



«АККРЕДИТЕУ ЖӘНЕ РЕЙТИНГТИҢ  
ТӘУЕЛСІЗ АГЕНТТІГІ» КЕМ

НУ «НЕЗАВИСИМОЕ АГЕНТСТВО  
АККРЕДИТАЦИИ И РЕЙТИНГА»

INDEPENDENT AGENCY FOR  
ACCREDITATION AND RATING

## **REPORT**

**on the Results of the Work of an External Expert Commission  
for Assessing the Compliance with the Requirements of Specialized  
Accreditation Standards of educational programs**

**5B060100/6B05401- Mathematics**

**5B060200 / 6B06101-Informatics**

**6M060200 / 7M06101-Informatics**

**5B060400 / 6B05301-Physics**

**6M060400 / 7M05301-Physics**

**Kostanay State University named after A. Baytursynov**

**Site-Visit Dates: April 22-25, 2019**

**INDEPENDENT AGENCY OF ACCREDITATION AND RATING**  
**External Expert Commission**

**Adressed to**  
**Accreditational**  
**IAAR Council**



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***6M060400 / 7M05301-Physics***

**KOSTANAY STATE UNIVERSITY NAMED AFTER A. BAYTURSINOV**  
**in the period from 22 to 25 April 2019**

**Kostanay, 2019**

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

ECTS - European Credit Transfer and Accumulation System;

ENQA - European Association for Quality Assurance in Higher Education;

KazSEE - Kazakhstan Association for Engineering Education;

JSC - joint-stock company;

AIS - Automated Information System;

HPE - Higher professional education;

University - higher education institution;

EEC - External Expert Commission;

SPUC- state public utility company;

SOES RK - state obligatory education standard of the Republic of Kazakhstan;

SPIID - the state program of industrial-innovative development;

DHVE - Department of Higher and Vocational Education;

UNT - unified national testing;

ICT - information and communication technologies;

IT - information technology;

ITF - Faculty of Engineering;

KSU - Kostanay State University named after A.Baitursynov;

CTA - comprehensive testing of the applicant;

EDC - catalog of elective disciplines;

MES RK - Ministry of Education and Science of the Republic of Kazakhstan;

MEP - modular educational programs;

IAAR - Independent Accreditation and Rating Agency;

NJSC - non-profit joint-stock company;

RW - research work;

NRU ITMO - St. Petersburg National Research University of Information Technologies, Mechanics and Optics;

SRW - student research work;

IKA QAE - Independent Kazakhstan Agency for Quality Assurance of Education;

EP - Educational program;

RSE REM - Republican State Enterprise on the Right of Economic Management

RK - Republic of Kazakhstan;

WC - working curriculum;

WCS - working curriculum of the specialty;

QMS - quality management system;

CIS - Commonwealth of Independent States;

IWS - independent work of the student;

IWST - independent work of the student with the teacher;

LLP - a limited liability partnership;

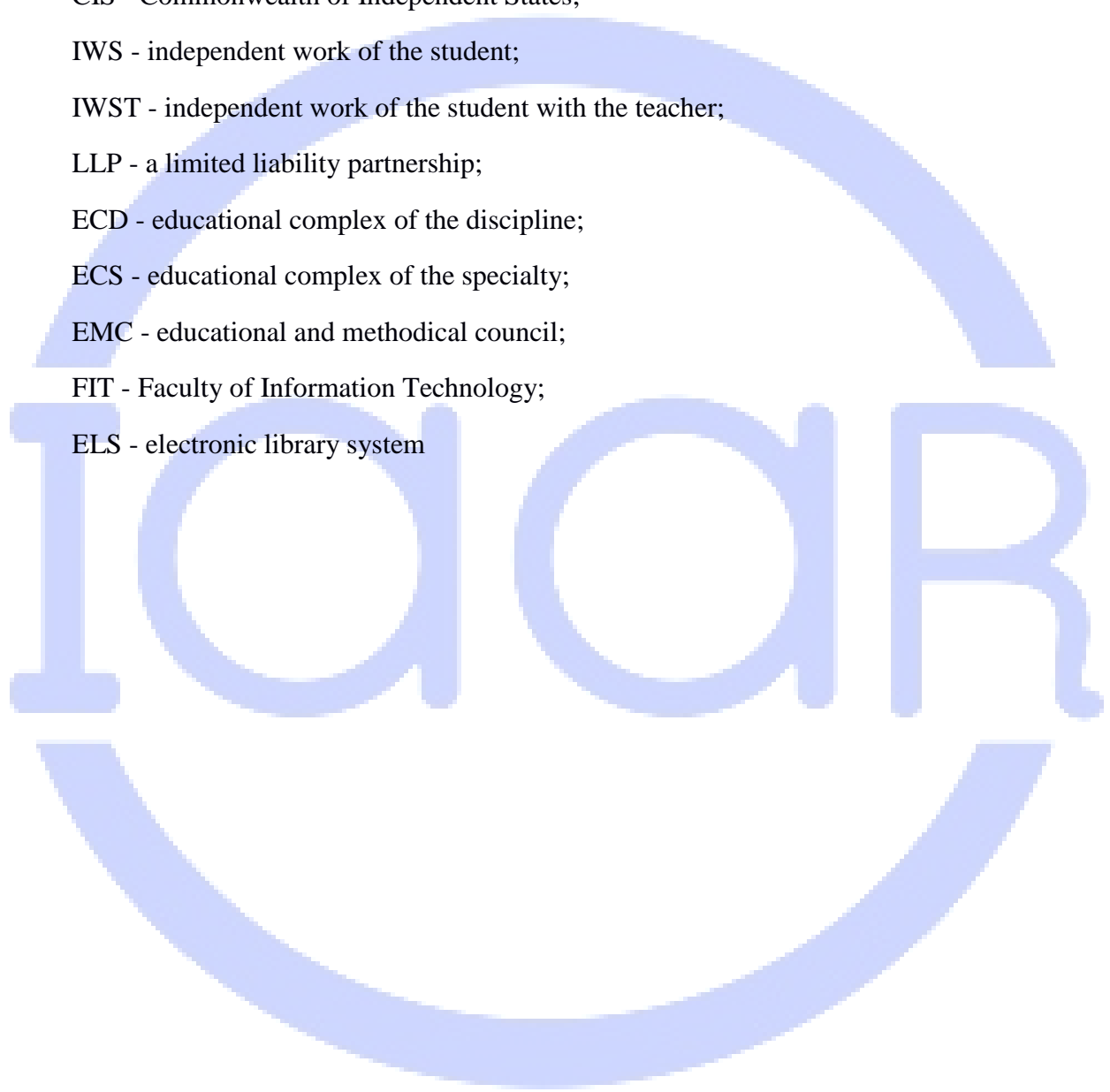
ECD - educational complex of the discipline;

ECS - educational complex of the specialty;

EMC - educational and methodical council;

FIT - Faculty of Information Technology;

ELS - electronic library system



## **(I) INTRODUCTION**

In accordance with the order No. 35-19-OD dated April 8, 2019, the Independent Agency for Accreditation and Rating, from April 22 to April 25, 2019, an external expert committee conducted an assessment of the compliance of educational programs "5B060100 / 6B05401-Mathematics", "5B060200 / 6B06101- Informatics ", " 6M060200 / 7M06101-Informatics ", " 5B060400 / 6B05301-Physics ", " 6M060400 / 7M05301-Physics "Kostanay State University named after A. Baitursynov standards of specialized accreditation of the IAAR (No. 10-17-OD from February 24, 2017 fifth edition).

The report of the external expert commission (EEC) contains an assessment of the compliance of the activities of Kostanay State University named after A. Baitursynov within the framework of specialized accreditation to the criteria of the IAAR, recommendations of the EEC on further improvement of the parameters of the specialized profile.

### **EEC consists of:**

1. **The chairman of the commission** is Bayhan Nurbayevich Ualkhanov, Ph.D., director of Pavlodar Agricultural Experimental Station LLP (Pavlodar);
2. **Foreign expert** - Milan Paul, professor, PhD, Masaryk University, ENQA expert (Brno, Czech Republic);
3. **Foreign expert** - Alexey Mikhailovich Gostin, Ph.D., associate professor, Ryazan State Radio Engineering University (RGRTU) (Ryazan);
4. **Expert** - Zakirova Dilnara Ikramkhanovna, PhD, Turan University (Almaty);
5. **Expert** - Baytele Darkhan Aytzhanuly, Ph.D., Institute of Archeology named after A.Kh. Margulan in the city of Nur-Sultan;
6. **Expert** - Ivashov Arslan Amanbaevich, Ph.D., associate professor, University of UIB (Almaty);
7. **Expert** - Adilbekova Lyazzat Makhaykyzy, Ph.D., Professor, Kazakh State Women's Pedagogical University (Almaty);
8. **Expert** - Toleubaeva Aknur Mukhitovna, PhD, Eurasian National University. L.N. Gumilyov (Nur-Sultan);
9. **Expert** - Ormanfali Medeu Shungenuly, Ph.D., Associate Professor, Member of the Kazakhstan Association of International Law, Member of the German-Russian Lawyers Association, University of Narhoz (Almaty);
10. **Expert** - Zhumabekov Meiram Kenesovich, Ph.D., associate professor, Karaganda State University. E.A. Buketova (Karaganda);
11. **Expert** - Movkebaeva Zulfiya Akhmetvalievna, Doctor of Pedagogical Sciences, Professor, Kazakh National Pedagogical University. Abay (Almaty);
12. **Expert** - Amirbek Zarlykovich Bekeshev, Candidate of Physical and Mathematical Sciences, Associate Professor, Aktobe Regional University. K. Zhubanova (Aktobe);
13. **Employer** - Ludmila Yuryevna Olkinyan, Head of the Corporate University of SaryarkaAvtoProm LLP of Allure Group of Companies JSC (Kostanay);
14. **Employer** - Kazin Manarbek Auanovich, head of the human capital department of the Chamber of Entrepreneurs of Kostanay region (Kostanay);
15. **Student** - Anybekova Anel Tolegenovna, 2nd year student of the EP "5B050500-Regional Studies", Eurasian National University. L.N. Gumilyov (Nur-Sultan);
16. **Student** - Zhanibek Kabdullaevich Utkelbaev, 4th year student of the educational program "5B011900-Foreign Language: Two Foreign Languages", Kostanay State Pedagogical University. U.Sultangazina (Kostanay);
17. **Student** - Lutsenko Olga Sergeevna, 3rd year student of EP "5B060100-Mathematics", Kostanay State Pedagogical University. U.Sultangazina (Kostanay);
18. **Student** - Doribay Aruzhan Temirbaykyzy, 3-year student of the EP "5B050400-



Journalism", Eurasian National University. L.N. Gumilyov (Nur-Sultan);  
19. **Student** - Elena Ivanovna Studenkina, 3rd year student of EP "5B050300-Psychology",  
Kostanay State Pedagogical University. U.Sultangazina (Kostanay);  
**The Agency's Supervisor** is Kanapyanov Timur Yerbolatovich, PhD, Head of International  
Projects and Public Relations, IAAR (Nur-Sultan).

## REPRESENTATION OF EDUCATION ORGANIZATION

The republican state enterprise on the right of economic management "Kostanay State University named after A.Baitursynov" (hereinafter - KSU or University) is the subject of higher and postgraduate education (hereinafter - HPE) of the Republic of Kazakhstan (hereinafter - RK). KSU is a regional university of Kostanay region, providing training in a wide range of specialties. Currently, the university has about 5 thousand students, there are 31 departments, including military.

The University operates in accordance with the Constitution of the Republic of Kazakhstan, the Law of the Republic of Kazakhstan "On Education", the Law of the Republic of Kazakhstan "On Science", the Law of the Republic of Kazakhstan "On the Commercialization of Scientific and (or) Scientific and Technical Activities", regulatory acts governing educational and scientific activities, the Model Rules for the Activities of Organizations of Entities Implementing Higher and Postgraduate Education Programs (Appendix 5 to the Order of the Ministry of Education and Science of the Republic of Kazakhstan No. 595 of October 30, 2018) and the University Charter. The University has a state license (No. 12020851 dated December 11, 2012) and its annexes for the right to conduct educational activities in educational programs of higher and postgraduate education.

The University acts in accordance with the strategic plan of KSU for 2015–2020 (hereinafter referred to as the strategic plan), approved at the meeting of the academic council on December 26, 2014, protocol No. 13. Later, the strategic plan of KSU was amended for 2016–2020 (the decision of the academic council October 28, 2016, Minutes No. 13) and for 2018–2020 (decision of the Academic Council of August 31, 2017, Minutes No. 12). The final version of the strategic plan is posted on the University portal.

Currently, work is underway to change the strategic plan taking into account the strategic development plan of the Republic of Kazakhstan until 2025 (approved by Decree of the President of the Republic of Kazakhstan dated February 15, 2018 No. 636), the Law of the Republic of Kazakhstan "On Education" dated July 27, 2007 No. 319-III changes and additions as of January 01, 2019); Resolution of the Government of the Republic of Kazakhstan dated December 12, 2017 No. 827 "On Approval of the State Program of Digital Kazakhstan", the Programmatic Article of the Head of State "Looking into the Future: Modernization of Public Consciousness", Speeches by the President of Kazakhstan N.Nazarbayev at the opening ceremony of the Year of Youth. January 23, 2019.

The mission of KSU is a regional multidisciplinary university as an educational scientific and cultural center, a generator of innovations and a source of personnel competence of high competence.

Vision - a university that has an impeccable image in society, has achieved sustainable development in the educational services market, maintains broad academic relations with foreign partners to implement joint educational, scientific and cultural programs, ensuring the introduction of innovations and scientific achievements in industry and other spheres of public life.

The strategic goal of development is the formation of a unified scientific and educational space in the northern region of Kazakhstan, ensuring its dynamic, continuous and sustainable socio-economic development.

The mission, vision, strategic goal of development and quality policy are posted on the website of the university and are publicly available.

All documents developed at the university are based on a strategic plan, mission and quality policy.

The educational process is provided by the faculty in the amount of 509 people, of them full-time - 383 people (75.2%): out of 383 full-time faculty members - 16 are doctors of science, including 9 professors (VAK); 15 PhDs and 126 PhDs, of which 56 assistant professors (VAK).

The degree of the university as a whole is – 40,1%.

The contingent of students at KSU over the past 4 years has grown slightly and as of February 1, 2019 is 4,582 people. In January 2019, 232 graduates of specialized magistracy graduates took part, including the SPIID program.

At the end of the 2017-2018 school year, the number of university graduates was 1,228 people, 83% of them are employed. At the same time, the average national employment rate is 67%.

Monitoring of employed university graduates is conducted monthly based on information from official sources (letter No. 01-11 / 16 dated January 8, 2019, S. Sapanov, director of the branch of the State Corporation “Government for Citizens” in Kostanay region, letter No. 14-5 67 dated January 22, 2019 S.Ismagulova, Acting Director of the Department of Foreign Relations, Ministry of Education and Science of the Republic of Kazakhstan and others.

