduate and graduate programs, the graduate masters key competencies in professional activities, such as the ability to work with information, the skills to handle modern technology, the ability to use information technology in the field of professional activity, the mastery of basic knowledge in relevant fields, the skills of using software tools and skills in computer networks, the ability to create databases.

Development of the EP is carried out taking into account the proposals of the organizations and institutions of the Aktobe region, interested persons, students participating in the process of selecting and forming a list of elective disciplines, developing the subject of graduate work, as well as opinions and suggestions of students and employers on the basis of professional practices, suggestions of the SAC chairmen.

In the course of the meeting with students of educational programs, EP 5B060200-Informatics, 6M060200-Informatics, 5B060600 - Chemistry, it is established that all students, undergraduates have a clear idea of the ways and forms of inclusion in the work on the development of educational programs.

Questioning of trainees, conducted during the visit of the HEC NAAR, showed that:

- the level of accessibility and responsiveness of the university's management is estimated as high - 98.7%;

- accessibility for academic counseling is assessed as high - 98.3%;

***Strengths / best practices:***

- participation of representatives of employers in the development plan for the development of the EP;

- correspondence of the name and content of the disciplines to the actual directions of the development of the region;

- periodic renewal of educational programs;

- the effectiveness of organizing and conducting professional practices.

**Items requiring improvement**

- Inadequate harmonization of the content of educational programs with similar educational programs of leading foreign educational organizations.

- Absence of joint educational programs EP 5B060200-"Informatics", 6M060200-"Informatics", 5B060600 -"Chemistry", with foreign educational organizations.

- Lack of experience exchange with foreign educational organizations within the framework of educational programs of EP 5B060600-"Chemistry".

***REC recommendations***

- together with the international cooperation department, to develop a plan for the foreign training of the faculties of the faculties "Informatics", "Chemistry and Chemical Technology", and a plan for attracting foreign teaching staff for conducting joint scientific case studies;

- to improve the quality of organization and conduct of all types of practices, to start implementing the elements of dual education;

- to intensify the work on the harmonization of the content of educational programs with similar educational programs of leading foreign and Kazakhstani educational organizations.

**Conclusions** of the EEC on the standard "Development and approval of educational programs", accredited educational programs 5B060200-"Informatics", 5B060600-"Chemistry", 6M060200-"Informatics" have 3 strong, 8-satisfactory, 1 needs to be improved.

#### **5.4 Standard "Continuous monitoring and periodic evaluation of educational programs"**

##### **The Evidence**

An important element of the system to ensure a high level of student training is regular monitoring and periodic evaluation of the EP, which is carried out through questionnaires.

On the basis of the university, faculties and departments, monitoring and periodic evaluation of the EP are conducted in order to ensure that they reach their goal and meet the needs of students and society. The results of these processes lead to constant improvement of programs. All interested persons are informed of any planned or undertaken actions with respect to these programs.

Monitoring and periodic evaluation of EP 5B060200-Informatics, 6M060200-Informatics, EP 5B060600- Chemistry, (scientific profile direction) are aimed at achieving its goals, complete formation of planned learning outcomes.

The implementation of accredited EPs is aimed at forming the professional competence of future graduates corresponding to the qualification framework of a bachelor who meets the needs of the labor market. Development of the educational program is carried out taking into account the proposals of the organizations and institutions of the Aktobe region and Western Kazakhstan, interested persons, students participating in the process of selecting and forming a list of elective disciplines, developing the subject of graduate work, as well as opinions and suggestions of students and employers on the results of professional practice, proposals of SAC chairmen. It also takes into account the demand for graduates in various fields with the use of information technology, the recognition by employers of the region of the quality of training specialists.

The management of the university together with the Department of Informatics and Information Technologies created the conditions for attracting employers in the implementation of the educational program through the coordination of the list of elective disciplines, the management of professional practice, reviewing the thesis papers and methodological developments of teachers.

The EP is updated in connection with the change in state compulsory standards of higher education, the introduction of new directions and elective courses. Renewal of the OP is carried out in accordance with the requests of employers, which is reflected in the catalog of elective disciplines for the relevant academic year and approved by the Academic Council of the university.

The EP is updated in connection with the change in state compulsory standards of higher education, the introduction of new directions and elective courses. Renewal of the OP is carried out in accordance with the requests of employers, which is reflected in the catalog of elective disciplines for the relevant academic year and approved by the Academic Council of the university. The management of the university, in particular, the training department, the Registrar's office in accordance with regulatory requirements, organizes and conducts elective disciplines by students. The SC is systematically supplemented, updated, thereby improving the curricula, QED, individual plans of the students' programs, internal regulatory documents regulating the implementation of educational programs, their monitoring and evaluation. Monitoring and periodic evaluation of the EP are reflected in the meetings of the departments. The load of trainees, the level of academic achievement and the graduation of students correspond with the regulatory requirements and SAC EP.

The university, employers, trainees are informed about the planned and undertaken actions in relation to the OP. The information is provided directly through the university's Academic staff and [www.arsu.kz](http://www.arsu.kz) site.

The management of the EP provides a review of the content and structure of the EP taking into account changes in the labor market, the needs of employers and the social request of the community.

### **Analytical part**

The modular structured EP is regularly updated not only structurally but also meaningfully, while labor market and employer requirements are taken into account when developing elective courses and developing the content of the professional practice program.

To determine the level of satisfaction of internal needs, the Education Quality Monitoring Department organizes and conducts a survey of students, teachers and university staff during each academic period. Questionnaires used for the survey: "Teacher through the eyes of a student", "Quality of the educational process", "Satisfaction with the organization of industrial practice", "Pure session". Also on the university's website there is a rector's blog, through which students and teachers can address their opinions, wishes and claims on educational programs and

other issues. All incoming information is carefully analyzed and the university administration takes appropriate measures.

According to monitoring statistics, periodically, at the university level, a report on the results of the sessions is analyzed and formed, which is submitted to the Academic Council for taking the necessary measures to achieve the desired results.

Annually, the decision of the Academic Council of the University establishes the value of the minimum transfer point for transferring from the course to the course in the context of training courses for the undergraduate.

***Strengths / best practices:***

- the need for curricular and educational curriculum changes is constantly being determined at the university;
- Regular wishes of employers, students and teachers are carried out.

**Items requiring improvement**

- Regularly use SWOT and PESTEL analyzes to detect changes.
- To carry out an analysis of changes in the labor market for EP 5B060600- "Chemistry" more often.

***EEC recommendations***

- Regularly confirm the representativeness of attracting employers, students, teachers and stakeholders.
- Use constantly monitor the academic achievements of students

**Conclusions** of the EEC on the standard "Continuous monitoring and periodic evaluation of educational programs", the accredited educational programs of the educational program OP 5B060200—"Informatics", 5B060600—"Chemistry", 6M060200—"Informatics" have 2 strong, 8-satisfactory positions.

**5.5. Standard "Student-oriented learning, teaching and assessment of progress"**

**The Evidence**

The management of the EP provides equal opportunities for students regardless of the language of instruction in the formation of an individual educational program aimed at the formation of professional competence.

Learners, regardless of the language of instruction, are given the opportunity to choose a specific educational trajectory in accordance with his life's attitudes, abilities and capabilities. All educational and methodological documentation - MOS, QED, IMCD is compiled in two languages, ISPS, materials on the forms of current, boundary, intermediate and final control are drawn up in the language of instruction. The choice of academic disciplines is conducted by the student voluntarily in accordance with individual educational needs. The right to choose is granted to all students, regardless of whether they have academic debts.

When introducing student-oriented teaching, the requirements for teaching and, in general, for teaching activities change. Responsible for the systematic development, implementation and effectiveness of active teaching methods and innovative teaching methods is the teaching and methodological commission of the department. At the university and, subsequently, the department constantly works on the introduction of active and innovative teaching methods.