In 2014, KSU underwent the procedure of institutional accreditation by the Independent Kazakhstan Agency for Quality Assurance in Education (IQAA) and is accredited for a period of 5 years (certificate IA No. 0039) on June 3, 2019.

In 2014 and in subsequent years, specialized accreditation procedures were conducted in IQAA, ACQUIN, KazSEE. Taking into account the 18 new EPs opened in 2017 and in 2018, 60 university OPs are accredited out of 78 or 77% of the total.

In 2009, on the basis of Kostanay State University, a Republican seminar “Improving the credit technology of education” was held, at which the University signed the Taraz Declaration - the Memorandum of Universities of Kazakhstan on the adherence to the principles of the Bologna process. In the same year, KSU signed the Great Charter of Universities and thus assumed obligations to develop autonomy, democratic principles of governance, academic freedoms of students, research, educational programs, inseparability of teaching and research. The university has implemented and certified a quality management system based on MS ISO 9001: 2000 with the presentation of certificates of conformity of the Association “Russian Register” and IQNet., And since October 2009 - the new version of MS ISO 9001: 2008.

The university participates in 8 projects of the Erasmus + program. Each project involves the solution of a number of specific tasks for the development of the professional potential of teachers and university staff, the development of educational modules, the creation of new educational programs for magistracies, the improvement of the educational process and the interaction between universities, both within the country and abroad.

The quality of the services provided by the university is confirmed by various ratings. The University participates in the ratings of IQAA, Webometrics.

According to the results of the 2018 ratings, KSU showed the following results:

- In the general ranking of the best multidisciplinary universities of the Republic of Kazakhstan in 2018, according to the IQAA education version, KSU ranked 10th.
- In Webometrics - 15336 position of the university site among the universities of the world.



**Information in the context of the educational programs of the cluster:**

Table 1. The contingent of students by level of training in the context of EP

Contingent learners by category	2015-2016 уч.год			2016-2017 уч.год			2017-2018 уч.год			2018-2019 уч.год		
	Total	in state languag	In russian language	total	in state languag	In russian language	total	in state languag	In russian language	total	in state languag	In russian language
<i>5B060200 Informatics</i>	60	21	39	51	13	38	34	4	30	38	9	29
Full-time education	48	15	33	39	7	32	31	4	27	35	9	26
of them: by grant	30	8	22	21	3	18	17	4	13	28	9	19
Contract	18	7	11	18	4	14	14		14	7		7
Distance education	12	6	6	12	6	6	3		3	3		3
<i>6M060200 Informatics</i>	9	6	3	7	3	4	8	1	7	30	10	20
of them: by grant	6	4	2	3	0	3	5	1	4	30	10	20
Contract	3	2	1	4	3	1	3	0	3	0	0	0
<i>5B060100 Mathematics</i>	50	20	30	40	27	13	39	11	28	41	16	25
of them: by grant	31	6	25	27	4	23	24	4	20	33	11	22
Contract	19	14	5	13	7	6	15	7	8	8	5	3
<i>5B060400 Physics</i>	38	7	31	29	3	26	34	5	29	43	10	33
of them: by grant	26	1	25	22	1	21	28	5	23	37	4	33
Contract	12	6	6	7	2	5	6	-	6	6	1	5
<i>6M060400 Physics</i>	4	-	4	7	-	7	3	-	3	22	-	22
of them: by grant	4	-	4	4	-	4	2	-	2	21	-	21
Contract	-	-		3	-	3	1	-	1	1	-	1

Table 2. The quality and quantity of teachers in EP

Code and name of the specialty	The number of full-time faculty stuff	Number of full-time faculty members with advanced degrees	% Academic degrees
5B060400 Physics	22	11	50%
6M060400 Physics	6	5	83%
5B060200 Informatics	33	18	54,5%
6M060200 Informatics	16	11	70%
5B060100 Mathematics	28	15	53,5%

Table 3. The quality and quantity of teaching staff of the departments

ППС				ППС с учеными степенями			
graduate department	Middle age	Total staff	Number of full day staff	Number of staff with academic degrees	Doctors of Sciences	Candidates of Science	% staff with academic degrees
Mathematics	50,2	10	10	3	-	3	30%
Informatics	38	15	12	4	-	4	33,3%
Electricity and Physics	44	23	20	9	-	9	45%

Table 4. Teaching staff with practical experience

Code and name of the specialty	The number of faculty with experience in production, business, etc.	The number of employers involved in the conduct of employment
5B060400 Physics	2	0
6M060400 Physics	1	0
5B060200 Informatics	7	2
6M060200 Informatics	1	0
5B060100 Mathematics	6	0

Table 5. Employment of graduates of accredited EP

2015/2016 г.			2016/2017 г.			2017/2018 г.		
graduate, number of students.	Employment, number of students (%)	The rest	graduate, number of students.	Employment, %	The rest	graduate, number of students.	Employment %	The rest
<i>EP 5B060200 – Informatics</i>								
13	9, (69%)	1 – master, 1 - army 1 - Permanent Residence of the Russian Federation	18	9, (50%)	6 – master, 2 - army 1 - maternity leave.	7	2, (29%)	3 – master, 1 – army, 1 – Permanent Residence of the Russian Federation
<i>EP 6M060200 – Informatics</i>								
6	6 (100%)		5	5, (100%)		4	4, (100%)	
<i>EP 5B060100 – Mathematics</i>								
13	12 (92%)	1 – maternity leave	9	3, (33%)	2 – master, 3 – maternity leave	14	7 (50%)	4 – master
<i>EP 5B0600400 – Физика</i>								
18	15, (83%)	5 – master, 3– maternity leave	9	7, (77%)	2 – maternity leave	5	4, (80%)	3 – master, 1 – maternity leave.

<i>OII 6M060400 – Physics</i>								
2	2, (100%)	-	2	2, (100%)	-	3	3, (100%)	-



Table 6. Academic mobility by cluster

External and internal academic mobility	2016-2017 у.ғ.г.			2017-2018 у.ғ.г.			2018-2019 у.ғ.г.		
	External	internal	total	External	internal	total	External	internal	total
Number of guest teachers in mobility programs							1		1
Number of mobility program teachers									
Number of mobility program students	1	5	6	1	4	5			
Number of teachers undergoing overseas internship	2	2	4	1		1	1		1
Number of undergraduates undergoing overseas scientific internship	3	5	8	5	3	8	3	11	14

*Amounts funding on research work*

As part of the University's implementation of the State Program for the Industrial Innovation Development of the Republic of Kazakhstan for 2015–2019, educational programs were developed for the magistracy of the EP "Physics in Engineering" with the introduction of the module "Electrical equipment of vehicles" for the period 2019-2021.

As part of the implementation of the plan of the declared OP, the following scientific and practical equipment was acquired with the funds of SPIID-2:

- Complex "Microprocessor ignition system" - 757344 tenge;
- Test diagnostic system for alternators and starters, complete with laptop and software - 771680 tenge
- The complex "Electrical equipment and vehicle electronics" - 1970000 tenge.

**(I) DESCRIPTION OF PREVIOUS ACCREDITATION PROCEDURE**

Educational programs 5B060100 / 6B05401 "Mathematics", 5B060200 / 6B06101 "Informatics", 6M060200 / 7M06101 "Informatics", 5B060400 / 6B05301 "Physics", 6M060400 / 7M05301 "Physics" pass accreditation in the IAAR for the first time.

## (I) DESCRIPTION OF THE EEC VISIT

The visit of the external expert commission to KSU named after A. Baitursynov was carried out on the basis of the approved and agreed in advance Program of the visit of the expert commission on institutional and specialized accreditation of Kostanay State University named after A. Baitursynov from 22 to 25 April 2019.

In order to coordinate the work of the EEC, on April 21, 2019, an orientation meeting was held, during which powers were distributed among the members of the commission, the schedule of the visit was specified, and agreement was reached on the choice of examination methods.

In order to obtain objective information on the assessment of university activities, the EEC members used such methods as visual inspection, observation, interviewing employees of various departments, teachers, students, graduates and employers, questioning the faculty, students.

In accordance with the requirements of the standards, the visit program covered meetings with the rector, vice-rectors, heads of departments, deans, heads of university departments, teachers, students, graduates, employers and employees from various departments, interviewing and questioning teachers and students. A total of 195 people took part in the meetings (Table 1).

### Information about the staff and students who participated in meetings with the EEC IAAR:

*Table 7. Participants of meetings with the EEC IAAR*

Category of participants	number
Rector	1
Vice-rector	3
Heads of structural units,	19
Faculty Deans	7
Heads of Chairs	25
Staff	20
Students	20
Graduates	50
Employers	50
total	195

During the visual inspection, the EEC members familiarized themselves with the state of the material and technical base, visited the faculties and departments implementing accredited educational programs, the scientific library “Bilim Ortalygy”, the Digital Hub “Parasat”, the Scientific Innovation Center, the students’ house No. 2, laboratories: laboratory parallel computing (FIT), Laboratory of Computer Systems Architecture (FIT), Innovative Engineering Laboratory (FIT), Computing Center (FIT), General Physics Laboratory (ITF), Laboratory of Mechanics and Molecular Physics Iki (ITF), laboratory of special physical workshop (ITF).

The events planned during the visit of the WEC NAAR contributed to familiarizing experts with the bases of the practices of OP 5B060100 / 6B05401 “Mathematics”, 5B060400 / 6B05301 “Physics”, 6M060400 / 7M05301 “Physics”, 5B060200 / 6B06101 “Informatics”, 6M060200/7M06101 “Informatics”:

- JSC "Oil Insurance Company" - the main operator for various types of insurance Kostanay region;

- «Первый бит» LLP is a partner of 1C Company, a leading Russian manufacturer of software products for economic purposes;

- Kazakhtelecom JSC - a regional provider of network and telecommunication services;

- «Рембыттехника» LLP is a permanent base of practice for students and undergraduates in

the specialties 5B060400 / 6B05301 "Physics", 6M060400 / 7M05301 "Physics" and 5B060200 / 6B06101 "Informatics".

EEC members attended training sessions:

- on the discipline "Differential Equations", topic "Inhomogeneous LSDU (linear system of differential equations) with constant coefficients", 2 course, specialty 5B060100 / 6B05401 "Mathematics", teacher of Ph.D., associate professor of mathematics Ismagul RS (audience 213, building 1a);

- on the subject "IT - Enterprise Infrastructure", topic "Decomposition of top-level business processes in ARIS eEPC notation", 2nd year, specialty 5B060200 / 6B06101 "Computer Science", teacher Alippaeva D.Zh. (audience 218, building 1a);

- on the discipline "Optics", the topic "Study of the laws of illumination", 2 course, specialty 5B060400 / 6B05301 "Physics", senior teacher Bajnyashev A.M. (audience 309, building 3);

- on the subject "Nuclear Physics", the topic "Cosmic Rays", 3 course, specialty 5B060400 / 6B05301 "Physics", senior teacher Bajnyashev A.M. (audience 309, building 3);

- on the subject "Computer physics 1", topic "Syzyqtyq nemesé tarmaktalatin alqorithderderdi bardarlamalau", 2 course, specialty 5B060400 / 6B05301 "Physics", teacher Zhandarbekova AM (audience 304, building 3).

In accordance with the accreditation procedure, 85 teachers, 90 students, including students of junior and senior courses were surveyed..

In order to confirm the information presented in the Self-Assessment Report by external experts, the working documentation of the university was requested and analyzed. Along with this, the experts studied the university's Internet positioning and the content of the university's official website [www.ksu.edu.kz](http://www.ksu.edu.kz).

All conditions were created for the work of the EEC, access to the necessary information resources was organized. The staff of the KSU team ensured the presence of all the persons indicated in the visit program, in compliance with the established time period.

Within the framework of the planned program, recommendations for improving accredited educational programs at KSU, developed by the EEC based on the results of the examination, were presented at a meeting with the management on 25.04.2019.

## (I) COMPLIANCE WITH SPECIALIZED ACCREDITATION STANDARDS

### **6.1. Standard "Educational Program Management »**

- *The university must have a published quality assurance policy..*
- *Quality assurance policy should reflect the link between research, teaching and learning..*
- *The university should demonstrate the development of a culture of quality assurance, including in the context of the EP.*
- *Commitment to quality assurance should relate to any activity performed by contractors and partners (outsourcing), including the implementation of joint / two-diploma education and academic mobility.*
- *The EP's management ensures the transparency of the development plan of the EP based on an analysis of its functioning, the real positioning of the university and the focus of its activities on meeting the needs of the state, employers, stakeholders and students.*
- *The EP's management demonstrates the functioning of the formation mechanisms and the regular review of the EP development plan and monitoring its implementation, assessing the achievement of training goals, meeting the needs of students, employers and society, making decisions aimed at continuous improvement of EP.*
- *EP management should involve representatives of groups of stakeholders, including employers, students and teaching staff in the development of a development plan for EP.*
- *The EP management must demonstrate the individuality and uniqueness of the EP development plan, its consistency with the national development priorities and the development strategy of the educational organization.*



- *The university should demonstrate a clear definition of those responsible for the business processes within the EP, the unambiguous distribution of job responsibilities of staff, the delineation of the functions of collegial bodies.*
- *EP management must provide evidence of the transparency of the educational program management system.*
- *EP management must demonstrate the successful functioning of the internal quality system of the EP, including its design, management and monitoring, their improvement, making decisions based on facts.*
- *EP management must exercise risk management.*
- *The EP's management should ensure the participation of representatives of interested parties (employers, teaching staff, students) in the collegial bodies of the educational program management, as well as their representativeness in making decisions on the management of the educational program.*
- *The university should demonstrate the management of innovations in the framework of the EP, including the analysis and implementation of innovative proposals.*
- *EP management must demonstrate evidence of openness and accessibility for students, teaching staff, employers and other interested parties..*
- *EP management should be trained in educational management programs.*
- *EP management should strive to ensure that progress made since the last external quality assurance procedure was taken into account in preparing for the next procedure.*

### ***The evidence part***

The activity of KSU named after A. Baitursynov is regulated by the Charter of the university, the Quality Policy, the Strategic Development Plan of KSU named after A. Baitursynov for 2016-2020, a series of documents defining the academic policy of the university.

The Commission notes that, as indicated in the Strategic Plan for the Development of the University, the educational activities of the university focus on the close integration of education, science and production, ensure the high quality of educational and vocational training of graduates and coincide with the mission of the University.

The mission of the university is a regional multidisciplinary university, as an educational and scientific and cultural center, a generator of innovations and a source of high-competence staff potential.

The university's vision is a flawless image in society, which has achieved sustainable development in the educational services market, supports extensive academic relations with foreign partners for joint educational, scientific and cultural programs, ensuring the introduction of innovations and scientific achievements in industry and other spheres of public life.

The mission, strategic goals and objectives of the university are consistent with the state policy in the field of education, consistent with national priorities and development programs in the field of education and science of Kazakhstan. The strategic development plan of the university, containing the mission, objectives and goals, as well as the quality policy approved by the decision of the Academic Council (Protocol No. 6 dated 05.25.2018.). The EEC emphasizes that the mission, strategic goals and objectives of the university are formulated on the basis of material and financial resources, human and intellectual potential, assessment of their implementation, as well as taking into account an analysis of the external market situation.

The main directions of the development plans of OP 5B060100 / 6B05401 - "Mathematics", 5B060400 / 6B05301 - "Physics", 6M060400 / 7M05301 - "Physics", 5B060200 / 6B06101 - "Informatics", 6M060200 / 7M06101 - "Informatics" developed in the same year, the company has been trained in the training department. Republic of Kazakhstan until 2050.

Monitoring the implementation of development strategies is carried out on an ongoing basis. The monitoring results are reports on the areas of activity and the whole university, which are considered at the meetings of the Academic Council. Also, issues reflecting strategic planning and its monitoring are considered at meetings of the University's Board of Trustees. In addition, the medium and short-term tasks are outlined in the annual and monthly plans of the university.

The results of the qualitative implementation of the planned events are discussed monthly at the university administration, which is confirmed by the available protocols.

Perspective and strategic issues of the development of EP are solved taking into account the views of students, teachers, university employees and employers.

Evaluation of the effectiveness of the mission, goals and objectives of the university, as well as the progress of the EP, is carried out on the basis of monitoring key performance indicators and deadlines for the implementation of planned activities, the results of which are discussed at meetings of departments, the Academic Council and the administration. The decisions taken at meetings of the above-mentioned collegial bodies are brought to the attention of interested parties, and questions on the implementation of the decisions taken are regularly heard.

At the university, as a result of changes in external factors, they constantly introduce additions to the strategic goals of the university.

The members of the EEC are convinced that the university has developed a policy in the field of quality assurance aimed at the continuous improvement of the educational process, research activities, and implementation of innovative projects. This policy is based on the mission, vision and values of the university.

The university regularly conducts an internal audit through monitoring the implementation of work plans of structural units, opinion polls, monitoring studies of the quality of students' knowledge.

Presented to the accreditation of the EP fulfill the requirements of the Decree of the Government of the Republic of Kazakhstan dated August 15, 2017 No. 484 "On approval of state educational standards of the relevant levels of education" and in their substantive content are practically aimed.

The peculiarity of OP 5B060100 / 6B05401 "Mathematics", 5B060400 / 6B05301 "Physics", 6M060400 / 7M05301 "Physics", 5B060200 / 6B06101 "Informatics", 6M060200 / 7M06101 "Informatics" are:

- orientation in the development, implementation and evaluation of EP on the competence of graduates, as learning outcomes;
- the use of the ECTS credit system (credit units) to assess the competencies ensuring their achievement;
- development of international cooperation with universities and enterprises;
- development of close ties with enterprises in the region.

The University ensures the awareness of stakeholders and the transparency of the content of the main strategic documents and development plans of the EP, conducts a public discussion with representatives of all stakeholders, a discussion on collegial bodies.

Development mechanisms EP 5B060100 / 6B05401 "Mathematics", 5B060400 / 6B05301 "Physics", 6M060400 / 7M05301 "Physics", 5B060200 / 6B06101 "Informatics", 6M060200 / 7M06101 "Informatics", are designated by the development plan EP, and they will be created by the designer, and then the subprogramm will be created by the designer, and then the subprogramm will be created by the designer, and then the subprogramm will be created by the subprogram of the program and by the subprogram of the subprogram of the subdivision of the subdivision of the program. and are expressed in the following:

- introduction of new and qualitatively improved academic disciplines, modules;
- transition to in-depth study of individual subjects (specialization);

- application of new ones, incl. information educational technologies, the introduction of progressive forms of organization of the educational process and active teaching methods, as well as educational materials corresponding to the modern level of development of science and technology.

Faculty members, partners and employers, as well as students, take part in the development of EP. The following organizations take part in the formation and revision of the development plan of the EP:

- 5B060100 / 6B05401 “Mathematics”: Oil Insurance Company JSC (main operator for various types of insurance of Kostanay region), Kostanay College of Service Industry GCE (Kostanay), RGP on RGP Kostanay State Pedagogical University MES RK, NC “Kostanay Engineering and Economic University. M. Dulatova "MES RK, a branch of the" Nazarbayev Intellectual School of Physics and Mathematics in Kostanay "AOO" Nazarbayev Intellectual Schools ", State Educational Institution" Education Department of Kostanay Akimat ";

- 5B060400 / 6B05301 “Physics”, 6M060400 / 7M05301 “Physics”: KF JSC “National Center for Examination and Certification”, LLP “Rembyttehnika”, LLP “Sevkazagroplus”, Branch of RSE on PCH “Kazhydromet” in Kostanay region, Branch of “EI” -Nur-Service ", LLP" Dostar-09 ", LLP" MBF group ", LLP" EPK-forfait "JSC" Kostanay Minerals ";

- 5B060200 / 6B06101 Informatics, 6M060200 / 7M06101 Informatics: LLP «Первый БИТ», Education Department of Akimat of the Denisovsky District, computer shop ISE Computers, branch of RSE for PVC Information Center of the Statistics Agency of Kazakhstan, IP POZITIV ", Office Service Plus LLP, Kostanaypoligrafiya LLP, IT Consalting LLP, Nazarbayev Intellectual Schools AOO, Kostanay Life LLP, RG Kostanay Taky LLP, Xinjiang University (China).

The individuality and uniqueness of accredited educational programs lies in their orientation towards the regional labor market, the availability of elective courses that complement the core disciplines commissioned by employers in the region. Proposals reflected in the reviews on the EP and recommendations of employers of the faculty of the department, are implemented in the elective courses of the OP.

The individuality of the development plans of educational programs is due to the close interaction with employers, taking into account the specifics of the region. Also, within the framework of the EP, students are able to build individual educational trajectories by choosing disciplines that take into account personal preferences and needs of the labor market in the region. For example, the following disciplines were developed in conjunction with employers and implemented in the educational process:

- on OP Informatics: “Languages and Technologies of Programming”, “Digital Government”, “Digital Communication Technology”, “Theory of Electrical Circuits”, “Information Transmission Theory”, “Telecommunication Systems”;
- on OP Physics: "Consumer Electronics and Electrical Engineering", "Fundamentals of Electronics and Circuit Engineering", "Digital Electronics", "Microprocessor Technology", "Instruments and Equipment for Physical Experiment", etc .;
- on OP Mathematics: "Introduction to actuarial mathematics", "Actuarial mathematics", "Theory of risk".

The focus of the EP on the development of professional skills is implemented through continuous monitoring of the quality of teaching updated disciplines and the compliance of learning outcomes with the requirements stated in the graduate models.

#### ***Analytical part***

The analysis conducted by the commission showed that the strategic plan for 2016-2020 complies with the current legislation of the Republic of Kazakhstan in the field of education and

science, strategic and program documents. Experts note that teachers, staff and students are aware of the availability of the University's Strategic Development Plan, EP development plans, which allows for the synchronous development of EP in the context of the content of strategic documents.

At the same time, the EEC notes the need for the development of EP as an individual and unique plan, consistent with national development priorities and strategies for the development of the organization of education, as well as the transparency of the educational program management system.

Despite the fact that the mission, goals, objectives and policies of quality assurance are publicly available on the website of the university, as a result of interviews, the commission revealed that teachers and students are not sufficiently aware of the content of these documents. Also, members of the EEC note the lack of risk management at the level of the EP, individual departments and other structural units of the university.

According to the results of interviews and analysis of the submitted documents, members of the EEC note the insufficient cooperation of the university with partners in the field of development of double-diploma education, external and internal academic mobility of students and teaching staff.

In the course of the planned meetings with students and teachers, experts note the weak feedback of university management with students and teaching staff. Identified the need for training leadership EP in the field of risk management and commercialization of the results of proactive research.

As a result of the analysis as a whole, the experts were convinced of the coherence of the university's strategic goals, the adequacy of the mission, vision, strategy to the available resources: financial, informational, personnel, which is confirmed by the results of the students' survey:

- 86% of students expressed satisfaction with the explanation of admission rules and strategies of the educational program (specialty);
- 83.9% of students expressed satisfaction with the level of implementation of these rules and strategies of the educational program (specialty);
- informing students about courses, educational programs, and academic degrees expressed full agreement - 83.9%, consent - 14% of students.

***Strengths / best practice for OP 5B060100 / 6B05401 "Mathematics", 5B060400 / 6B05301 "Physics", 6M060400 / 7M05301 "Physics", 5B060200 / 6B06101 "Informatics", 6M060200 / 7M06101 "Informatics":***

- availability of a published quality assurance policy;
- a plan for the development of EP was developed taking into account the positioning of the university in the region, meeting the needs of the state and employers for highly qualified personnel;
- definition of responsible for business processes in the framework of the EP, the allocation of job responsibilities of staff, the delineation of the functions of collegial bodies within the framework of the current QMS of the university.

***EEC recommendations for OP 5B060100 / 6B05401 "Mathematics", 5B060400 / 6B05301 "Physics", 6M060400 / 7M05301 "Physics", 5B060200 / 6B06101 "Informatics", 6M060200 / 7M06101 "Informatics":***

- *To expand the circle of students and employers involved in the formation of the development plan for the EP.*



- To provide a steady feedback of the university management with students and faculty in the management and development of EP.
- Develop an action plan for the development of research and implementation of innovative proposals in the EP and the university.
- To conduct training of EP management in the field of risk management and commercialization of research projects, to implement risk management at the level of structural units, processes and EP.

**Additional recommendations for EP 5B060400 / 6B05301 "Physics", 6M060400 / 7M05301 "Physics":**

With the involvement of employers to develop a mechanism for the commercialization of research projects in the field of energy efficiency and energy audit, to ensure their implementation in the implementation of the EP.

**The findings of the EEC on the criteria: (strong / satisfactory / suggest improvements / unsatisfactory)**

According to the standard "Management of the educational program" opened 17 criteria, of which OP 5V060100 / 6V05401 "Mathematics", 5V060400 / 6V05301 "Physics", 6M060400 / 7M05301 "Physics", 5V060200 / 6V06101 "Informatics", 6M060200 / 7M06101 "Informatics" 5 has a strong position, 7 - satisfactory, 5 - need improvement.

**6.2. Information Management and Reporting Standard**

- The university should ensure the functioning of the system for collecting, analyzing and managing information through the use of modern information and communication technologies and software.
- The EP management must demonstrate the systematic use of the processed, adequate information to improve the internal quality assurance system.
- Within the EP there should be a system of regular reporting, reflecting all levels of the structure, including an assessment of the effectiveness and efficiency of the activities of departments and departments, and research.
- The university should establish the frequency, forms and methods of evaluating the management of EP, the activities of collegial bodies and structural divisions, senior management, the implementation of research projects.
- The university must demonstrate how to determine the order and ensure the protection of information, including determining those responsible for the accuracy and timeliness of information analysis and data provision.
- An important factor is the involvement of students, employees and teaching staff in the process of collecting and analyzing information, as well as making decisions based on them.
- EP management must demonstrate the presence of a communication mechanism with students, employees and other stakeholders, including the availability of conflict resolution mechanisms.
- The university should provide a measure of the degree of satisfaction of the needs of faculty, staff and students in the framework of the EP and demonstrate evidence to eliminate the detected deficiencies.
- The university should evaluate the effectiveness and efficiency of activities, including in the context of the EP.
- Information collected and analyzed by the university at the EP should take into account:
  - key performance indicators;
  - the dynamics of the contingent of students in the context of forms and types;
  - level of academic achievement, student achievement and expulsion;
  - students' satisfaction with the implementation of the EP and the quality of education at the university;

- availability of educational resources and support systems for students;
- employment and career growth of graduates.
- Trainees, employees and teaching staff must document their consent to the processing of personal data.
- EP management should assist in providing all relevant information in relevant fields of science.

### ***The evidence part***

The university has successfully used information management, including collection and analysis. The following administrative documents are used in managing the main processes of a university (educational, methodical, scientific, educational): decisions of collegial governing bodies (Board of Trustees, Academic Council, university administration), orders of the rector and orders of vice-rectors on activities, documents on students (staff orders, students, undergraduates), planning, analytical, reporting, financial and accounting documents, etc.

The university uses an adequate information processing system to improve the internal quality assurance system. At a satisfactory level, a regular reporting system is implemented at all levels of the organizational structure.

Information management occurs within the official portal <https://ksu.edu.kz>. The portal provides information and communication to students, teachers and other interested parties. The site provides information on the management of educational, methodological, scientific, educational processes, there are web pages of individual departments: faculties, departments, personal pages of teaching staff. Site sections are focused on different categories of users: applicants, students, masters, graduates and faculty. The site has a modern dynamic design, information is published in three languages, there are all the standard bookmarks such as: rector's blog, news section with video content, there are university offices in social networks.

The university has implemented the following systems for collecting, analyzing and managing information based on the use of modern information and communication technologies and software:

- Information management within the official university portal <http://ksu.edu.kz>.
- Platonus AIS is used for reporting and organizing interaction with the MES RK.
- In the student account of the educational portal, access is available to the results of training and monitoring, grant support, schedule of classes and exams, electronic training courses in the disciplines of EP, the Internet also has access to video lectures of university teachers and foreign teachers.
- The personal office of the teacher is designed to automate the activities of the teacher concerning the provision of the educational process. With the help of a private office, the teacher fills the journal of students' academic achievements, forms case studies on the subjects for students on distance learning technology, and checks written work for borrowing. In addition, in the private office, the teacher can see information about the schedule of studies, individual study load, generate reports on supervised groups, conduct online classes. In the private office there are means of communication with students and teachers of the university.
- The system of distance learning based on Moodle provides students with access to the resources of the electronic library, which stores electronic educational resources and teachers' teaching and material departments, as well as the system of conducting video lessons and webinars Adobe Connect.
- The library's information management system includes the library's website, an electronic catalog in the IRBIS system, and access to library resources: RMEB (Republican Interuniversity Electronic Library of Kazakhstan), scientometric databases Web of Science Core Collection and Scopus, Russian eLibrary index of scientific citation (RIELK).

All of these systems demonstrate the existence of a communication mechanism with



trained workers and other interested parties.

The information collected in the framework of this monitoring, in particular, takes into account:

- key performance indicators;
- availability of educational resources and support systems for students;
- Employment and career growth of graduates.

The university has introduced a rating assessment of the effectiveness of faculty activities, which is used to stimulate educational and scientific activities.

The safety of information is ensured by the distribution of roles and functions in the used IP, the presence of installed antivirus programs in computer classes, and system administration of servers.

The reporting system includes annual reports of structural divisions, reports on research and development works, financial statements.

The system of collecting, analyzing and managing information at KSU named after A. Baitursynov is used to ensure the quality of the implementation of the EP, which is confirmed by the relevant internal regulatory documents.