Modernization of the teaching process of disciplines is due to modern educational technologies, comprehensive methodological support of all its components. The educational process of specialties in full is provided by all and the necessary information sources: textbooks, teaching aids, methodological guides and developments in academic disciplines, active handouts and instructions for independent work, access to networked educational resources. There are electronic textbooks, video lectures, lecture presentations, etc. For lecturing there are interactive whiteboards, multimedia projectors, computer classes are connected to the local INTERNET network and to the Wi-Fi network, there are copying and copying equipment. The equipment of



the educational process with multimedia cabinets and specialized laboratories is made constantly in accordance with the requirements of the standards.

One of the promising methods used in the implementation of the OP is "contextual learning," when the motivation for mastering knowledge is achieved by building relationships between specific knowledge and its application. In the process of introducing various teaching and learning methods, scientific and methodological and teaching materials are developed and created manuals, educational and methodological complexes of disciplines, multimedia training complexes, which are complete, unique and popular products that involve flexibility, adaptability, the variability of the content of tasks and educational technologies.

Studies related to the development of methods of teaching the academic disciplines, conducted by the teachers of the departments, are discussed at the meetings of the department and the educational and methodological commission of the faculty.

To assess the degree of students' satisfaction with the quality of the provided educational services, the development of feedback from students, the university regularly conducts internal and external sociological studies. Also, the forms of feedback are: a box of complaints and suggestions.

Monitoring of the progress of students on the educational trajectory is carried out in a comprehensive manner and at various stages of the implementation of the educational the system for assessing students' knowledge, as a result of feedback, provides an intensification of the educational process, control of students' learning of academic disciplines, and increased academic motivation for students and teachers.

When implementing the educational program, the management of the OP monitors the independent work of the trainee and an adequate evaluation of its results.

The structure of the educational program includes the following activities: lecture, practical classes, IWST (independent work of the student with the teacher), course and diploma work. Compulsory independent work has a variety of forms.

For example, in the implementation of EP 5B060200—"Informatics", 6M060200—"Informatics", EP 5B060600—"Chemistry" control of students' independent work is carried out by express polls, colloquia, essay writing, computation and graphic work, etc.

EP 5B060200—"Informatics", 6M060200—"Informatics", 5B060600—"Chemistry" is harmonized in content with educational programs of the Kazakh Agrotechnical University named after S.Seifullin, Orenburg State University (Orenburg, Russia), Kyrgyz National University named after Zh. Balasagyn (Bishkek, Kyrgyz Republic), Kyrgyz State University named after I. Arabaev.

The effectiveness and efficiency of the application of the technologies used is reflected in the assessments of the achievements of students and the feedback of employers on their work after completing studies at the university. Regularly curators of training groups hold meetings of students, within the framework of which students can express their wishes for improvement.

### **Analytical part**

There is a system in the university that allows students who missed classes for a good reason to liquidate their debts in a certain period of time.

Students receive information about the possibilities of forming an individual educational trajectory, as well as assistance with its implementation through the student's private office and with the help of an adviser.

Advisors appoint teachers who have sufficient work experience, having the opportunity to make a sufficient contribution to the advancement of trainees along the educational trajectory.

When implementing the EP, monitoring of independent work of students is conducted, a mechanism for an adequate evaluation of its results is created. For this purpose, the fulfillment of tasks for independent work, which the trainees receive from the teacher, is checked. The results

of monitoring are recorded in the journal of the teacher and are taken into account when issuing an assessment of the boundary control.

The organization of the educational process at the department is carried out on the basis of approved working curricula, where the special kind of educational activity is the CDS and IWST, aimed at independent fulfillment of the task.

To ensure the objectivity of the assessment of knowledge and the degree of forcing the professional competence of the learner, there is a mechanism for an objective, accurate and thorough assessment of knowledge, skills and qualities, through a built-in system for assessing monitoring, interim and final certification, in addition, other mechanisms for assessing current performance, such as application of input knowledge slices, etc. When organizing the training work, all the necessary conditions were created to ensure that the level of knowledge of the learners is in line with the planned learning outcomes and program objectives. The criteria for evaluating students are indicated in syllabuses and AIS "Univer". Information on the current system of assessments the student receives in the first year during meetings with the dean, heads of departments, curator (adviser) during the orientation week. With the purpose of revealing the state of the level of professional readiness of the intern student, the department collects reviews of the basic organizations, enterprises and research institutions, and universities with suggestions and remarks.

Departments of accredited educational programs determine educational goals in relation to the development of intellectual skills of students: the formation of a common student culture based on the assimilation of the mandatory minimum content of general education programs; adaptation of students to life in society; the creation of a basis for the informed choice of students and their subsequent mastering of professional educational programs; education of citizenship, diligence, respect.

The students express full satisfaction with the quality of teaching (98%); fairness of examinations and attestation (98.7%); conducted tests and examinations (98.5%)

***Strengths / best practices:***

- providing equal opportunities for students regardless of the language of instruction in the formation of an individual educational trajectory;
- conducting research and own development in the field of methods of teaching the academic disciplines of the OP.

**Items requiring improvement**

The absence in the work plan of the department of participation of foreign professors for reading courses of lectures for students and undergraduates EP 5B060200-Informatics, 6M060200-Informatics, 5B060600-Chemistry, in the current and subsequent academic years.

***REC recommendations***

- Develop a plan for concluding international treaties to attract foreign lecturers to lecture or on-line lectures by foreign experts, indicating specific disciplines and the number of loans for students of the specialty OP 5B060200-Informatics, 6M060200-Informatics, 5B060600-"Chemistry".

- To intensify activities to create conditions for inclusive education.

**Conclusions** of the EEC on the standard "Student-oriented teaching, teaching and assessment of academic performance" accredited educational programs EP 5B060200-"Informatics", 5B060600- "Chemistry", 6M060200-"Informatics" have a 2 strong, 7 satisfactory, 1 needs to be improved.

**5.6 Standard "Students"**

**The Evidence**

The administration of the EP 5B060200-"Informatics", 6M060200-"Informatics", 5B060600 -"Chemistry" demonstrates the policy of forming a contingent of students from the



entrance to the release and ensuring the transparency of its procedures. Procedures regulating the life cycle of students are approved and published.

In K. Zhubanov ARSU, a systematic work has been organized in the field of vocational guidance and subsequent support of the students' interest in improving and expanding their competencies. Professional orientation work and the formation of a contingent of students is carried out on the basis of a justified system of forms, methods and means of influence, professional selection of entrants for EP 5B060200—"Informatics", 6M060200—"Informatics", 5B060600—"Chemistry" and directions of university preparation.

When forming a contingent of students, the university is guided by the current regulatory and legal framework, the Model Rules for Admission to Education in the Education Organization, implementing the professional higher education curricula (approved by the Decree of the Government of the Republic of Kazakhstan No. 111 dated 19.01.2012). Formation of a contingent of students is carried out by placing the state educational order for the training of scientific and pedagogical personnel, as well as payment for training at the expense of the citizens' own funds and other sources.

There is a decrease in the number of students enrolled in accredited EP 5B060600—"Chemistry" for the last three years. This year, only 1 student.

Table 3. Contingent of trainees for the current time OP 5B060600 – Chemistry

Academic year	Form of Training	Total number of students	Grantees	fee-paying basis	Students with Kazakh language
2014-2015	Full-time	10	3	7	10
	Part-time	-	-	-	-
2015-2016	Full-time	16	-	16	10
	Part-time	-	-	-	-
2016-2017	Full-time	16	-	16	16
	Part-time	-	-	-	-
2017-2018	Full-time	1	-	1	1
	Part-time	-	-	-	-

Table 4. Contingent of students at the reporting period in the 5B060200—"Informatics" EP

Academic year	Form of Training	Total number of students	Grantees	fee-paying basis	Students with Kazakh language
2014-2015	Full-time	29	9	20	29
	Part-time	0	0	0	0
2015-2016	Full-time	20	9	11	20
	Part-time	0	0	0	0
2016-2017	Full-time	18	8	10	16

	Part-time	0	0	0	0
2017-2018	Full-time	38	15	23	31
	Part-time	0	0	0	0

Table 5. Contingent of students at the reporting period 6M060200–"Informatics"

Academic year	Form of Training	Total number of students	Grantees	fee-paying basis	Students with Kazakh language
2014-2015	Full-time	12	9	3	11
	Part-time	0	0	0	0
2015-2016	Full-time	8	7	1	7
	Part-time	0	0	0	0
2016-2017	Full-time	11	8	3	8
	Part-time	0	0	0	0
2017-2018	Full-time	14	12	2	14
	Part-time	0	0	0	0

### **Analytical part**

Admission to the educational program are accompanied by an introductory course containing information about the organization of education and the specifics of the educational program.