The system of information and feedback is aimed at students and workers, and includes information stands on the departments, the functioning of the official website of the university in three languages.

The analysis carried out by experts showed that the main forms of resolving possible conflicts at the university are:

- boxes of complaints and suggestions placed in each educational building;
- Rector's blog posted on the university website;
- survey of students, faculty and employers.

Experts found that faculty, students and employers are involved in the process of collecting and analyzing information through questioning, interviewing, and decision-making based on them during the meetings of departments, round tables, the department of international cooperation of the faculty and the Academic Council of the University.

### ***Analytical part***

The experts during the visit to the university analyzed the structure and amount of information collected, sources, frequency, responsible persons for accuracy and timeliness, determined by the internal regulatory documentation of the university, job descriptions of department heads.

In the course of analyzing the functioning of the university's information portal, experts identified the risk of leakage of students' personal data placed in public databases and files in the public domain, in particular, the number of the dorm room and their social status. It also emerged that not all students confirmed written consent to the processing of personal data.

The EEC Commission notes the active use of information resources and distance learning courses in the educational and scientific activities of the university. Information and library resources reflected in the work programs are accessible to all students and teaching staff of the cluster.

*According to the results of the survey conducted, 88.9% of students were fully and partially satisfied with the usefulness of the university's website. The relationship with the direct management is fully or partially satisfied with 96.4% of the faculty. Full student satisfaction with the accessibility level of the dean's office is 63.3%, availability and responsiveness of the management - 53.3%, accessibility of academic counseling - 51.1%, accessibility counseling on personal matters - 66.7%. The level of availability of library resources is fully and partially*

satisfied - 84.4%.

**Strengths / Best practice for EP 5B060100 / 6B05401 "Mathematics", 5B060400 / 6B05301 "Physics", 6M060400 / 7M05301 "Physics", 5B060200 / 6B06101 "Informatics", 6M060200 / 7M06101 "Informatics":**

The university has an advanced system for collecting and analyzing data, including key performance indicators, the dynamics of the contingent of students in the context of forms and types, level of performance and achievements of students.

**Recommendations of EEC for EP 5B060100 / 6B05401 "Mathematics", 5B060400 / 6B05301 "Physics", 6M060400 / 7M05301 "Physics", 5B060200 / 6B06101 " Informatics ", 6M060200 / 7M06101 Informatics ":**

-Revise the mechanism of protection and the use of students' personal data published in publicly accessible databases and files on the university portal, bring them into line with the regulatory framework.

**Findings:EEC on the criteria: (strong / satisfactory / need improvement/ unsatisfactory)**

-According to the standard "Information management and reporting" discovered 17 criteria, out of which under EP 5B060100 / 6B05401 "Mathematics", 5B060400 / 6B05301 "Physics", 6M060400 / 7M05301 "Physics", 5B060200 / 6B06101 "Informatics", 6B060200 / 7B06101 "Informatics" 3 has a strong position, 13 - satisfactory, 1 - need improvement.

### **6.3. Standard "Development and approval of the educational program"**

The university should determine and document the procedures for the development of EP and their approval at the institutional level.

The university must demonstrate the compliance of the developed EPs with the established goals, including the expected learning outcomes.

The university should demonstrate the presence of developed models of graduate EP, describing learning outcomes and personal qualities.

The university must demonstrate an external examination of the EP.

Qualifications obtained at the end of the EP should be clearly defined, explained and correspond to a certain level of the NSC.

The university should determine the influence of disciplines and professional practices on the formation of learning outcomes.

An important factor is the possibility of preparing students for professional certification.

In the development should be presented evidence of training, as well as their quality.

Labour intensity should be clearly defined in Kazakhstan creditsloans and ECTS.

Level of study (bachelor, master, doctoral).

The structure of the EP should provide for different activities corresponding to the learning outcomes.

An important factor is the presence of joint EP with foreign educational organizations.

#### **The evidence part**

The educational programme 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7B05301 "Physics", 5B060200/6B06101 "Informatics", 6B060200/7B06101 "Informatics" developed in accordance with the requirements of normative documents of MES of RK, national and sectoral qualifications framework, occupational standards, based on the analysis of the labour market and recommendations of employers. The educational program focused on learning outcomes and constructed by a modular principle and is based on the model curriculum of the order of MES RK №425 from 05.07.16 and Regulations of the ROK government dated 15.08.2017, №484 "On approval of state compulsory educational standards of respective levels of education" in direction of preparation of bachelors is carried out in accordance with the state license of MES RK №12020748 from 05.11.2012,

According to the regulations on the development and implementation of higher education EP university independently develops and approves the EP training of bachelors and masters on

the basis of SES in accordance with the National qualifications framework, professional standards and agreed with the Dublin descriptors and the European qualifications framework.

EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics" implemented in the departments of "Mathematics", "Informatics", "Electricity and Physics", which are the structural units of faculty of information technology and engineering faculty and includes the development of the structure and content of accredited EP, the analysis of information on implementation, reporting and coordination of draft decisions on the implementation of the EP, summarizing the comments and suggestions, presentation of results to management. Departments also carry out scientific and practical, scientific and pedagogical and methodical, information, consulting services to the organizations of a heat power complex, develops and introduces innovative technologies in educational process.

Consideration and approval of the EP takes place at the department, it is recommended by the decision of the Academic Council of the University and approved at a meeting of the Educational Council of the University.

The procedure of examination of educational programs is prescribed in the provision "Quality assurance system of the University" in the standard "Development and approval of programs" and published on the website of the University.

EP 5B060100/6B05401 "Mathematics" has a learning trajectory "Actuarial mathematics and insurance", so the examination was conducted by JSC "Oil insurance company".

EP 5B060200/6B06101 "Informatics" received the expert opinion in FE ISE-Computers, where the need of experts in the field of designing microprocessor systems (ICS) and microcontrollers (MCU).

Inspection of EP 6M060200/7M06101 " Informatics " is held by the head of the department of speech information systems, NRU ITMO, Ph. D., chief scientific officer of JSC "MDG innovation" Matveev Y.N.

Expert opinion on EP 5B060400/6B05301 "Physics" was received in the CF JSC "National center of expertise and certification".

EP 6B060400/7B05301 "Physics" have passed the examination in Kostanay Social and Technical University named after Z. Aldamzhar, an expert Doctor of Physical and Mathematical Sciences, rector of the University K. K. Zhamanbalin.

Educational and methodical documentation includes educational and methodical complex of specialty (EMCS), which includes modular educational programs (Mops), working curricula (rups), catalogs of elective disciplines (CED), which describes the discipline component of choice with a brief content, pre-and post-requisites, educational and methodical complexes of disciplines (syllabus) (emcd), guidelines for various types of educational activities (ISW, practices, etc.).

Documents of EMCS are developed by the faculty of the Department in accordance with the provisions of (Regulations on the development of teaching materials, EP, CED) and discussed at faculty meetings (minutes of meetings of departments No. 4 of 23.11.2017 and No. 10 of 17.05.2017 g).

At the stage of program design graduate departments determine the model of graduates. The model is a set of knowledge, skills and experience of their application in practice, integrated into professional and universal competence, which must have graduates at the time of graduation from the program. Employers, faculty and students are involved in the development of the graduate model. During the visit to the Department of "Informatics" members of the EEC found that the final list of competencies of the graduate model is agreed with the head of the department, experts, representatives of employers of LLP "First Bit", CF JSC "Oil insurance company", which is the strength of the EP, implemented by the department.

Industrial practice on accredited EP is carried out according to the document "Rules of organization and conduct of professional practice and rules for determining the organization as the bases of practices" (Approved by the order of the MES of 29 January 2016 from №107).

Practical training of students is a mandatory element of training in the educational program of the specialty. The educational program provides the following practices: educational (after 1 course), industrial (after 2 courses), industrial (after 3 courses), industrial, pre-diploma – after 7 semester 4 courses.

Bases of educational practices are: educational institution, educational workshops, laboratories, polygons, computer classes and other educational and auxiliary units of the university, as well as organizations corresponding to future professional activities.

For students of all types of practices of the Department have contracts with organizations (table 8).

**Table 8. Information about the fields of practices.**

Educational program	Fields of practices
EP 5B060100 Mathematics	State enterprise "Kostanay College of service sector" Kostanay, RSE on PHV Kostanay state pedagogical University, JSC "Oil insurance company", CHU "Kostanay engineering and economic University.M. Dulatov" MES, a Branch of "Nazarbayev intellectual school of physics and mathematics of Kostanay city" of AOO "Nazarbayev intellectual schools", "Department of education of akimat of Kostanay» State enterprise "Kostanay College of service sector" Kostanay, RSE on PHV Kostanay state pedagogical University, JSC "Oil insurance company", CHU "Kostanay engineering and economic University.M. Dulatov" MES, a Branch of "Nazarbayev intellectual school of physics and mathematics of Kostanay city" of AOO "Nazarbayev intellectual schools", "Department of education of akimat of Kostanay»
EP 5B060200 Informatics, EP 6M060200 Informatics	Department of education of Denisovsky district, Computer store "ISE Computers", Branch of RSE on PVC "Information computer center of the Agency of Kazakhstan on statistics", IP "POZITIV", LLP "Office service plus", LLP "Kostanai Poligraphy", LLP "IT consulting", JSC "Nazarbayev Intellectual schools", LLP "Kostanay life", LLP "RG Kostanay Tans", Xinjiang University, LLP "First Bit", LLP " First Bit»
EP 5B060400 Physics, EP 6M060400 Physics	KF JSC "National center of examination and certification", LLP "Rembyttekhnik", LLP and L "Subcategorys", the Branch of RSE "Integro" in Kostanay region, Kostanay Branch of LLP "El-Nur-Service", LLP "Dostar-09", LLP "MBF group", LLP "EPK-forfait", JSC "Kostanay minerals»

Participation of employers in the development of EP is carried out through participation in the production practices, review of final works, and management of theses in enterprises, participation in the work and in the state certification commissions.

An important factor is the professional certification of students.

So, on the chairs under EP there is the practice of issuing certificates to students. Students majoring in 5B060200, 6M060200 - Informatics, receive certificates, "English language program level A2", "Office work in the Kazakh language", "Modern information technology in education." Professional certification of students of EP Informatics includes the studying courses on 1C in the training center of the company "First bit". Participation of employers in the development of EP is carried out through participation in the production practices, review of final works, and management of theses in enterprises, participation in the work and in the state certification commissions.



The availability of joint ventures with foreign educational organizations is confirmed by the fact that the department of "Informatics" implemented a joint educational program "Speech information systems" in the field of master's degree: 6M060200 "Informatics" (Kostanay state University named after A. Baitursynov) and 09.04.02 "Information systems and technologies" (St. Petersburg national research University of information technology, mechanics and optics - ITMO).

In order to implement the development plan of EP for 2017-2021 accredited specialties in the reporting period, branches of the Department were created on the basis of LLP "Rembyttekhnika", LLP "Company First Bit".

#### **Analytical part**

Analyzing the standard "Development and approval of the educational program", the Commission concluded that the accredited areas take into account the ultimate goals of higher education, which are aimed at mastering professional competencies, in accordance with the requirements of the standard, as well as the acquisition of knowledge, skills and abilities necessary for the implementation of future professional activities.

The learning outcomes of the EP purchased acquired by the graduate are determined by competencies, i.e. the ability to apply knowledge, skills and personal qualities in accordance with the objectives of professional activities.

Experts note that educational programs are fully provided with working curricular, syllabus, EMCD, developed in accordance with the regulations, the content of which meets the specifics of educational programs. The job of the SIW is included in EMCD. Types of independent work of students, their complexity in hours, form and terms of control are regulated in the relevant sections of the syllabus (working curriculum) for each discipline. The content of the working curricula reflects the specifics of the EP.

Experts note that for the organization of joint and double-degree education in the framework of OP 6M060200/7M06101 "Informatics", it is necessary to expand the policy of cooperation with ITMO (St. Petersburg), other universities of near and far abroad, public education organizations and research centers.

EEC notes that formal cooperation with foreign and domestic partners is often accompanied by insufficient academic mobility of students and faculty, low personnel indicators, weak level of research.

Survey of students conducted during the visit of the EEC showed:

- informing the requirements in order to successfully complete this specialty, 70% of students are fully satisfied, partially satisfied – 24,4%;
- 65.6% of students are fully satisfied with informing about courses, educational programs, and obtaining academic degrees, partially satisfied – 22.2%;
- 70% of the students are fully satisfied with the overall quality of the curriculum and 24.4% are partially satisfied.

Strengths/best practice for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", M060200/7M06101 " Informatics »:

- the content of elective disciplines and professional practices has a significant impact on the formation of professional competencies of the graduate;
- the content of academic disciplines and learning outcomes correspond to the level of training and qualification of the graduate within the EP.

Additional strengths/best practice for EP 5B060200/6B06101 - Informatics, 6M060200/7M06101 — Informatics:

- within EP training for professional certification in the field of operation and setup of software products on THE 1C platform is carried out»;
- in the framework of EP double-diploma educational programs with foreign universities are implemented.

**The recommendations of the EEC for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics":**

It is proposed to involve students and employers more effectively in the development of educational programs, their analysis and planning.

To organize work on improvement of joint and/or double-degree programs with foreign universities.

**Findings:EEC on the criteria: (strong / satisfactory / need improvement/ unsatisfactory)**

Under standard "Development and approval of educational programs" 12 criteria are disclosed, out of which under EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics" 5 has a strong position, 7 – satisfactory.

#### **6.4. Standard "Continuous monitoring and periodic evaluation of educational programs»**

The University should monitor and periodically evaluate the EP in order to achieve the goal and meet the needs of students and society. The results of these processes are aimed at continuous improvement of the EP.

Monitoring and periodic evaluation of the EP should consider:

- content of programs according to the latest achievements of science in a particular discipline to ensure the relevance of the taught discipline;
- changes in the needs of society and the professional environment;
- load, progress and graduation of students;
- effectiveness of students' assessment procedures;
- expectations, needs and satisfaction of students with training on EP;
- educational environment and support services, and their compliance with the objectives of the EP.

The University and the management of the EP must provide evidence of the participation of students, employers and other stakeholders in the revision of the EP.

All stakeholders should be informed of any planned or undertaken actions with respect to the EP. All changes made to the EP must be published.

The management of the EP should ensure that the content and structure of the EP are reviewed in the light of changes in the labour market, employers' requirements and social demands of the society.

#### **The evidence part**

A. Baitursynov Kostanay State University conducts ongoing monitoring of the quality of education to identify the extent and completeness of the implementation of educational standards, the compliance of the operational objectives of the University strategic requirements of the specialist labour market, the level of ability of teachers to prepare competitive specialists. To monitor and periodically evaluate their educational programs as within the University control the University uses the following methods: certification of current academic performance of students, final certification, certification of all practices, checking the status of methodological support of the educational process, collection and analysis of data on customer satisfaction.