The model of formation of a contingent of students operating at the university corresponds to the legislation of the Republic of Kazakhstan and is based on the principle of electivity of higher education institutions and the educational program. To increase the number of applications for admission from university entrants, the university conducts an active professional orientation work with graduates of secondary schools, organizes work with parents and teachers to explain the terms and rules for admission to the university. Meetings with potential applicants are conducted by members of the admissions committee and university professors responsible for career-oriented work at the departments.

Members of the Alumni Association, graduates of specialties of different years actively participate in the formation of the contingent.

The implementation of the educational program assumes external and internal mobility of students. Within the framework of cooperation with domestic and foreign universities, external and internal academic mobility is carried out and scientific internships are conducted. According to OP 5B060200 Informatics for 2017-2018 is planned academic mobility of students. There is an agreement with the Kazakh National Pedagogical University named after Abay and at the present time the curricula of the two universities are harmonized.

The Department of Chemistry and Chemical Technologies actively cooperates on academic mobility with other universities, in particular, with the Orenburg State University. Students of the third year Orazova O., Tugelbaeva E. passed the course in the period 5.06-19.06.2017 in SKSU named after M. Auezov.

Upon completion of the stay at the partner institution, the trainees present to the coordinator of academic mobility a transcript with a list of the subjects studied, including the

results of the exams on the individual curriculum, the academic certificate, information on the passage of practice and research work. On the basis of the transcript, in accordance with the Model Scientific Plan and QED, credits are obligated to be redeemed according to the type of ECTS.

NIRS and NIRM are conducted in accordance with the annually approved plan of the departments. The results of the research work of students and undergraduates are presented in diploma and coursework, master's theses, and also published in the materials of scientific conferences, scientific publications.

Students of EP 5B020600-Informatics actively participate in research work. The number of participants increases every year, as evidenced by the dynamics of the participation of students in the student scientific and practical conferences over the past three years: in 2014-2015, 25%; in 2015-2016 - 30%, in 2016-2017 - 35%; All student works of accredited OP correspond to the Regulations on the competition of student scientific works of K. Zhubanov (22.10.2013).

Research work with students in the departments is conducted according to the plan, starting with the junior courses. At senior courses, they are given the opportunity to express themselves individually, participating in work on projects and delivering papers at scientific and practical conferences.

Students of EP 5B060200-Informatics, 6M060200-Informatics, 6M060600-Chemistry also participate systematically in research work. Each year their number increases, as evidenced by the dynamics of participation of students in the specialty in student scientific and practical conferences over the past three years: in 2014-2015, 25%; in 2015-2016 - 30%, in 2016-2017 - 35%; Students of the 3rd course of the specialty 5B060600-Chemistry Abdibekova G, Nurpisova A., Utegenova M., Hasen G. received a certificate for active participation in the II (experimental) tour of the Republican student subject Olympiad in Chemistry (March 25-26, 2014 Almaty) . prep. Department of Rakhmetov G.A.

Two-year students of Zhumagazin Asel, An Olga and 4th year student Dzhumagaliev Akbota took the second place in the experimental tour of the Republican student subject Olympiad in Chemistry (March 18-19, 2017, Almaty), the head of the art. prep. Department, Ph.D. Agisheva A.A.

The number of students participating in research work increases annually and currently an average of 10 people, the number of students attending scientific circles to 20 people (1-4 courses). The results of their activities are the performance of theses, reports at conferences, Republican competitions, etc.

Members of the commission note the insufficient involvement of trainees in EP 5B060200-Informatics, 6M060200-Informatics, 5B060600-Chemistry, in commercialized scientific research work, contractual activity. And also notes the absence of external grants for training in international programs.

An important factor is the monitoring of the employment and professional activities of graduates. Monitoring is carried out through direct activity: student - department - department of practice and employment - organizations and enterprises where the graduate works. There is a magazine for monitoring the employment of graduates over the past 3 years. At the Department of Informatics and Information Technologies there are the following information about the graduates: Aichanov Yerlan - head of HITEK IP (video surveillance, fire alarm, smoke removal system, gas analyzers), Dakeshev Anuar Kenesovich - senior investigator of the Department of Internal Affairs of Aktyubinsk region, Beganova Bibigul Allazharovna - ERG Group, Valentina Zhibembova - Senior Inspector of the Employment Center Samara, Russia, Bekzhanova Svetlana Adaikhanovna - Chief Manager for Credits Fund for financial support of agriculture, Alexander Svinarev, Consulting Engineer, Implementation Unit, Colvir Software Solutions, Russia, Belgorod, Nina N. Nozdrenko, Head of Department, Department for Call Processing, Kazkommertsbank, Badelov Yerkebulan Samiollollahli - the head of the company

ITCOMSERVICE, the expert NPP Atameken, Halimullin Linar - air traffic controller, Kazaeronavigatsiya, Utegenov Zharas Maratovich -engineer-programmer, LLP Aktyubinsk Rail-Belt Plant, Kosymova Gulshat Makhshotovna - student of postgraduate program Statistics, Sheffield University, UK, Izdibayev Janazhan - Chief Manager of Information Technologies Department of Aktyubinsk Branch Office of Halyk Bank of Kazakhstan JSC, Afanasyev Eugene, Crypto-Pro ", Software Engineer, (Russia, Moscow), Kaskina Ayigul," ENRC Business & Technology Services "LLP, PMO Specialist - Program Arrow, Astana, Stanislav Petrashov - programmer of the 1st category AZF JSC TNK KazHrom, Temirbaeva Tatyana Zhaksilikovna - Kazakh University of Economics omy, Finance and International Trade, Astana. Position - Head of the Registrar's office, Azhgaliyev Bakytzhan Amanzholovich and Tulegenov Dauren Ersultanovich - Portmaster Plus LLP, Software Engineers (CNPS AktobeMunaiGas), Nuka Nikita - Citrix Company, Position - Senior Programmer, USA, Los Angeles.

Table 6. Indicators of employment of graduates of EP 5B060200–"Informatics"

	2014-2015	2015-2016	2016-2017
Total graduates	16	6	3
employed	16	6	2
Government order	-	-	1

Table 7. Indicators of employment of graduates of EP 5B060600–"Chemistry"

	2014-2015	2015-2016	2016-2017
Total graduates	13	10	5
employed	13	7	4
Government order	-	-	-

Analyzing employment data can be constant, that mainly graduates are in demand, while we see a positive dynamics in the growth of the number of graduates who find work in the city and in the countryside.

Graduates of the master's degree work as programmers or engineers in such organizations as "National company Kazakhstan Temir Zholy" - "Center for linear developments-Aktobe", ISIC AU S.Baishev, Aktobe multidisciplinary college "Tarlan", JSC "KazTransKom", JSC Kazakhtelecom , LLP "Consulting capital of the National Assembly", etc. As feedback sources on consumers 'satisfaction with the level of educational services, consumers' feedback, questionnaires, surveys, messages in the mass media are used. The information obtained from these sources of information is used in the analysis of university management and corrective actions.