The system of monitoring the implementation of plans for the development of accredited EP includes the following mechanisms:

- annual reports of the Department and faculty;
- annual reports of teachers of the Department;
- results of internal audits;
- consideration of questions of development of various directions of training of specialists for the meetings of the collegial bodies.

#### **Internal environment of EP are:**

- results of monitoring and execution of processes;



- assessment of staff satisfaction;
- results of surveys of students, employers, applicants and parents;
- results of ratings.

The external environment of EP are:

- interaction with enterprises and organizations of the city and region on the organization of educational and professional practices, employment of students, research and initiative work;
- interaction of the Department with educational institutions of the city and region;
- conversations with parents and students during the UNT, KTA.
- carrying out various activities that position the specialty.

The list of stakeholders of the EP includes stakeholders, graduates, students, faculty of the Department. Familiarization of all interested persons is carried out, in particular, in the course of the round table, as well as in the development of the EP. Educational programs are aimed at meeting the needs of the state, stakeholders: employers of Kostanay region, students and their parents.

The development of educational programs in the specialty 5B060100/6B05401 Mathematics, 5B060200/6B06101 "Informatics" stakeholders are invited to attend - heads of the large enterprises of the city, who are making their proposals of disciplines necessary for the formation of competitive specialists, capable to solve tasks. For example, LLP "Company First Bit" and CF JSC "Oil insurance company".

The educational process at the University is regulated by internal regulatory and methodological documents developed on the basis of the requirements of the MES.

#### **Analytical part**

As a result of visiting the Department and studying the documents, the members of the EEC confirm that at the departments of the EP regular monitoring and periodic evaluation of the EP are carried out, responsible for reviewing the content and structure of the EP, taking into account changes in the labor market, the requirements of employers and social demand of the society.

The content of the CED of EP is updated annually on the recommendation of employers. However, experts on the results of meetings with employers and graduates note that not all interested persons are informed about the planned or taken actions in respect of accredited EP. Not always made changes EP are published on the portal.

Experts note that in the course of regular monitoring and periodic evaluation of EP University takes into account the load, academic performance and output of students, as evidenced by the content of the educational portal and AIS "Platonus". However, a number of employers are not involved in the discussion of the structure and content of the EP on the Department, to monitor satisfaction with the quality of training of graduates and the conditions of implementation of the EP.

***Strengths/best practice for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:***

- regularly conducted by the University monitoring and periodic evaluation of EP take into account the load, performance, output, as well as the effectiveness of the assessment procedures of students;

- the University carries out an annual review of the structure and content of the EP, taking into account changes in the labor market, the requirements of employers and the social demand of society.

The recommendations of the EEC for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "computer science»:

- To provide timely information to students and employers about all planned and undertaken changes to the EP through the publication of news information on the website of the University.

- To carry out regular monitoring of employers' satisfaction with the quality of training of graduates and the conditions of implementation of the EP on the basis of feedback.

Conclusions of the EEC on the criteria: (strong/ satisfactory/ suggest improvements/ unsatisfactory)

Standard "Continuous monitoring and periodic evaluation of educational programs" revealed 10 criteria, out of which EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 Informatics 4 has a strong position, 5 –satisfactory, 1 – needs improvement.

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

The management of the EP should ensure respect and attention to different groups of students and their needs, providing them with flexible learning paths.

The guidebook of the EP should ensure the use of different forms and methods of teaching and learning.

An important factor is the availability of own research in the field of teaching methods of academic disciplines of EP.

The guidebook of EP should demonstrate the existence of a feedback system on the use of different teaching methods and evaluation of learning outcomes.

The management of EP should demonstrate support for the autonomy of students, with simultaneous guidance and assistance from the teacher.

EP leadership must demonstrate the existence of procedures for responding to complaints of students.

The university should ensure consistency, transparency and objectivity in the evaluation of learning outcomes for each EP, including appeal.

The university should ensure that the procedures for assessing the learning outcomes of students under EP correspond to planned learning outcomes and objectives of the program. The criteria and methods of evaluation for the EP should be published in advance.

The University should identify mechanisms to ensure the development of each EP graduate learning outcomes and ensure the completeness of their formation.

Evaluators should be familiar with modern methods of assessing learning outcomes and regularly improve their skills in this area.

The evidence part

The management of the EP provides equal opportunities for students regardless of the language of instruction to form an individual educational program aimed at the formation of professional competence. The educational process is conducted in the state and Russian languages, some subjects of the EP are conducted in English, there are also multilingual groups.

Individual educational trajectory is reflected in modular educational programs, working educational and individual curricula, where along with general education, basic disciplines of the mandatory component there are elective courses and various types of practices that are aimed at providing professional competencies.

Academic discipline departments "Mathematics", "Informatics" and "Energy and Physics" in the framework of EP "5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics" fully secured teaching materials, methodical instructions to the CDS, SRSP laboratory works in Kazakh and Russian languages.

In February 2019, the University held a seminar on "Student-Centered learning: principles, technologies and conditions of implementation", which was attended by the heads and faculty of the departments of the cluster.

For the successful development of students accredited EP teaching staff used in the educational process of innovative teaching methods in the form of business and role-playing games, simulation training, discussions, and situational tasks. Teachers successfully practice

presentations of training courses using projection equipment. During the seminars, the cluster staff actively uses testing, monitoring and training technologies, electronic textbooks.

Taking into account the importance of assessing the performance of students for their future career, the criteria and methods for evaluating all types of controls are published before the start of training in the EMCD, work training programs (syllabus), which are placed in an electronic library or in the system of distance learning technologies.

Assessment of knowledge is carried out in accordance with established procedures and includes current and midterm control, interim and final certification.

Current control includes checking the educational achievements of students during the academic period in accordance with the schedule specified in the syllabus of the discipline. Current control is carried out on the subjects of the discipline in the classroom and extracurricular activities. Educational achievements of students are evaluated on a 100-point scale for each completed task. The final result of the current control is calculated by calculating the arithmetic mean of all estimates obtained during the academic period.

Midterm control is carried out at the end of the section (module) of one discipline. The form of boundary control is established by the teacher. The assessment of the admission rating is calculated as the arithmetic mean of the assessments of the current control of progress and assessment of the boundary control. A student who has scored less than 50% of the total semester rating score is not allowed to the examination session.

Interim certification is carried out during the examination session to assess the quality of development of students of the content of part or all of one discipline after the completion of its study. The main forms of interim certification at the University are: computer testing, written exam, blanks testing, oral exam, creative exam, combined form of the exam. Assessment of educational achievements of students in the exam is determined in points from 0 to 100. The final grade in the discipline consists of 60% of the admission rating and 40% of the exam results.

The final certification of educational programs of higher education is carried out in the form defined by the SES.

All current scores obtained in the disciplines in the semester, and positive exam scores are entered into an electronic database. Students can see all grades in their personal account.

Organization and conduct of interim certification of students is the responsibility of the registration department. According to the results of the intermediate evaluation of the Registrar makes up the academic ranking of students. The registration department keeps records of the history of educational achievements of students, which is reflected in their transcript of the prescribed form.

The experts found that the organization and monitoring of students' achievements are written down in the documents: the provision of «Organization and conduct of the current monitoring of progress and interim certification of students», methodical instruction "Organization and conduct of the final certification of students".

In the organization and conduct of professional practice are considered to be the main program practices, contracts with the bases of practices in accordance with the specialty, orders to assign students to them. Programs of professional practice are developed by departments and are reflected in the EMC of professional practices.

Experts found that the practice of accredited EP is carried out in accordance with the rules of organization and conduct of professional practice and the rules of determining the organization as a practice bases (Approved by the order of the MES of 29 January 2016 from №107), as well as the rules Of organization and conduct of professional practice (Protocol of the Scientific Council №3 from 27.11.2018), which describes all the processes and criteria for passing various practices.

According to the results of all types of practices, final conferences are held, where the heads of practices present a report on the work done, listen to the opinions of students about the place of practice. Satisfaction of employers with the level of training of students during the internship is discussed at the meeting of graduate departments.

Among the students there are groups that require special attention: orphans, foreign students and students with disabilities. During the reception of documents and organizational week, curators, advisors and deputy deans for educational work identify such students, learn what is the complexity of training and constantly keep such students under special control until the end of training.

For the convenience of students with problems of the musculoskeletal system in each case there are call buttons, the schedule is located on the first floor. Classes and exams for students with disabilities, mainly held in the classrooms of the first floor. For students who are orphans and left without parental care, food is compensated.

According to experts, the university as a whole provides a system of complaints of students at the level of student Dean's office, student trade union committee, curators/advisors, graduating department, dean's office, vice-rectors and rector. Consideration of complaints and suggestions is also implemented through the rector's blog on the University website.

#### **Analytical part**

Analyzing the standard "Student-centered learning, teaching and assessment of progress" in accredited areas, the commission concluded that within the framework of the implemented EP modern information and pedagogical technologies are used at a sufficient level.

At the same time, members of EEC note that in educational process of EP of a cluster such methods and technologies as training in cooperation, the project technique are insufficiently used. As a result of the conversation with the students, the experts found that the department of "Electricity and Physics" does not sufficiently use distance learning technologies and interactive electronic training courses that simulate physical phenomena and laws, which is important in the case of critical condition of the material base and laboratory equipment.

The Commission also notes that the teaching staff of accredited EP does not conduct research in the field of teaching methods and evaluation of learning outcomes, the university does not hold methodological conferences.

Results of visit of bases of practices, in turn, testify to good theoretical preparation of graduates of accredited OP, ability to apply the gained knowledge and skills in practice. This is the basis for the growth of demand for graduates of natural science cluster in the regional labor market.

As a result of the analysis of the website of the University, the Commission experts identified a partial failure of the rector's blog, the absence of the date of messages, as well as information about the reception hours of the EP management for personal questions.

Survey of students conducted during the visit of the EEC, showed that:

students express full and partial satisfaction:

(a) quality of teaching (93%);

b) fairness of examinations and certification (91%);

C) tests and examinations (96%).

***Strengths/best practice for EP 5B060100/6B05401 - Mathematics, 5B060400/6B05301 - Physics, 6M060400/7M05301 - Physics, 5B060200/6B06101 - Informatics, 6M060200/7M06101 - Informatics:***

- procedures for assessing the results of students meet the planned learning outcomes, the criteria and methods of evaluation are published in the educational portal and on the website of the University.

The recommendations of the EEC for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:

Organize your own research in the field of teaching methods and evaluation of learning outcomes.



To implement the process of rapid response to complaints of students in electronic form with the publication of the date of questions and answers in the rector's blog, to regulate the visiting hours of the university management for personal questions.

Additional recommendations the EEC for EP 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics»

- Include in the development plans of educational programs the introduction of new forms and methods of teaching and learning within the EP, in particular the development of distance and interactive training courses.

Conclusions of the EEC on the criteria: (strong/ satisfactory/ suggest improvements/ unsatisfactory)

By the standard of "Student-centred learning, teaching and performance assessment" revealed 10 criteria, out of which EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics" 1 has a strong position, 7 – satisfactory, 2 – need improvement.

#### **6.6. Standard "Students»**

The University should demonstrate the policy of formation of the contingent of students from admission to graduation and ensure transparency of its procedures. The procedures governing the life cycle of students (from admission to completion) should be defined, approved and published.

The management of the EP should demonstrate the implementation of special adaptation and support programs for newly enrolled and foreign students.

The university must demonstrate its compliance with the Lisbon Convention on recognition.

The university should cooperate with other educational institutions and national centres of the "European network of national information centres for academic recognition and mobility/National academic Information Centres for Recognition" ENIC/NARIC to ensure comparable recognition of qualifications.

Management of the EP should demonstrate the existence and application of a mechanism to recognize the results of academic mobility of students, as well as the results of additional, formal and non-formal education.

The university should provide an opportunity for external and internal mobility of students of EP, as well as assist them in obtaining external grants for training.

The management of the EP should make the maximum amount of effort to provide students with places of practice, to promote the employment of graduates, to maintain communication with them.

The university must provide the graduates of the EP with documents confirming the qualifications obtained, including the achieved learning results, as well as the context, content and status of the education received and evidence of its completion.

An important factor is the monitoring of employment and professional activity of graduates of EP.

The management of the EP should actively encourage students to self-education and development outside the main program (extracurricular activities).

An important factor is the existence of an existing Association/alumni Association.

An important factor is the availability of a mechanism to support gifted students.

#### **The evidence part**

The formation of a contingent of students for educational programs at A. Baitursynov KSU is carried out in accordance with the existing, standard rules and regulations. Students and visitors of the official website of the University <http://ksu.edu.kz> may want to review the rules of admission, the order of transfer from course to course, from other universities, the state order of credit transfer, studied at other universities, expulsion, etc. On the official website of KSU named after A. Baitursynov there is a page "Enrolling", where you can get information about the

rules of admission to the university, the list of specialties of the University, benefits for training, the procedure for receiving documents and ask all questions to the representatives of the admission board.

The policy of formation of the contingent of students on accredited educational programs is to receive the most prepared to study at the University, those who consciously chose a specialty, scored the required number of points on the results of the UNT (graduates of General secondary schools), KTA (graduates of technical vocational education and graduates of previous years on a fee basis), as well as specialists with diplomas to obtain a second higher education on the basis of an interview.

The contingent of students in the context of EP is given in table 1 (p. 9).

Members of the EEC confirm that the policy of formation of the contingent of students is transparent, and the procedures governing the life cycle of education are approved and published on the university website.

To accelerate the successful adaptation of students to the educational environment of the university newly enrolled students are provided with a guide-guide in the state and Russian languages. For foreign students with a language barrier, there are special adaptation programs: additional courses of "Russian language", "Kazakh language", held at the Department of vocational guidance and professional development.

KSU is committed to the provisions of the Lisbon Convention and recognizes the equivalence of diplomas, the equivalence of study periods, academic recognition of qualifications, training courses, etc., for example, in the direction of OP 5B060400 "Physics" in the period 2012-2016 studied student Olga Tyukulmina, having citizenship of the Russian Federation. Its adaptation and integration into the educational environment of the University was carried out on an individual basis, with the help of a designated mentor.

Implementation of external academic mobility is provided by partner agreements with foreign universities. Academic mobility is carried out on the basis of the provision "Academic mobility of students". Transfer of credits by ECTS type, which determines the procedure for selection of students for participation in academic mobility, recognition of the results of academic mobility. The basis for the development of this provision was the "Rules of the direction for studying abroad, including within the framework of academic mobility" (Order of the Minister of education and science of the Republic of Kazakhstan dated November 19, 2008 № 613), the Rules of the educational process on credit technology training; as well as the experience of interaction on academic mobility with universities. External mobility is coordinated by the international relations Department, internal – by the registration Department.

In 2015, the Department of computer science has carried out the implementation of joint scientific and educational programmes and double degree c NRU ITMO, Saint-Petersburg for students of specialties 5B060200 Informatics, 5B060100 Mathematics.

The Department of mathematics has a relationship with the Karaganda Economic University Kazpotrebsoyuz for the implementation of internal academic mobility under EP 5B060100 Mathematics.