According to the feedback of employers who have employed graduates of programs, it can be concluded that their level of preparedness is high. For example, feedback has been received on alumni EP 5B060200-Informatics, 6M060200-Informatics (scientific and pedagogical direction, profile direction), there is a response to Khairulayeva R. (Aktobe Polytechnic College), Marat Gaukhar (Aktobe Polytechnic College), Saylaubaeva B., Urgencheva A. (LLP "IK StroiTekhno"), Abildaevu A., Kosheterov A. (JSC NC "Kazakhstan Temir Zholy") and many others.

According to the results of the job fair for the purpose of employing graduates, an analysis of the level of employment of students is conducted annually. With the purpose of revealing the level of professional readiness of graduate students from the place of passing industrial practice, enterprise managers are given feedback on achievements and shortcomings of a theoretical and practical nature, new production technologies.



Particular attention is given to work related to the organization of employment and the distribution of graduates who have been trained in the rural quota. Experts note that there is a magazine for monitoring the employment of graduates over the past 3 years. As a source of information on customer satisfaction with the level of educational services, consumer feedback, questionnaires, surveys, and media reports are used. The information obtained from these sources of information is used in the analysis of university management and corrective actions.

According to the feedback of employers who have employed graduates of programs, it can be concluded that their level of preparedness is high.

***Strengths / best practices:***

The policy of formation of a contingent of trainees in the EP 5B060200—"Informatics", 6M060200—"Informatics", 5B060600—"Chemistry" from admission to graduation and ensures the transparency of its procedures. Procedures regulating the life cycle of students are approved and published;

- admission and enrollment to the educational program are accompanied by an introductory course containing information on the organization of education and the specifics of the educational program;
- regulation, approval and publication of the life cycle of students from receipt to completion;
- availability and use of tools for collection, monitoring and decision-making in the follow-up action based on information on academic achievement of students;
- stimulating students to self-education development outside the main program;
- the opportunity to practice in state authorities and public organizations of the city, region and republic;
- functioning of the feedback system of the support of the students, including the prompt presentation of information on the results of the evaluation of the students' knowledge;
- constant monitoring of student and master student satisfaction through questionnaires, surveys, meetings with management, prompt resolution of current problems.

**Items requiring improvement**

- Low level of external and internal mobility of trainees, assistance in obtaining external grants for training under EP 5B060600—"Chemistry".
- Low level of participation of students in research programs, international competitions.

***EEC recommendations***

- To improve the policy of selection of students aimed at improving the quality of recruitment and attracting foreign students.
- Together with the International Cooperation Department and the Office for Academic Affairs, expand the opportunities for external and internal mobility for students, actively promote the departments in obtaining external grants for training.
- Take measures to strengthen vocational guidance work with young people according to EP 5B060600- Chemistry.

**Conclusions of the EEC** on the standard "Students": accredited educational programs 5B060200—"Informatics", 5B060600—"Chemistry", 6M060200—"Informatics" have a 3 strong, 7 satisfactory, 2 need to be improved.

**5.7 Standard "Teaching staff and effectiveness of teaching"**

**The Evidence part**

The university has an objective and transparent personnel policy, which includes hiring, professional growth and staff development, which ensures the professional competence of the whole state. Teaching staff is the main resource for the mission of the K.ZhubanovARSU. In this regard, the university pays sufficient attention to the selection and training of personnel. The personnel policy is implemented in accordance with the main priorities of the university's

strategy. Indicators on the qualitative and quantitative composition of Teaching staff confirm the availability of human resources necessary for the implementation of educational programs and corresponding qualification requirements for licensing educational activities. The main provisions of the personnel policy are reflected in the Charter of the K. Zhubanov ARSU. The recruitment and distribution of duties is carried out in accordance with the qualifications required by the legislative acts of the Republic of Kazakhstan for the TS. The personnel policy is carried out in accordance with the main priorities of the university strategy. The qualifications of the teachers, their quantitative composition correspond to the directions for the preparation of bachelors and masters, meet the licensing requirements. To improve the quality of teaching, to ensure a close relationship with the production, professors, doctors and candidates of sciences, specialists of the relevant branches are invited to join the university. Personnel selection is carried out on the basis of the analysis of the needs of the educational program, which results in the announcement of a competition for filling vacancies. For this purpose, a system of recruitment of teachers and work with personnel was developed and approved in accordance with the "Rules for competitive vacancies filling" approved by the Ministry of Education and Science of the Republic of Kazakhstan. According to the Rules of competitive substitution of posts of scientific and pedagogical staff of higher educational institutions, a competitive commission was established at the university. Competitive selection of candidates for filling vacancies is carried out in accordance with the qualification characteristics of the posts of scientific and pedagogical workers, the announcement of the beginning of the competition is placed in the national and regional newspapers: "Egemen Kazakhstan", "Kazakhstan Truth", "Auteba" and "Aktyubinskiy Vestnik". At the department there is a direction for studying "Obtaining nanomaterials of inorganic clusters from vanadium-molybdenum polyoxo compounds" (Associate Professor Esnazarova G.L.); "Creation and study of decomposable polymers with specified properties" (Candidate of chemical sciences, senior teacher Agishev A.A.); "Problems of teaching chemistry at the university" (Associate Professor Volobueva N.A., c.p.s., Associate Professor Dosanova B.B., c.p.s., Associate Professor Imangaliyeva B.S.); "Problems of the axiology of modern education" (c.c.s., senior teacher A. Agisheva) Professor Nurlybayev I.N. is engaged in the development of scientific work on grant financing: Theme: "Research and development of production technology, granular phosphoric and phosphorus-containing organomineral fertilizer (OF) from the Chilisaya phosphorite flour. "During the reporting period, the number of scientific publications in the journals of the CCES was 4 publications ("Bulletin of Abai KazNPU", "Chemistry of the mektepte"). Assistant Professor Imangaliyeva B.S. published manuals "Problems and exercises in analytical Chemistry". Aktobe, 2014, 203 pages, 18.03.2011; "Theoretical Foundations of Analytical Chemistry.". 77.1 MB-Astana, September, 2014. Cand. Sc. Pedagogy, Associate professor Imangaliyeva B.S. in September 2014 received an author's certificate for an electronic textbook in the Kazakh language "Theoretical Foundations of Analytical Chemistry." In order to intensify research and expand a wide range of tasks in the physics and mathematics department, the Institute of Applied Mathematics and Informatics operates. The scientists of the Institute conduct theoretical studies on differential equations, equations of mathematical physics, geometry, and informatics. The Department of Informatics and Information Technologies has concluded agreements with leading foreign educational institutions on international cooperation for creative cooperation and joint activities.



Table 8. Contracts on international cooperation of the EP 5B060200-Informatics, 6M060200–"Informatics"

Name	№ agreement	Subject
CCC "Center for high-performance production computing systems" Perm International National Research Institute of Polytechnic (Perm, Russia)	from 25.12.2012 for 5 years	Cooperation in the field of education and science
Sophia University, the name of the Sivatoglu Clemente Ohrid (Bulgaria).	from 20.01.2014 for 5 years	
Orenburg State University (RF).	from 02.04.2013 for 5 years	
State University "Dubna" (RF)	from 16.03.2015 for 5 years	
Gorno-Altai State University (RF)	from 27.04.2015 for 5 years	
Moscow State University. M.Lomonosov (RF)	from 29.12.2014 for 3 years	
Moscow Institute of Electronic Technology (RF)	from 14.04.2015	

Table 9. Contracts for international cooperation of EP 5B060600–"Chemistry"

Name	Subject of the contract
Kyrgyz National University named after I.Arabaev	The agreement on cooperation in the field of education and scientific research between the Kyrgyz State University. I.Arabayeva and the ARSU them. K.Zhubanova, from 11.11.2014. for 5 years
Kyrgyz National University named after Zh. Balasagyn	Agreement on cooperation in the field of education and research between the Kyrgyz National University. Zh.Balasagyn and ARGU them. K.Zhubanova, from the year 2013. for 5 years

There is a provision on the department, which spells out the main activities of the department, job descriptions for the head of the department, professors, associate professors, senior lecturers, teachers, laboratory assistants, concentrated in the department's nomenclature.