In 2017-2018 and 2018-2019 academic years, two students majoring in 5B060400 "Physics" participated in the program of external academic mobility in the framework of an international agreement with the University of Lodz, Poland.

Members of the EEC found that the professional competence of students is formed during the passage of professional practices. The University has developed and implemented the Regulation "Professional practice of students" (P 062.097-2016), which regulates the organization and conduct of practice, including requirements for programs and databases of practice and analysis of results. Production practices are held at enterprises, institutions and organizations of the relevant profile on the basis of contracts. In order to centrally provide students with places of practice, the University is constantly working on the conclusion of long-term contracts for practical training. For each specialty there are bases of practice from among the most important enterprises, institutions and organizations of the relevant industry. The



existence of contracts and compliance with the contractual terms of practice was confirmed by the experts of the EEC.

According to the results of the practice conducted a survey of students "Satisfaction with the results of industrial and other practices", a survey of the head of the practice with the production of "Satisfaction of the head of industrial practice of students of the University." Experts found that the results of each practice is a report of the head of practice, and at the end of the school year responsible for the practice is a summary report on all practices of the specialty for the school year, which is considered at a meeting of the Department.

At the departments in the areas of EP practiced issuance of certificates to students who have undergone additional training or courses. So students 5B0602000 "Informatics" and 6M060200 in Informatics, having more training, get the certificates: "The English language programme level A2", "Record keeping in the Kazakh language", "Modern information technologies in education".

According to EP 5B060100 "Mathematics" student A. Melnichuk, having studied the course "1C-enterprise" and successfully passed additional training in "Profi-Soft", passed the exam with "excellent" and received a certificate "Knowledge of the basic mechanisms of the platform "1C: Enterprise 8.3".

In order of self-realization of students and the development of student corporate culture, the university created a center for the development of youth initiatives. Comprehensive and harmonious development of students, their self-improvement and creative self-realization is facilitated by the activities of many youth student organizations organized on the principle of self-government. Among them are the Department of "Zhas Otan", youth movement "Mangilik El", various student clubs: debate club "Akhmet urpaktary", club "Zhaydarman / KVN KSU", charity club "Artemida", student small assembly of people of Kazakhstan and others. Creative development of students provides studio "Oner" and student theater "Shanyrak".

Much attention is paid to the organization of sports and recreational work and the development of mass sports of students. At the disposal of students there is a stadium, a sports hall, wrestling and gyms, halls for special medical group, a ski base. Physical education classes are held in sections "for the interests" of students in a variety of sports.

To carry out activities for the employment of graduates of the Department carried out systematic work on the study of the labor market, job search, cooperation with urban structures through the creation of University and faculty commissions on the distribution of graduates, whose tasks include meetings with graduates and employers.

Employment of graduates is presented in table 5 (p. 10).

EEC members note that most of the graduates of the bachelor's degree and 100% of graduates of the master's degree are arranged on the profile of EP. All graduates of the cluster EP are provided with documents confirming the received qualifications, including the achieved results of training, as well as the context, content and status of the education received and evidence of its completion.

### **Analytical part**

The commission in the course of the analysis of the contingent of students observes a tendency towards its increase, especially in the areas of magistracy. The formation of individual educational trajectory takes into account the peculiarities of the level of training of talented students. In particular, when forming groups for the study of foreign languages, the initial level of knowledge of the language is determined by testing the student. However, in the formation of the educational trajectory of the University is not always able to take into account in the educational process features of the student, because building an individual trajectory for a small number of students is unprofitable.

The Commission notes that the KSU named after A. Baitursynov under accredited EP currently has no foreign students, it is also necessary to continue work on external academic mobility of students and double-degree education.

During the meetings with the graduates, the experts found that not all graduates are involved in the alumni association.

During the interview of students, the members of the EEC determined that the University as a whole creates conditions to support gifted students by providing grants for training and this is all limited. On accredited EP there are grant fellows of the rector and akims, and this work, according to experts, should certainly continue, including with the involvement of employers.

According to the results of the survey, 88% of students express full or partial satisfaction with the availability of academic counseling; the availability of health services – 88%; the availability of library resources – 84%; existing educational resources – 82%; the overall quality of educational programs – 93%; the relationship between student and teacher – 96%.

**Strengths/best practice for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics":**

- the University has a policy of forming a contingent of students from admission to graduation and ensures transparency of its procedures;
- the EP guide provides trainees with places of practice and offers assistance in further employment.

The recommendations of the expert commission for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics":

To increase the number of foreign applicants for admission to the University.

To increase the effectiveness of work on the development of external and internal academic mobility of students.

To exclude formalism in the work of the alumni association in terms of the development of the EP cluster, to expand the involvement of graduates to participate in it.

To improve the program of support of gifted students.

Conclusions of the EEC on the criteria: (strong/ satisfactory/ suggest improvements/ unsatisfactory)

Standard "Students" revealed 11 criteria, out of which EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 " Informatics ", 6M060200/7M06101 "Informatics" 4 has a strong position, 6 – satisfactory, 2 – needs improvement.

### **6.7. Standard "Teaching staff»**

The University should have an objective and transparent personnel policy, including recruitment, professional growth and development of personnel, ensuring the professional competence of the entire staff.

The University should demonstrate the compliance of the staff potential of the faculty with the University development strategy and the specifics of the EP.

The University should demonstrate awareness of responsibility for its employees and ensure favorable working conditions for them.

The University should demonstrate the change in the role of the teacher in connection with the transition to student-centered learning.

The University should determine the contribution of teaching academic staff in the implementation of the development strategy of the University and other strategic documents.

The University should provide opportunities for career growth and professional development of teaching academic staff.

The University needs to involve teaching practitioners in the relevant sectors.

The University should provide targeted actions for the development of young teachers.

The University should demonstrate the motivation of professional and personal development of teachers, including the promotion of both the contribution to the integration of research and education, and the use of innovative teaching methods.

An important factor is the active use of teaching academic staff information and communication technologies in the educational process (for example, on-line training, e-portfolio, MOE, etc.).

An important factor is the development of academic mobility, attracting the best foreign and domestic teachers.

An important factor is the involvement of teaching academic staff in society (the role of teaching academic staff in the education system, in the development of science, the region, the creation of a cultural environment, participation in exhibitions, creative competitions, charity programs, etc.).

### **The evidence part**

A. Baitursynov KSU positions its activities in the personnel policy as objective and transparent including recruitment, professional growth and development of personnel, ensuring the professional competence of the entire staff. The management of the University strives to pay great attention to the selection and training of personnel.

Based on the rules of competitive replacement of positions of teaching staff and researchers of higher educational institutions the staff of teaching staff accredited by the EP is staffed in accordance with the legislation of the Republic of Kazakhstan.

Personnel policy of the University is formed and implemented on the following principles: a democratic approach to the management of faculty and staff of the academy; a combination of the interests of management and managed subsystem; parity; promotion of staff; creating conditions and an atmosphere of initiative and creativity; personal improvement of staff.

The qualitative and quantitative composition of teachers in the context of EP is presented in table 2 (p. 9), the qualitative and quantitative composition of the teaching staff of the departments is presented in table 3 (p. 10), the composition of teachers-practitioners — in table 4 (p. 10) of the report.

With the transition to student-centered learning management EP seeks to change the role of teachers, which is aimed at achieving specific, well-defined goals and the acquisition of certain competencies, in addition, teaching is implemented in accordance with the needs of students, as well as mandatory implementation of the educational process of active and interactive forms and methods of learning that allow to activate teaching methods.

The management of the EP involves the teaching of practitioners of relevant disciplines, which was also presented in the self-assessment report. For example, during the meetings the experts of the EEC with the staff it was determined that the department "Informatics" for the implementation of the EP in the direction of computer science work teachers Maulenov K. S. (Deputy Director for IT SE "boarding School for gifted children "Ozat") the subject "Digital image processing"; Doroshok I. N. (Director of LLP "First Bit") the discipline of "Data Store".

Work with young teachers at the University and departments in the framework of the EP 5B060100 "Mathematics"; 5B060200, 6M060200 "Informatics" and 5B060400, 6M060400 "Physics" is carried out according to the plan of departments. For example, the department of Electricity and Physics for the system adaptation of a young specialist in 2017 developed a program to support a young teacher. Various events are held in support and adaptation of young teachers novice teaching, educational and scientific activities, namely a mentor, laboratory of innovative educational technologies, offers a young teacher refresher courses: "School of pedagogical skill"; "School of curators"; "School of advisors"; "Improving the efficiency of the educational process using interactive methods and techniques" and other opportunities for professional development.

To improve the efficiency of teaching staff, improve teaching methods and the effectiveness of the results of work in the A. Baitursynov KSU there is a system of evaluation of teaching staff, which is fixed in the "Position of planning the activities of teaching staff and rating of teachers, departments and faculties." The main objectives of the provision are the development of creative thinking, activation of educational, research and socio-political work, improving the quality of training, as well as improving the efficiency of the faculty, departments

and the university as a whole for the implementation of educational programs. Planning of professional development is carried out on the basis of individual plans of teachers, activities that are reflected in them, are the basis of the general plan of activities of the department in the field of training of teachers, including vocational training.

One of the important factors is the use of academic staff of EP information and communication technologies in the educational process. Members of the EEC found that the A. Baitursynov Kostanay State University provides its students and faculty with extensive opportunities in the field of IT-technologies. The basis of the information infrastructure of A. Baitursynov KSU today is an extensive computer park and a complex of telecommunication facilities. In the educational process of the University such information technologies as e-journal teaching staff are introduced, support for modular forms of education, the use of the Internet in the educational process. Information technology is used on an ongoing basis in the process of conducting lessons for students of internal form of training and presentation of multimedia material, projection equipment, etc., and students using distance education technologies. In the context of the disciplines of EP 5B060100 on specialties "Mathematics»; 5B060200, 6M060200 "Informatics" and 5B060400, 6M060400 "Physics" are information resources that are open to students and teachers on the portal of KSU electronic library (<http://ksu.edu.kz/biblioteka/>), and open innovative research materials that are available on the official home page of the website in the tab "Scientific library" ([http://www.ksu.edu.kz/about/library/onlajn\\_biblioteka/](http://www.ksu.edu.kz/about/library/onlajn_biblioteka/)). The materials available on the portal in the electronic library are formed from textbooks, educational and methodical recommendations of the authors, etc., which help students and employees to independently master the courses of the disciplines of EP.

In the disciplines of EP classes are conducted with the use of distance learning system Moodle, as well as the system of webinars Adobe Connect, providing students with the opportunity to remotely attend classes and re-view the recording of classes at any time convenient for them.

The University is developing academic mobility within the EP. Teachers EP "Mathematics" cooperate with the Magnitogorsk state technical University. G. I. Nosova (Treaty of international cooperation, No. 243/2017 from 11.04.2017) and chair of the Ural state agricultural university.

Teaching academic staff under EP "Informatics" actively cooperates with the institute of management problems. Trapeznikova RAS, Moscow, NRU ITMO St. Petersburg, Kazan national research technological university.

Teaching academic staff under EP "Physics" work effectively with Saratov State Technical University named after Yuri Gagarin. During the last two years in the framework of the program of external academic mobility of the faculty, the Department of "Electricity and Physics" for students majoring in 5B060400 and 6M060400-Physics, scientist-physicist Gerasimenko N. N., doctor of Physics and Mathematics, Professor at the National Research University "MIET" was invited to lecture, the Department of "Informatics" and "Mathematics" for EP Informatics and EP Mathematics Geronimo Rodriguez Garcia, Department of applied mathematics, University of Santiago de Compostela, Spain was invited.

The teaching staff of EP 5B060100-Mathematics; 5B060200, 6M060200-Informatics and 5B060400, 6M060400-Physics, actively participate in public life and development of the University and the region as a whole. Participation in the regional commissions of the regional branch of the party "Nur-Otan" as members of the Commission "Development of high technologies", for example, I. V. Koshkin, head of the EP, head of the Department "Electricity and Physics", in scientific city, regional and national school competitions, competitions and projects. The constant participation of the teaching staff of the departments of EP in the life of students, forms new scientific, educational and life competencies of the younger generation, which cannot be solved without the participation of teachers, University teachers (high school teachers), parents.

### **Analytical part**



EEC experts note a good level of interaction between faculty and students, all students are provided with individual consulting support.

However, the members of the EEC would like to draw attention to the weak implementation of innovative methods of teaching disciplines of the natural science cluster, the insufficient use of ICT tools by teachers, the weak development of distance and online learning.

During the meetings with teaching academic experts it was found that the rating indicators do not always take into account the opinion of the workforce and are not openly discussed at the departments.

During the visit to the library and specialized departments, the study of reporting documents, it was found that very little attention is paid to research activities, which is indirectly confirmed by the results of the survey: more than 8% of the staff are not satisfied with the support of R & D by the management. In the last 3 years there are only 3 funded scientific grants at the departments of the EP, the interaction of departments with national and international partners is poorly established. The insufficient level of research activity is also characterized by a very low threshold value of the degree of teaching academic staff, which is unacceptable for the EP developed regional University.

Publication activity of teaching academic staff in the cluster of EP in general found to be satisfactory.

During the meetings with the faculty and analysis of the documents submitted by the university, the experts found the lack of outgoing academic mobility of the faculty (table 6, page 11). Members of the EEC note that the development of academic mobility of teaching staff will significantly improve the quality of educational services, increase the intellectual potential of teaching staff, develop cooperation between partner universities, as well as provide an opportunity for young scientists and teachers to continue their education and acquire scientific experience abroad.

According to the results of the survey, 89% of teachers expressed good and excellent satisfaction of the content of EP with their needs; the degree of support from the University of research initiatives of teaching academic staff - 78%; academic mobility – 75%; professional development – 80%; promotion of innovative activities of academic staff – 85%.

**Strengths/best practice for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics":**

using the rating system to motivate and stimulate the work of teaching academic staff; active involvement of teaching academic staff in the development of the region, cooperation with employers, participation in joint exhibitions and other events.

The recommendations of the expert commission for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics":

to develop a plan for the development of human resources of the university to improve the scientific degree of teaching staff.

to develop documented procedures with the conditions of career and professional growth of teaching staff at the university, including through an open annual review of the rating indicators and wider use of financial incentives.

develop a program of financial incentives for successful young teachers.

to strengthen the work on academic mobility of teaching staff and attract the best foreign and domestic teachers.

Develop a plan for the introduction of innovative methods of teaching disciplines OP natural science cluster, the development of ICT, online learning.

Conclusions of the EEC on the criteria: (strong/ satisfactory/ suggest improvements/ unsatisfactory)

Standard "Faculty" disclosed 12 criteria, out of which EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics",



5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics" 1 has a strong position, 7 – satisfactory, 4 – needs improvement.

#### **6.8. Standard "Educational resources and student support systems»**

The management of the EP should demonstrate the adequacy of logistical resources and infrastructure.