Qualitative and quantitative composition of PPP, carrying out OP5V060200-Informatics, 5B060600-Chemistry is presented in the tables.

Table 10. Qualitative composition of PPP of the Department of Chemistry and Chemical Technologies

The need in the staff is determined by the total number of hours of academic teaching loads in the department. Annually, the university clearly defines the calculation of the teaching loads for different categories of teachers, from which the staffing table is determined.

The administration of EP5B060200-Informatics, 6M060200–"Informatics", 5B060600–"Chemistry" departments demonstrated the changing role of the teacher in connection with the transition to student-centered learning.

The administration of EP5B060200–"Informatics", 6M060200–"Informatics", 5B060600–"Chemistry" departments provides monitoring of the activities of the teaching staff, a systematic assessment of the competence of teachers, an integrated assessment of the quality of teaching, including assessment of the satisfaction of teachers and students. An academic staff's survey is systematically conducted on the question of satisfaction.

Table 10. Qualitative composition of AS of the Department of Chemistry and Chemical Technologies

Department	Average age	AS	Number of full-time teachers	AS with research degrees			
				Number of full-time teachers with research degrees	Dostors Sc.	Cand. Sc.	% Research degree
Chemistry	48	29	27	14	1	13	51,8%

Table 11. Qualitative composition of the teaching staff of the Department of Informatics

Department	Average age	AS	Number of full-time teachers	AS with research degrees			
				Number of full-time teachers with research degrees			
Informatics	41	35	32	14	1	13	43,8%

A systematic assessment of teachers' competence, an assessment of the effectiveness and the quality of teaching at the department for disclosing the content of training courses and the formation of students' knowledge, skills and competences, necessary to achieve learning outcomes, as envisaged by the program objectives, is realized through internal evaluation (open classes, mutual visits, open visits of holder of chair, speeches at the scientific-theoretical and scientific-methodological seminars).

To improve the quality of teaching, to ensure a close relationship with the production process, specialists with experience in relevant industries are involved in the training process. Within the framework of educational programs, the teaching practitioners are university teachers who have experience in the relevant industry or who work part-time in the relevant organizations and highly qualified specialists working in the university on a part-time basis.

Departments conduct systematic work to strengthen ties with production. To this end, meetings are organized with employers and leading employees from the field of information technology. In the educational process of the educational program 5B060600-Chemistry, the senior drilling fluid engineer of "Petrounit" LLP Bisenov Samat is invited to give a lecture on drilling fluids in the "Colloid Chemistry" discipline and PhD doctor N.K.Kelzhanova on the "Organic Chemistry" discipline. As part of the implementation of the OP on the program of multilingualism and planning, in the perspective of the teaching of disciplines in English, is realized through the teaching of the academic staff and students in foreign languages. So under this program, the senior teacher Sartabanova Zh.E. gives the course "Software development in Visual Studio" for students of the 3rd course of the EP. For the 2018-2019 academic year, the introduction of the Web technology course is planned.

Professors Sarsimbayeva S.M., Aman K.P., Erekesheva M.M., Alieva A.O., Ilyasova T.Zh., Kaparova L.E. and Sartabanova J.E. in November 2016, passed English courses with the receipt of certificates of the training center at the E.A. Buketov Karaganda State University.

Departments conduct systematic work to strengthen ties with production. To this end, meetings are organized with employers and leading employees from the field of information

technology. For example, according to accredited EPs, representatives without practice experience are consultants and reviewers of diploma papers.

#### **Analytical part**

The members of the commission were convinced that distribution of the teaching loads and schedule of training sessions correspond to the requirements of the elective education technology.

In all disciplines of the departments educational and methodical networks have been developed, where syllabuses of educational disciplines are presented, lectures, seminar plans, tasks on the CDS, types of control, questions and assignments, rating tasks, exam materials.

The results of scientific research are introduced into the educational process in the form of elective courses, scientific-methodical and educational manuals are reflected in scientific articles, published journals and speeches at scientific conferences of various levels.

Table 12. Number of scientific publications of the academic staff

	2014/2015	2015/2016	2016/2017
<b>Chemistry and chemical technology department</b>			
In international scientific journals Tomson Reuters	3	2	2
High-ranking magazines ( <i>RINC, etc.</i> )	1	1	
Journals recommended by the CCSEC of the Ministry of Education and Science of the Republic of Kazakhstan	2	2	2
Journals of Near and Far abroad	2	1	1
International conferences	18	12	5
Monographs			
Textbooks	2	2	3
Electronic Textbooks	2	1	-
Patents	1	1	-
<b>Total</b>	<b>31</b>	<b>22</b>	<b>13</b>

The Commission notes the absence of funded research on EP 5B060600-Chemistry.

The academic staff of educational programs actively participates in professional retraining programs, qualitatively and productively mastering various areas of pedagogical science, getting acquainted with modern educational technologies.

Table 13. Number of scientific publications of the Academic staff

	2014/2015	2015/2016	2016/2017
<b>Informatics and Information Technologies department</b>			
In international scientific journals Tomson Reuters	6	7	3
High-ranking magazines ( <i>RINC, etc.</i> )	4	5	5

Journals recommended by the CCSEC of the Ministry of Education and Science of the Republic of Kazakhstan	8	8	6
Journals of Near and Far abroad	7	8	4
International conferences	67	70	80
Monographs	1	-	1
Textbooks	4	5	4
Electronic Textbooks	14	16	17
<b>Total</b>	<b>111</b>	<b>119</b>	<b>120</b>

The Commission notes the lack of funded research on EP 5B060200-Informatics, 6M060200 –"Informatics".

Insufficient level of joint research with foreign partners in the implementation of EP 5B060600-Chemistry and weak involvement in the implementation of EP 5B060600 – "Chemistry" of famous scientists, public and political figures.

Teachers annually improve their qualifications through short-term seminars, training courses, internships in the best educational centers Republic of Kazakhstan and abroad. Upgrading the qualifications of the faculty is conducted in accordance with the plan of the faculty and university in various areas with the aim of strengthening the scientific-pedagogical, educational-methodical levels of the preparation of teaching staff.

Various forms of continuing education are provided: the basis of leading universities on educational and methodological activity, theoretical seminars and visiting profiling seminars. During the reporting period, the Republican Institute for Advanced Studies leading and scientific-pedagogical cadres of the education system of the JSC NCLP "Orleu" in branch of Almaty under the program "Advanced training of teachers pedagogical specialties of higher educational institutions of the RK "upgraded the qualifications of 5 teachers Department of Chemistry and Chemical Technologies: Ph.D. Agisheva A.A., Ph.D. Dosanova BB, Ph.D. Almuratova K.K., senior lecturer. Rakhmetova G.A., Teacher. Karaturin A.M. By the department Informatics and information technologies 5 teachers: Ph.D. Talipova M.Zh., senior lecturers Sartabanova JE, Kaparova LE, Musina AA, Utesova GI, Elubaeva DD, and teachers Buranbaeva BS, Tashimova AK, Taskalieva Zh. A. Shaukenbayeva A. K.

However, the management of EP 5B060200 –"Informatics", 6M060200 –"Informatics", 5B060600 –"Chemistry" has not fully demonstrated the IT competency of the academic staff, conditions for motivating AS's to apply innovative methods and forms of training, information and communication technologies in the educational process.

Experts note that the institution ensures the completeness and adequacy of the individual planning of the work of the academic staff for all activities, performance monitoring and effectiveness of individual plans. Pedagogical load of teachers consists of educational, educational-methodical, scientific-research, educational types of activities that are planned for one academic year. Teaching load teachers is reflected in the journals "Individual work plan for the teacher" "Teacher's work and attendance records", which include a list of activities, deadlines and a report on implementation.

The research work of the teaching staff is reflected in the publications of scientific works, monographs of teachers corresponding to the national policy of the state in the field of education,

science and innovation development. The main direction of the research work of the department is the structure, properties and analysis of chemical compounds.

At the department there is a direction for studying "Obtaining nanomaterials of inorganic clusters of vanadium-molybdenum polyoxo compounds" (Ph.D., Associate Professor Esnazarova G.L.); "Creation and study of degradable polymers with specified properties" (Ph.D., art.prep Agishev AA); "Problems of teaching chemistry in high school" (Associate Professor Volobueva NA, Ph.D., associate professor Dosanova BB, Ph.D., associate professor Imangalieva BS); «Axiological questions modern education" (Ph.D., senior lecturer A. Agisheva). Professor Nurlybayev I.N is engaged in the development of scientific work on the grant Financing: Theme: "Research and development of technology for obtaining granulated phosphoric and phosphorous-containing organomineral fertilizer (WMD) from Chilisaya phosphorite flour".

At the university, the activity of the teacher as a whole is assessed by indicators rating, portfolio of teaching staff, conducting a survey of students (results of the survey), implementation of information and communication technologies in the educational process, the organization of research and independent activities, the formation of practical skills and skills of students.

For the successes achieved in educational, scientific and educational work, management in relation to teachers, staff, various measures of moral and material incentives: honorary letters, letters of thanks, bonuses, presentation to awards. Teachers, staff of the department is material aid.

The academic staff's questionnaire, conducted during the visit of the EEC IAAR showed that:

- the university provides opportunities for teaching staff in the use of innovations in teaching - very good and good – 99%;
- TS meets the content of the educational program - very good and good – 100%;
- 96% of the teaching staff highly appreciate the support of the university and its leadership in the scientific-research initiatives of the teaching staff;
- the level of feedback of TS with management meets by 98%;
- 5% of the TS is not satisfied with the organization of academic mobility, and the plan work to upgrade the qualifications of the teaching staff;
- 2% of TS find it difficult to combine teaching with scientific research.

***Strengths / best practices:***

- The university has an objective and transparent personnel policy, which includes objective and transparent personnel policy, including hiring, professional The growth and development of personnel, ensuring the professional competence of the whole staff;

- the administration of EP 5B060200–"Informatics", 6M060200–"Informatics", 5B060600 –"Chemistry" ensures completeness and adequacy of individual planning

The work of the TS for all activities, monitoring of effectiveness and effectiveness individual plans, demonstrate evidence of compliance teachers of all types of planned workload;

- the administration of EP 5B060200–"Informatics", 6M060200–"Informatics", 5B060600–"Chemistry" demonstrates the relevance of the priorities of consulting, research work carried out by the TS of the EP, topical problems of the economy, priorities of the state development, national policy in the sphere of education, science and innovative development.

**Items requiring improvement**

- Attraction of teachers from production, famous scientists to the implementation educational programs is not systematic.



- Insufficient level of academic mobility of TS EP 5B060600-Chemistry
- There is no participation of faculty members in the funded research in EP 5B060200-"Informatics", 6M060200-"Informatics", 5B060600-"Chemistry".

**EEC recommendations**

- To intensify the work on attracting practitioners and well-known scientists to implementation of educational programs.
- Attraction of foreign teaching staff for joint scientific thematic research, lecturing on the basis of the University of reading online studies by scientists and partner universities.
- Advanced training and IT competence of the faculty staff on the basis of partner universities.

**Conclusions** of the EEC on the standard "Teaching staff and efficiency of teaching»: accredited EPs 5B060200-"Informatics", 5B060600-"Chemistry", 6M060200-"Informatics" have 3 strong, 7 satisfactory, 2 need to be improved.

**5.8 Standard "Educational resources and student support systems"**

During the audit, the commission ascertained that the university has sufficient material, technical, information and library resources used for organization of the process of training and education of students and the implementation of the mission, goals and objectives university.

An important factor in ensuring the quality of education and guaranteeing sustainable development of Zhubanov Aktobe Regional State University is the constant improvement of material and technical information resources. The university has all the conditions for teaching students, scientific research, publications of the results of research, students.

The university has a material and technical base that provides carrying out all types of practical training and research work students, provided for by the curriculum of the university and relevant sanitary-epidemiological and fire-prevention norms and rules. Systematic work to update and improve the material and technical base specialty. Students of EP 5B060200-Informatics, 5B060600-"Chemistry" 6M060200-Informatics (scientific and pedagogical direction, profile direction) have the opportunity and access to the use of socio-cultural, sports facilities of the University: Palace of Students for 800 seats, Zhastar sheds (1750.2), a students' house with a total area of 7157 m<sup>2</sup>, a dining room (493), a gym (1190m<sup>2</sup>), a sports complex (1761.4 m<sup>2</sup>), the Dolphin Pool (1491.7), sports facilities (1272), gym at the educational building №5 (1134), gym with the educational building (576), sport complex with the educational building №3, (3519), sports complex at the main building(1732.4), the Students' House (6516.2), the polyclinic (1304.8).

To implement EP 5B060600-"Chemistry", there is a necessary audit fund, computer classes, gyms, a rich book fund.

By EP 5B060600-"Chemistry" lecture rooms - 3; specialized training laboratory - 7. The material base of the educational program is the classroom fund, which includes 7 (401.2 square meters) of laboratory classrooms. Relevant requirements of the standard of the educational program of specialized laboratories.

The departments are also fully equipped with chemical utensils, equipped with various devices: photocolimeter FEK-56, pH-meter PICCOLLO, ionomer I-160MI, spectrophotometer KFK-3KM, photometer KFK-3, refractometer IRF-470, microscope binocular, LOIP 470 stirrer, laboratory instruments works, are equipped with general laboratory equipment and installations.

In all laboratories and classrooms there are necessary demonstration materials for chemical processes, are prepared special schemes and process models. All laboratory classrooms have laboratory passports, fire extinguishing stuffs, individual and collective protective equipment for



trainees and staff. The area of educational premises per student corresponds to the norms established by the State Standard. There are normative calculations:

- the total area of classrooms, laboratories is 401.2 square meters, which is 11.8 square meters per student, at a rate of 6 sq.m .;
- the area of auditoriums and lecture halls is 11.8 square meters;
- the area of reading rooms and libraries -1208.4 sq.m .;
- the area of the book depository - 431.7 square meters;
- Sports facilities - 2538.9 square meters.

The library has several own bibliographic databases: "Teacher Works", "Journals", "Author's abstracts", "Rare books". There is a catalog of the educational process and traditional catalogs (systematic, alphabetic, summary and electronic), a catalog of articles and journals, a catalog of teacher works and others for significant dates.

The library has 2 electronic reading rooms, where users can work with electronic textbooks, electronic catalog, electronic library RIEL, audio, video materials. The electronic reading room is equipped with modern office equipment: computers, printers, scanner.

The annual indicator of the educational, teaching, methodological and scientific literature provision of EP disciplines has positive dynamics (Table 14). It should be noted the increase in the share of the published textbooks of Kazakhstan's authors, in particular, the teaching and methodological products of the Al-Farabi Kazakh National University, Abay KazNPU. The data of the fund of educational and methodical literature are given in Table 14.

Table 14. Availability of the fund of educational and methodological literature

Academic year	Reduced contingent of students		textbooks		Scientific literature		totally		Including electronic		Book supply per student
	Kaz	Rus	Kaz	Rus	Kaz	Rus	Kaz	Rus	Kaz	Rus	
5B060200-Informatics											
2014/15	144	39	24087	11981	2941	4353	27028	16334	16	28	160.6
2015/16	196	60	24110	11983	2949	4354	27059	16337	23	39	216.9
2016/17	236	51	24225	11983	2964	4354	27189	16337	28	51	329.7
5B060600-Chemistry											
2014/15	37	6	4833	6319	1102	1968	5935	8287	289	402	330,7
2015/16	28	6	3569	6120	1025	1966	4594	8086	271	375	372,9
2016/17	37	6	4833	6319	1102	1968	5935	8287	289	402	330,7

Every year the library fund of the University is replenished with new books on modern information technologies, is purchased computer equipment that meets the latest requirements. There is also a center for IT technology and robotics, where equipment for LEGO technology was purchased in full. The Virtual Academy is also functioning at the faculty, there classes are held jointly with foreign scientists. For example, Professor N. Popivanov (Sofia, Bulgaria) gave a lecture for students of accredited programs. In 2017, the University opened a park of innovative technologies.