EP management must demonstrate the existence of procedures for support of different groups of students, including informing and consulting.

The management of the EP should demonstrate the compliance of information resources with the specifics of the EP, including compliance:

technological support for students and faculty according to educational programs (e.g. online training, modeling, databases, data analysis programs);

library resources, including the Fund of educational, methodical and scientific literature on general education, basic and major disciplines on paper and electronic media, periodicals, access to scientific databases;

examination of the results of research, final works, theses on plagiarism;

access to educational Internet resources;

the functioning of WI-FI in the territory of the organization of education.

The University should strive to ensure that the educational equipment and software used for the development of educational programs are similar to those used in the relevant industries.

The University must ensure compliance with safety requirements in the learning process.

The University should strive to take into account the needs of different groups of students in the context of EP (adults, workers, foreign students, as well as students with disabilities).

The evidence part

The material and technical base of Kostanay state University named after A. Baitursynov meets the qualification requirements and standard rules of the organizations of higher and postgraduate education.

During the visit to the EEC training sessions, experts note that the educational process uses audiences for various purposes: lecture halls, classrooms for practical training, laboratories, computer and multimedia classes. In the classrooms for practical training EP 5B060400 – Physics, EP 6M060200 - Physics has the necessary training and laboratory equipment to study the basic physical principles and laws.

Laboratory classes are held on the basis of educational and scientific laboratories of the University. Laboratory and practical classes are also held on the basis of branches of departments, on the basis of the agreement on mutual cooperation with third parties. Experts note that such an organization of the educational process allows for a more complete use of material, technical and human resources, as the University, enterprises and organizations of the region for the formation of students' professional skills in conditions close to real.

The infrastructure of the University includes a hostel, sports and gym, library, medical center and other training and support facilities.

The total speed of the University connection to the Internet is 200 MB/s. the Speed of connection on the end device of the consumer depends on the network load. The coverage of educational buildings by Wi-Fi network is about 70%. The lack of full coverage is due to the design of buildings. The coverage of dormitories is approximately 95%. The high percentage of coverage is due to the more compact placement of consumers and small, relatively educational buildings.

For catering of students and employees of the departments "Mathematics", "Informatics" and "Power engineering and physics" there are canteens, catering (buffets). The working hours of canteens and buffet are set taking into account the suggestions and wishes of students and staff.

To improve the efficiency of the educational process, the quality of training at the departments of "Mathematics" and "Informatics" there was formed a collection of electronic educational resources purchased and partially developed by University staff for educational and

scientific purposes. In addition to the site, students have the opportunity of interactive communication, providing access to educational services and automated information systems, such as the website of the library of KSU, the system TO, educational portal. Feedback with students is carried out by means of ICT (Skype and Adobe Connect), e-mail and information services on the Internet.

In the infrastructure of the University an important place scientific library occupies – information and educational center "Center of knowledge - Bilim ortalgy". Each building of the University has a reading room, which presents periodicals and the most popular literature on the profile of the faculties located in this building. The reading rooms are equipped with computers with Internet access. To ensure the safety of the Fund in the reading rooms installed "anti-theft" system. The total capacity of the reading rooms of the University is 700 seats.

The scientific library is a division of the University, providing information support for the educational process and research.

The library provides each student with basic educational, scientific and methodical literature necessary for the organization of the educational process, in accordance with the requirements of SES RK. All students of the University receive a set of textbooks corresponding to the curriculum, and have access to all information resources, including electronic.

To meet the needs of the scientific and educational process of the University library on the basis of license agreements, software For IP-addresses provides free access to licensed foreign databases: EBSCO and Elsevier - science direct, Scopus", ISI web science, SpringerLink.

Each student is provided with unlimited access to Electronic library systems (EBS): IPRbooks, EBS publishing "LAN", which provides an extensive collection of publications on the topic of "Engineering and technical Sciences" and others. EBS provide users with the opportunity to work in their personal account from anywhere, including from mobile devices. The efficiency of EBS and the availability of electronic publications for students was checked by experts during the visit of the EEC.

Internal electronic library "Proceedings of the faculty of the University" is available from the University portal at <http://ksu.edu.kz/biblioteka/> Electronic library "Proceedings of the faculty of the University" is annually replenished with resources.

External electronic publications are presented in the electronic library, which operates under the management of the library information system "IRBIS 64". Library staff digitized publications available in a single or limited number of copies, then the documents are translated into PDF – format, information about the documents is recorded in the electronic catalog. This resource is available only in the library for reading.

Students of accredited EP sufficiently provided with educational and scientific literature in the state and Russian languages.

The Commission found that the training and laboratory facilities and classroom Fund meets the overall contingent of students, implemented educational programs, sanitary and epidemiological norms and requirements.

As a result of visit of training laboratories members of EEK were convinced that all rooms conform to safety requirements, training classes are equipped with fire extinguishers, with trained annual safety instruction is carried out. Compliance with the requirements of "Fire safety Rules" is carried out on the basis of "Instructions on fire safety", approved by the rector of the University and the internal order of the University №110Д from 25.01.2018.

For educational and research purposes, the Department of Informatics uses modern software – MatLab, Microsoft Visual Studio, NVIDIA CUDA development environment, Python language and other tools.

#### **Analytical part**

As a result of visual inspection of objects of material base, members of VEK note that for ensuring educational process of the accredited educational programs the University possesses necessary educational and material resources. The University building meets the current sanitary

standards and fire safety requirements. Classroom and laboratory facilities, classrooms and other facilities, sports facilities comply with established norms and rules.

During the visit of the members of the Commission of the library, as well as meetings with students, the experts found that electronic editions of external subscription ESS are little used in educational and scientific activities — the University needs organizational work to promote them, both among faculty and students.

Members of the EEC note that the University has a Provision on plagiarism testing of written works of students and an organized verification process using its own system "Antiplagiat", but this is clearly not enough for a full search for borrowings in the sources of the Internet.

During interviews with the leadership of the University, visits by members of the EEC student dormitories and interviews with students, the conditions of accommodation of nonresident students has been recognized by experts as satisfactory. However, the panel members mentioned the urgent need of expanding the area of hostels and substantial improvement of living conditions, especially to attract foreign students and foreign academic mobility.

As a result of interviews with students, the experts were expressed the following wishes addressed to the leadership of the University:

- reduce maintenance time and expand power points;
- organization of swim clubs for training of physical culture;
- organization of the relaxation zone in the main academic building, similar to the Center of knowledge.

As a result of visiting the laboratories of the departments, the experts of the EEK note that the educational laboratories of the Department of "electric power and physics" are not provided with the necessary laboratory facilities, the equipment is outdated and requires a significant update. Experts drew attention to the use of outdated CRT monitors in existing laboratory facilities that do not meet modern environmental and technical standards. Laboratory classes in the discipline "Microprocessors" are conducted in the laboratory, combined with other equipment, a sufficient number of training stands with microcontrollers laboratory is not equipped. To implement the profile "radio engineering and electronics" EP 5B060400/6V05301 "Physics" and EP 6M060400/7M05301 "Physics" of modern electronic equipment Department has only a single instance (digital oscilloscope, spectrum analyzer, etc.). The positive side is the presence at the Department of enthusiastic young teachers — enthusiasts, sharing with students and undergraduates their invaluable experience and knowledge.

According to the results of the survey, students are satisfied with the existing library resources of the University "completely" 51%; classrooms, classrooms for large groups – 42%; rest rooms for students – 18%; computer classes and Internet resources – 28%; hostel – 38%.

***Strengths/best practice for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 " Informatics »:***

- the use of training facilities practices for training in the disciplines of profile EP.

The recommendations of the EEC for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 " Informatics ", 6M060200/7M06101 " Informatics »:

Include in the procurement plan the purchase of modern equipment for laboratories of the departments of natural science cluster.

To intensify students ' use of electronic publications of electronic library systems provided by the University.

Implement a system to check written works for plagiarism using external databases.

To improve conditions for nonresident students in terms of comfort of living and leisure in hostels.

Organize swimming section for physical training.

Organize places for relaxation of students and faculty in the main building.

To increase the number of points of public catering in educational buildings and their capacity.

Additional recommendations for EP 5B060400/6B05301 - Physics, 6M060400/7M05301 - Physics:

Purchase computer equipment and projection equipment in the lecture laboratories of the Department of Electricity and Physics, replace all CRT displays on LCD monitors.

To purchase a training class of microprocessor technology.

Conclusions of the EEC on the criteria: (strong/ satisfactory/ suggest improvements/ unsatisfactory)

***Standard "Educational resources and student support system" disclosed on 10 criteria, out of which EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 computer science 5 has a satisfactory position, 5 – needs improvement.***

#### **6.9. Standard "Public Information»**

The information published by the University within the EP should be accurate, objective, relevant and should include:

implemented programs, indicating the expected learning outcomes;

information on the possibility of qualification at the end of EP;

information on teaching, training, assessment procedures;

information about passing scores and training opportunities provided to students;

information on employment opportunities for graduates.

The management of the EP should use a variety of means of disseminating information, including the media, information networks to inform the General public and stakeholders.

Public awareness should include support and clarification of the country's national development programmes and higher and postgraduate education.

The University should publish audited financial statements on its own web resource, including in the context of EP.

The University should demonstrate the reflection on the web resource of information characterizing the University as a whole and in the context of educational programs.

An important factor is the availability of adequate and objective information about the faculty of EP, in the context of persons.

An important factor is to inform the public about cooperation and interaction with partners in the framework of the EP, including scientific/consulting organizations, business partners, social partners and educational organizations.

The University should post information and links to external resources based on the results of external evaluation procedures.

An important factor is the participation of the University and implemented EP in a variety of external evaluation procedures.

#### **The evidence part**

As an effective tool for informing the public, to create an image of an open educational institution, the information is posted on the official website of the University, in social networks, regional and national media, directly when stakeholders appeal to the structural units of the University. Information on education programmes, expected learning outcomes academic degrees, the system of knowledge assessment, academic mobility, employment opportunities, etc. located in "Education" section of the official website.

Instagram Facebook, Youtube, WhatsApp, groups and accounts in social networks Vk, Instagram, Facebook have been developed to create a connection with students and future entrants, graduating departments of the EP cluster. On the website of KSU in the section "Entrants" contains information about the rules of admission, a list of specialties, answers to frequently asked questions.



Sources of information about the activities of the University and the implementation of educational programs for stakeholders are the headings "Admission", "Training", "Science" and "Partnership" on the University website ksu.edu.kz

To inform the public, the University uses the student newspaper "Bilim Zharysy", magazine "Zhas Orken-Kostanay", educational TV Studio "Zhastar-TV", as well as local media: "Kostanay news", "Kostanay-agro", "Our Kostanay", "Teacher's +" and Qostanay TV channel.

Informing the public about cooperation and interaction with partners in the framework of the EP, including scientific/consulting organizations, business partners, social partners and educational organizations is described in detail on the University website, which is annually adjusted and supplemented taking into account the requirements of the labor market, the wishes of all stakeholders.

Experts note that the audited financial statements for the past year are available on the website of the University.

The satisfaction of stakeholders in the quality and completeness of the information received is monitored through comments on social networks, as well as through the rector's blog.

Following the principles of openness and accessibility to the public is a complete and accurate information about the activities of the departments of Informatics, Mathematics, Electricity and physics, as well as information about training courses, training laboratories and research areas of training departments.

Members of the EEC came to the unanimous opinion that the website of the University contains adequate and objective information about the University as a whole, detailed information about the teaching staff of the departments in the section of persons.

The University regularly participates in various rankings of higher educational institutions of Kazakhstan, as well as in external evaluation procedures.

#### **Analytical part**

The analysis of the information provided on the University website showed that the University provides complete and accurate information about its activities, admission rules, educational programs, terms and form of training, contact and other useful information for students.

At the same time, EEC notes:

- there are no regulations of updating of information in the section "Science", scientific directions and scientific results of releasing departments of EP are not completely reflected;
- the personal pages of the faculty available on the website require regular updating in terms of scientific publications;
- there are no references to external resources on the results of external evaluation procedures for the implementation of the EP.

Assessment of satisfaction with information about the activities of the University, the specifics and the implementation of the EP is carried out annually through questionnaires, surveys, feedback, as well as through the rector's blog.

The survey of students conducted during the visit showed that full and partial satisfaction with the usefulness of the University website is 89%; informing students about courses, EP and academic degrees - 88%.

***Strengths/best practice for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:***

- on the website of the institution published programmes, with indication of learning outcomes, information about the possibility of a qualification on completion of training, the information about the passing score and the opportunities provided to students;
- on the website of the University published a large number of materials describing the processes of the University, the content of EP, all departments have personal pages of the faculty
- the University participates in the procedures of external evaluation of quality.



The recommendations of the EEC for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:

Ensure timely updating of information on the University website in the section "Science", including in the context of EP natural science cluster.

Place links to external resources as a result of external evaluation procedures of the EP.

Conclusions of the EEC on the criteria: (strong/ satisfactory/ suggest improvements/ unsatisfactory)

Standard "Public information" disclosed 12 criteria, out of which EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 «Informatics », 6M060200/7M06101 Informatics 7 has a strong position, 6 – satisfactory.

#### **6.10. Standard "Standards in the context of individual specialties»**

Educational programs in the areas of "Natural Sciences", "Technical Sciences and technologies", such as "Mathematics", "Physics", "Information systems", etc., must meet the following requirements:

In order to familiarize students with the professional environment and relevant issues in the field of specialization, as well as to acquire skills on the basis of theoretical training, the education program should include disciplines and activities aimed at obtaining practical experience and skills in the specialty in General and core disciplines in particular, including:

- excursions to enterprises in the field of specialization (factories, workshops, research institutes, laboratories, training and experimental farms, etc.),
- conducting individual classes or entire disciplines in the enterprise specialization,
- holding seminars to solve practical problems relevant to enterprises in the field of specialization, etc.

The teaching staff involved in the education program should include full-time teachers with long-term experience as a full-time employee in enterprises in the field of specialization of the education program.

The content of all disciplines of EP should be more or less based and include a clear relationship with the content of the fundamental natural sciences, such as mathematics, chemistry, physics.

The management of the EP should provide training to students in the use of modern information technology.

#### **The evidence part**

Development of educational programs OP 5B060100/6B05401 "Mathematics", 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics" is aimed at obtaining graduates of the necessary theoretical and practical training in the field of natural Sciences, Informatics, electronics and telecommunications.

During the visit to the bases of practices of EP cluster Kazakhtelecom JSC, LLP "Rembyttekhnika", LLP "First bit" experts were convinced that students during the practical training acquire the necessary practical skills to work with complex telecommunications and electronic equipment, software.

In order to familiarize students with the professional environment and current issues in the field of specialization, as well as to acquire skills on the basis of theoretical training of OP cluster includes disciplines of departments, together with enterprises organize separate practice-oriented classes at enterprises, the specialization of which corresponds to the direction of OP, classes are conducted by teachers with work experience.