#### **Analytical part**

The library of the university has a database of scientific literature (author's abstracts, monographs, journals, collections of articles, etc.), electronic versions of published scientific journals, there are card indexes, data on teachers, a list of publications, their scientific and methodological developments, for example, Tasmambetov Zh.N. Economic-mathematical modeling, Aktobe – 2013, and others. Electronic educational institutions are located in the "UNIVER" system. Access to the EMCD in the "Univer" system is available to all students and faculty members of the department, who have their own offices with login and password authorization. Currently, in the system "Univer" there are EMCD for the EP discipline.

The fund of supplementary literature, which is actively used in the educational process, is sufficiently manned: official publications, reference, periodicals, bulletins, etc. There are all publications in the reading rooms.

The provision of the educational process with textbooks, teaching aids, educational materials, methodical recommendations is also carried out through the publishing house of the university.

In order to improve the organization quality and the effectiveness of the educational process, to control the degree of independence in the execution of the degree works (projects), and also to increase their self-discipline and respect for intellectual property rights, all works are checked for plagiarism. At the same time to check the degree works (projects) by decree of the faculty formed the composition of the commission to verify the work on plagiarism, the result of which is a conclusion, indicating the final evaluation of the originality of the work.

Annually, the educational department and the department for monitoring the education quality conduct a employers' survey. In general, the logistical, information and library resources used to organize the process of education and upbringing are sufficient to fulfill the stated mission, goals and objectives and meet the requirements of the educational programs being implemented.

Questioning of students, conducted during the visit of the EEC IAAR, showed that satisfaction:

- of the availability of library resources is 96.6%;
- of the existing educational resources of the university -97.4%;
- of the availability and accessibility of computer classes and Internet resources - 96.7%.

***Strengths / best practices:***

- the effectiveness of support services for students and the availability of support procedures;
- vocational guidance, assistance in the selection and achievement of career paths;
- structured information in the context of disciplines.

***Items requiring improvement***

- The management of the university to consider the possibility of allocating funding for expanding the laboratory base for conducting special disciplines among students of EP 5B060200-Informatics, 6M060200-Informatics, 5B060600-Chemistry.

- Management of the university, based on the results of questionnaires and interviews with employees and trainees, consider the possibility to take into account the wishes of the teaching staff and students about the availability of projectors and interactive whiteboards in all lecture rooms.

***EEC recommendations***

- Management of the university, based on the results of questionnaires and interviews with employees and students, consider the possibility to take into account the wishes of the teaching staff and students about the availability of projectors and interactive whiteboards in all lecture rooms.

*Conclusions* of the EEC on the standard "Educational resources and student support systems": accredited educational programs 5B060200—"Informatics", 5B060600—"Chemistry", 6M060200—"Informatics" have 1 strong, 7 satisfactory, 2 positions to be improved.

## **5.9 Standard "Public Information"**

### **The Evidence**

K. Zhubanov ARSU is a regional university, therefore the issue of image and information about the activity of the university is very relevant. Following the principles of openness and accessibility to the public, K.Zhubanov Aktobe Regional State University openly places full and reliable information about the university activities, the rules for admission, educational programs, terms and form of education, international programs and partnerships of the university, the advantages of the university and each faculty, information on the employment of graduates, feedback from graduates, contact information and other information useful to prospective students and students on various information media. Teachers of students of EP 5B060200-Informatics, 6M060200-Informatics, 5B060600—"Chemistry", participate in events aimed at informing students, applicants and all interested persons.

The official site of the university is placed on the Internet at e-mail: [www.arsu.kz](http://www.arsu.kz) the site information is aimed at a wide audience: students, employees, teachers, prospective students and their parents, employers, university partners, scientific and public organizations. The site of the Academy contains the following functional elements: about ARSU, entrants, science and innovations, news, educational process, international cooperation, Rector's block. Information posted on the site is updated periodically as new information becomes available.

### **Analytical part**

Objective information about the activities and specifics of the EP includes a system of support for students and teaching staff (information and communication, resource, support related to the publication and publication of educational, educational and scientific literature, social support, etc.), based on the learning outcomes letters of thanks are sent to the parents, especially the distinguished students are recommended to participate in various events of the national scale, etc. One way to handle complaints or suggestions from stakeholders is to contact the university head directly with a personal blog located on the main page of the university's website.

The work plans of the Academic Council and university administration include issues of collection and dissemination of information, public information.

According to the initiative of the university administration, on the main page of the site is posted blog of the rector. The rector's blog provides effective feedback from the university's management with referring subjects: students and their parents, employees, teaching staff, employers, representatives of the public, communication is also maintained through e-mail of the rector.

Feedback from the university's leadership of the public with the help of The functioning blog of the rector is operational. After the blog published another appeal or question, during the working day is published answer.

The university hosts meetings of the rector, vice-rectors, directors of scientific schools, Heads of departments with student assets, employers, teachers and employees, where each participant can ask any question of interest of the leaders and get reliable information.

One of the most optimal forms of university propaganda is the holding of various cultural and mass events. This is an education of the youth in the spirit of patriotism, strengthening and propaganda of national and family values. On the website of the university there is a short information about the academic staff of educational programs on pages of departments. This information has different ways and requires a unified approach, as well as the inclusion of addresses, portfolios, e-mail of the academic staff.

Members of the commission point out the lack of information on the direction International cooperation: information on interaction with scientific / consulting organizations and educational organizations implementing similar to the EP, including with foreign organizations. Not Listed international partners of the university, Kazakhstan partners, information on international and Kazakhstan projects.

According to the results of the questionnaire, 98% of students are satisfied with the usefulness of the website, 96% of the academic staff noted the timely information about the events.

As already mentioned, experts point out the need for more structured approach to the formation of the site, timely update information, a unified approach to the deployment of information (for example, Portfolio of the academic staff) and the development of the site regulations.

***Strengths / best practices:***

- Various ways of disseminating information (website, media, social network, YouTube).

**Items requiring improvement**

- Lack of informing the public about interaction with scientific and consulting organizations 5B060600—"Chemistry".
- Inaccessibility to parents of information on the visit of students to a university, results of knowledge assessment through the integration of information on the site from the "Univer" system and access control system EP 5B060600—"Chemistry".

***REC recommendations***

- Ensure that the public is informed about interaction with scientific and consulting organizations.

***Conclusions*** of the EEC on the standard "Public Awareness": accredited educational programs 5B060200-Informatics, 5B060600—"Chemistry", 6M060200—"Informatics" have 2 strong, 10 satisfactory, 1 position to be improved.

**5.10 Standard "Standards in the context of individual specialties"**

**The Evidence**

The results of the EP training reflect the graduate's competence for sphere of the chemical industry. have fundamental training in the field of bases of chemical sciences, readiness to use the acquired knowledge in professional activity.

In the process of mastering the EP, students are given current knowledge in the field of information technology, the skills of communication, analysis personality and behavior in accordance with key competencies presented in the Modular EP.

Departments of accredited EP 5B060200—"Informatics", 5B060600—"Chemistry", 6M060200—"Informatics" provide the measures for strengthening practical training of students in the field of specialization. For each type of practice teachers in accordance with the Rules of organization and conduct of professional practice and the rules for identifying organizations as bases of practices from January 29, 2016 No. 107 and the State Educational Establishment of the Republic of Kazakhstan (Resolution of the Government of the Republic of Kazakhstan No. 292 of 05/13/2016); developed and approved working training programs and assignments to practice of students of specialties with methodical instructions on their implementation. Tasks for industrial practice are aimed at securing theoretical knowledge and getting students the skills of their practical application. In teaching the disciplines of the educational program of the PPP specialty innovative methods of teaching are used. A lot of attention is paid to technology project activities, apply interactive teaching methods, strategies of critical thinking, case studies, role-playing and business games, trainings Self-study skills are most effectively formed when performing individual tasks, projects that are widely used in the study various disciplines of the educational program.



### **Analytical part**

Professional practice is conducted in accordance with the standard, educational plans, according to the academic calendar. Organization and conduct professional practice at the department is carried out in accordance with the requirements. Typical rules of the organization of higher and postgraduate education of the Republic of Kazakhstan (May 20, 2013, No. 499). The number of professional practice loans corresponds SP of the program. The department concluded contracts for the professional practices in which the duties of the department, the basic enterprise and students are defined. After graduation, graduates have in-depth skills in experimental research, analytical work and design documentation, formulation and solution of research tasks, critical and creative thinking. Thus, the results of training on accredited EPs are: the formation of students' competencies, in demand on the labor market, formation of readiness for professional activity, personal, professional and social development of students, contributing to socialization, formation of a common culture of the individual. Training in educational programs, both in content and in used educational technologies requires a wide range of. The use of information technology, the ownership of basic functions and software of a modern computer.

#### ***Strengths / best practices:***

- for the acquisition of practical skills, trained OP 5B060200-Informatics, 5B060600-"Chemistry", 6M060200-"Informatics –"Informatics";
- employing employers to design educational content program, its implementation;
- availability of a practical base.

#### ***REC recommendations***

- Consider the possibility of including staff of the department production organizations that have a long working experience at enterprises in specialization area of the education program.

**Conclusions** of the EEC on the standard "Standards in the context of individual specialties": 5B060200-"Informatics", 5B060600-"Chemistry" EP have 5 satisfactory positions.

### **(VI) REVIEW OF STRONG SIDES / BEST PRACTICES FOR EVERY STANDARD**

The standard "Management of the educational program":

- transparency and evidence of the processes of managing the implementation and development educational programs through activities;
- the adequacy of the development plan for educational programs available resources;
- clear definition of those responsible for business processes, unambiguous distribution of job responsibilities for staff, differentiation of functions collegial bodies involved in the implementation of the EP.
- availability of information systems accompanying the educational process for accredited educational programs.

Standard "Information Management and Reporting"

- University at the university to ensure the measurement degree of satisfaction, learning the implementation of the OP and the quality of education in the university;
- Information management processes were introduced, including collection and analysis;
- identification of opportunities to improve the quality of EP;
- Introduction of the results of scientific research into the educational process.

Standard "Development and approval of the educational program":

- participation of representatives of employers in the formation of the development plan for the EP.
- The correspondence of the name and content of the disciplines to the current trends development of the region;

- periodic renewability of educational programs;
- Effectiveness of organizing and conducting professional practices.

The standard "Continuous monitoring and periodic evaluation of educational programs»  
 - constantly in the university determines the need to change the content of training plans and educational programs;

- the wishes of employers, students and teachers.

The standard "Student-centered teaching, teaching and evaluation learning achievement "  
 - ensuring equal opportunities for students regardless of language training on the formation of an individual educational trajectory;

- conducting research and own development in the field of methodology teaching of educational disciplines.

Standard "Students"

- the policy of forming a contingent of students of the EP from admission to graduation and ensures the transparency of its procedures. Procedures regulating the life the cycle of students is approved and published;

- admission and admission to the educational program are accompanied by an introductory a course containing information on the organization of education and specifics educational program;

- regulation, approval and publication of the life cycle students from admission to completion;

- availability and use of tools for collecting, monitoring and decisions in the framework of the follow-up actions on the basis of information on academic achievements of students;

- stimulation of students for self-development outside the programs;

- the possibility of passing the practice in state authorities and public organizations of the city, region and republic;

- functioning of feedback system of support of students, including the rapid presentation of information on the results of the assessment of knowledge students;

- constant monitoring of student and master student satisfaction through questionnaires, surveys, meetings with management, prompt resolution of current problems.

Standard "Academic staff":

- The university has an objective and transparent personnel policy, which includes objective and transparent personnel policy, including hiring, professional

The growth and development of personnel, ensuring the professional competence of the whole staff; The EP leadership guides the completeness and adequacy of the individual planning of the work of the AS for all activities, performance monitoring and effectiveness of individual plans, demonstrate evidence of compliance teachers of all types of planned workload;

- The leadership of the EP demonstrates the relevance of the consulting, research work carried out by the AS of the EP, topical problems of the economy, priorities of the state development, national policy in the sphere of education, science and innovative development.

Standard "Educational resources and student support systems"

- the effectiveness of support services for students and the availability of procedures support;

- vocational guidance, assistance in choosing and achieving career paths;

- structured information in the context of disciplines.

Standard "Public Awareness"

-Different ways of disseminating information (site, media, social network, YouTube);

Standard "Standards in the context of individual specialties"

- for the acquisition of practical skills, trained EP 5B060200—"Informatics", 5B060600—"Chemistry", 6M060200—"Informatics"/
- Involvement of employers in the design of educational content program, its implementation;
- availability of a base of practices.

## (VII) REVIEW OF RECOMMENDATIONS FOR IMPROVING QUALITY

1. Continue the implementation of consulting and research work in accordance with the priorities of the national policy in education, science and innovation development.

2. In the development of EP 5B060200-Informatics, 5B060600-Chemistry, 6M060200-Informatics, the trajectory of elective disciplines should be tied to the subject of research work of the faculty.

3. Regularly update the site information on EP 5B060200—"Informatics", 5B060600—"Chemistry", 6M060200—"Informatics", a cluster in three languages.

4. To develop annually 5B060600—"Chemistry", SWOT-analysis of the department on the final informational data of the semester and the academic year, in order to identify and forecast risks, as well as to develop ways to solve these risks.

5. Together with the Department of International Cooperation, to develop a plan for the foreign training of the faculty "Informatics", "Chemistry and Chemical Technology", and a plan for attracting foreign faculty to conduct joint scientific case studies;

6. To improve the quality of organization and conduct of all types of practices, to start implementing the elements of dual education.

7. To intensify the work on harmonizing the content of educational programs with similar educational programs of leading foreign and Kazakhstani educational organizations.

8. Regularly confirm the representativeness of attracting employers, students, teachers and stakeholders.

9. Constantly monitor the academic achievements of students 5B060600-Chemistry.

10. Develop a plan for concluding international treaties to attract foreign lecturers to lecture or on-line lectures by foreign specialists, indicating specific disciplines and the number of loans for students specializing in 5B060200-Informatics, 6M060200-Informatics, 5B060600-Chemistry.

11. Activate activities to create conditions for inclusive education 5B060600-Chemistry.

12. To improve the selection policy of students aimed at improving the quality of recruitment and attracting foreign students 5B060600—"Chemistry". Together with the Department of International Cooperation and the Office for Academic Affairs, to expand the opportunities for external and internal mobility for students, actively promote the departments in obtaining external grants for training EP 5B060600—"Chemistry".

13. To take measures to strengthen vocational guidance work with young people according to EP 5B060600—"Chemistry".

14. To intensify the work on attracting practitioners and well-known scientists to the implementation of educational programs 5B060600—"Chemistry".

15. Attraction of foreign teaching staff for conducting joint scientific case studies, lecturing on the basis of the University of reading online studies by scientists and partner universities.

16. Advanced training and IT competence of the faculty PPP on the basis of partner universities.

17. Consider the possibility of including in the staff of the department employees of production organizations that have a long working experience at enterprises in the field of specialization of the education program.