Every year for students OP cluster departments conducted excursions to the enterprises of Kostanay, for example, in the Northern RTT branch of JSC "Kazakhtelecom". These activities

are carried out in order to familiarize with the telecommunications equipment and functional responsibilities of the staff.

Students of specialties the EP is fully provided with teaching materials and methodological guidelines, training manuals and access to electronic publications electronic library systems. The content of the cluster EP disciplines is fully based on the achievements of fundamental natural Sciences: mathematics and physics.

Undergraduates of the natural science cluster are provided with jobs for independent research under the guidance of teachers of practitioners.

In EP, the emphasis is on different kinds of practices (academic, industrial, undergraduate). EP 6M060200 - Computer, 6M060400 Planned Physics pedagogical and research practices; for specialized programs practical training is provided. The Department regularly receive positive recommendations from employers for high quality training. At the end of the practice, students submit reports on the approved form.

Professional practice is conducted in accordance with the standard curriculum, according to the academic calendar. Organization and conduct of practical training at the Department is carried out in accordance with the requirements of the Standard rules of the organization of higher and postgraduate education of Kazakhstan. The number of credits of professional practice corresponds to the TEP of specialty. The departments concluded the contract on carrying out of professional practice, which sets out the responsibilities of the department, core business and students. Also, the departments have developed guidelines for the implementation of work during the period of practical training, training and work programs, as well as reporting conferences on all types of practices.

In order to inform students about employment opportunities, as well as practical training, the University annually holds job fairs, which allows graduates and employers to establish contact for the selection of the necessary personnel. During interviews with graduates, experts were convinced that students before graduation get an idea of the labor market and the existing vacancies requirements for them, many have offers of employment after graduation.

As a result of the visit to the practice bases, the members of the EEC agreed that the management of the cluster of EP comprehensively provides measures to strengthen the practical training of students in the field of specialization.

Training of students in the field of application of modern information technologies is carried out on the basis of the Cathedral laboratories in the study of the disciplines of EP.

### **Analytical part**

The organization of educational process on the realized educational programs at departments is conducted on the basis of a combination of education, science and practice in profile preparation, and also with use of modern information technologies. Based on the results of the analysis, the members of the EEC came to the following conclusion.

Presented and confirmed by the facts information about the work of the departments of the EP on the orientation of students to obtain professional skills and competencies, practical training in the workplace, attracting practitioners to conduct classes on the basis of practices.

The practical orientation takes place in the content and continuity of interdisciplinary connections, in the programs of practices. EP bachelor include the following practices: educational, industrial and undergraduate. EP graduate programs provide teaching and research practices, and production practices for specialized programs.

During the conversation with employers, members of the EEC noted the need to introduce the course "Introduction to the specialty" to the op of the bachelor's degree to familiarize the student with the professional specifics of the chosen direction and the range of opportunities when choosing a learning path.

Strengths/best practice for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:

- EP provides separate classes and disciplines at the enterprises of specialization;

- the manual of the EP provides measures to strengthen practical training in the field of specialization.

The recommendations of the EEC for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics":

Include in the curriculum EP discipline or module "Introduction to the specialty" in the first year of study.

Conclusions of the EEC on the criteria: (strong/ satisfactory/ suggest improvements/ unsatisfactory)

Standard "Standards in the context of a separate field of" revealed 5 criteria, out of which EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics", 2 has a strong position, 3 – satisfactory.



## **REVIEW of STRENGTHS/ GOOD PRACTICES FOR EACH STANDARD**

According to the standard "Management of the educational program»:

For EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics »:

availability of published quality assurance policy;

development of a plan for the development of EP taking into account the positioning of the University in the region, to meet the needs of the state and employers in highly qualified personnel;

identification of those responsible for business processes within the EP, distribution of staff responsibilities, differentiation of functions of collegial bodies within the existing QMS of the University.

According to the Standard "information Management and reporting»:

For EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 " Informatics ", 6M060200/7M06101 " Informatics":

The University has a developed system of data collection and analysis, including key performance indicators, the dynamics of the contingent of students in the context of forms and types, the level of performance and achievements of students.

According to the Standard "Development and approval of the educational program»:

For EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 " Informatics ", 6M060200/7M06101 " Informatics":

the content of elective disciplines and professional practices has a significant impact on the formation of professional competencies of the graduate;

- the content of academic disciplines and learning outcomes correspond to the level of training and qualification of the graduate within the EP.

Additionally, for EP 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:

within EP preparation of trained for professional certification in the field of operation and setup of software products on THE 1C platform is carried out»;

as part of the EP, a double-degree educational program with a foreign University is being implemented.

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

For EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:

- regularly conducted by the University monitoring and periodic evaluation of EP take into account the load, performance, output, as well as the effectiveness of the assessment procedures of students;

- the University carries out an annual review of the structure and content of the OP, taking into account changes in the labor market, the requirements of employers and the social demand of society.

According to the Standard "Student-centered learning, teaching and performance assessment»:

For EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics"

The procedures for assessing the results of students meet the planned learning outcomes, the criteria and methods of evaluation are published in the educational portal and on the website of the University.

According to the standard "Students»:

For EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics" 6M060200/7M06101 "Informatics":

the University has a policy of forming a contingent of students from admission to graduation and ensures transparency of its procedures;

the guidebook of the EP provides trainees with places of practice and offers assistance in further employment.

According to the standard "Teaching staff»:

6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics" 6M060200/7M06101 "Informatics":

using the rating system to motivate and stimulate the work of the academic teaching staff; active involvement of academic teaching staff in the development of the region, cooperation with employers, participation in joint exhibitions and other events.

According to the standard "Educational resources and student support systems»:

For EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:

- the use of training facilities practices for training in the disciplines of profile of EP.

According to the Standard "Public Information»:

For EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 " Informatics", 6M060200/7M06101 " Informatics":

on the website of the institution programmes are published, with indication of learning outcomes, information about the possibility of a qualification on completion of training, the information about the passing score and the opportunities provided to students;

on the website of the University a large number of materials is published describing the processes of the university, the content of EP, all departments have personal pages of teaching academic staff

the University participates in external quality assessment procedures.

By Standards in the context of individual specialties:

For EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:

- EP provides separate classes and disciplines at the enterprises of specialization.

- the manual of the EP provides measures to strengthen practical training in the field of specialization.



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

According to the standard "Management of the educational program»:

The recommendations of the EEC for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:

Expand the range of students and employers involved in the formation of the development plan of the EP.

Provide sustainable feedback from the University management with students and faculty in terms of management and development of EP.

Develop an action plan for the development of research and implementation of innovative proposals within the EP and the University.

Conduct training of EP management in the field of risk management and commercialization of scientific projects, implement risk management at the level of structural units, processes and EP.

Additional recommendations for EP 5B060400/6V05301 "Physics", 6M060400/7M05301 "Physics»:

With the involvement of employers to develop a mechanism for commercialization of research projects in the field of energy efficiency and energy audit, to ensure their implementation in the process of EP.

According to the standard "Information Management and reporting»:

The recommendations of the EEC for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:

To review the mechanism of protection and the procedure for the use of personal data of students published in public databases and files on the University portal, to bring them in line with the regulatory framework.

According to the standard "Development and approval of the educational program»:

The recommendations of the EEC for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics",

It is proposed to involve students and employers more effectively in the development of educational programs, their analysis and planning.

To organize work on improvement of joint and/or double-degree programs with foreign universities.

According to the standard "Continuous monitoring and periodic evaluation of educational programs»:

The recommendations of the EEC for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:

To provide timely information to students and employers about all planned and undertaken changes in the EP through the publication of news information on the website of the University.

To carry out regular monitoring of employers' satisfaction with the quality of training of graduates and the conditions of implementation of the EP on the basis of feedback.

According to the standard "Student-centered learning, teaching and performance assessment»:

The recommendations of the EEC for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics":

Organize own research in the field of teaching methods and evaluation of learning outcomes.

To implement the process of rapid response to complaints of students in electronic form with the publication of the date of questions and answers in the rector's blog, to regulate the visiting hours of the University management for personal questions.

Additional recommendations the EEC for EP 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics»

To include in the development plans of educational programs the introduction of new forms and methods of teaching and learning in the framework of the EP, in particular the development of distance and interactive training courses.

According to the standard "Students»:

The recommendations of the EEC for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:

To increase the number of foreign applicants for admission to the University.

To increase the effectiveness of work on the development of external and internal academic mobility of students.

To exclude formalism in the work of the alumni association in terms of the development of the EP cluster, to expand the involvement of graduates to participate in it.

To improve the program of support of gifted students.

According to the standard "Teaching staff»:

The recommendations of the EEC for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:

To develop a plan for the development of human resources of the university to improve the scientific degree of teaching staff.

To develop documented procedures with the conditions of career and professional growth of teaching staff at the University, including through an open annual review of the rating indicators and wider use of financial incentives.

Develop a program of financial incentives for successful young teachers.

To strengthen the work on academic mobility of teaching staff and attract the best foreign and domestic teachers.

Develop a plan for the introduction of innovative methods of teaching disciplines of EP natural science cluster, the development of ICT, online learning.

According to the standard "Educational resources and student support systems»:

The recommendations of the EEC for EP 5B060100/6B05401 Mathematics, 5B060400/6B05301 "Physics", 6M060400/7M05301 "Physics", 5B060200/6B06101 "Informatics", 6M060200/7M06101 "Informatics»:

To include in the procurement the plan of the purchase of modern equipment for laboratories of the departments of natural science cluster.

To intensify students ' use of electronic publications of electronic library systems provided by the University.

To implement a system to check written works for plagiarism using external databases.

To improve conditions for nonresident students in terms of comfort of living and leisure in hostels.

To organize swimming section for physical training.

To organize places for relaxation of students and faculty in the main building.

To increase the number of points of public catering in educational buildings and their capacity.

**Appendix 1. Estimated table "PARAMETERS of the SPECIALIZED PROFILE" (5B060100/6B05401 of "Mathematics", 5B060400/6B05301 of "Physics", 6M060400/7M05301 of "Physics", 5B060200/6B06101 of "Informatics", 6M060200/7M06101 of "Informatics")**

#	#	Criteria of self-assessment	Position of an educational institution			
			Strong	Satisfactory	To be improved	Bad (unsat.)
Standard "Education program management"						
1	1.	<b>A university should have published policy on quality maintenance.</b>	+			
2	2.	<b>The policy on quality maintenance should reflect the link between research, teaching and learning.</b>		+		
3	3.	<b>The university should show the development of culture and quality maintenance, including that in the context of an EP.</b>		+		
4	4.	<b>Adherence to quality maintenance should refer to any activities carried out by contractors and partners (outsourcing), including the implementation of joint\double diploma education and academic mobility.</b>		+		
5	5.	<b>EP management provides transparence of the EP development plan based on the analysis of its functioning, actual positioning of the university and direction of its activities at satisfaction of the demands of the state, employers, concerned parties and students.</b>	+			
6	6.	<b>EP management shows functioning of mechanism of formation and regular reconsideration of an EP development plan, as well as its implementation monitoring, assessment of achieving teaching objectives, correspondence with learners, employers and community needs aimed at constant improvement of the EP.</b>	+			
7	7.	<b>EP management should involve all the concerned, including employers, students and teaching staff to the formation of the EP development plan.</b>		+		
8	8.	<b>EP management should show individuality and uniqueness of the EP development plan, its correspondence to national priorities of development and the strategy of the development of the educational institution.</b>		+		
9	9.	<b>The university should show proper distribution of the responsible for business processes within the EP frames, unambiguous distribution of job responsibilities of staff, the division of functions of collegial bodies.</b>	+			

10	10.	EP management should evidence of the transparency of the educational program management system.		+		
11	11.	EP management should show successful functioning of the internal quality assurance system of the EP, including its design, management and monitoring, their improvement, making decisions based on facts.		+		
12	12.	EP management should implement risk management.			+	
13	13.	EP management should ensure the participation of representatives of the interested parties (employers, teaching staff, and students) in the collegial bodies of the educational program management, as well as their representativeness in making decisions on the management of the educational program.		+		
14	14.	The university should demonstrate the management of innovations in the framework of the EP, including the analysis and implementation of innovative proposals.			+	
15	15.	EP management should provide evidence of openness and accessibility for students, teaching staff, employers and other interested parties.			+	
16	16.	EP management should be trained in educational management programs.			+	
17	17.	EP management must strive to ensure that the progress made since the last external quality assurance procedure was taken into account in preparing for the next procedure.	+			
<b>Total</b>			5	7	5	0
<b>Standard “Information Management and Reporting”</b>						
18	1.	The university should ensure the functioning of the system for collecting, analyzing and managing information through the use of modern information and communication technologies and software		+		
19	2.	EP management should demonstrate the systematic use of the processed, adequate information to improve the internal quality of assurance system.		+		
20	3.	Within the EP there should be a system of regular reporting, reflecting all levels of the structure, including an assessment of the effectiveness and efficiency of the activities of structural units and departments, and research.		+		
21	4.	The university should establish the frequency, forms and methods of evaluating EP management, the activities of collegial bodies and structural units, senior management, the implementation of research projects.		+		
22	5.	The university must demonstrate how to determine the order and ensure the protection of information, including determining those responsible for the accuracy and timeliness of information analysis and data provision.			+	
23	6.	An important factor is the involvement of students, employees and teaching staff in the process of collecting and analyzing information, as well as making decisions		+		

		based on them.				
24	7.	EP management must demonstrate the presence of a communication mechanism with students, employees and other stakeholders, including the availability of conflict resolution mechanisms.		+		
25	8.	The university should provide a measure of the degree of satisfaction of the needs of faculty, teaching staff and students in the framework of the EP and demonstrate evidence to eliminate the detected deficiencies.		+		
26	9.	The university should evaluate the effectiveness and efficiency of activities, including in the context of the EP.		+		
		Information collected and analyzed by the university should take into account:				
27	10.	key performance indicators;	+			
28	11.	the dynamics of the number of students in the context of forms and types;	+			
29	12.	level of performance, student achievement and expulsion;	+			
30	13.	students' satisfaction with the implementation of the EP and the quality of education at the university;		+		
31	14.	availability of educational resources and support systems for students;		+		
32	15.	Employment and career growth of graduates.		+		
33	16.	Students, employees and teaching staff must document their consent to the processing of personal data.		+		
34	17.	EP management should contribute to the provision of all necessary information in relevant fields of science.		+		
<b>Total</b>			<b>3</b>	<b>13</b>	<b>1</b>	<b>0</b>
<b>Standard "Development and Approval of Educational Programs"</b>						
35.	1.	The University should define and document the procedures for the development of EP and their approval at the institutional level	+			
36.	2.	The University should demonstrate the compliance of the developed EP with the set goals, including the expected learning outcomes.	+			
37.	3.	The University should demonstrate the presence of the developed graduate models of the EP, describing the learning outcomes and personal qualities.	+			
38.	4.	The University should demonstrate the external expertise of EP.	+			
39.	5.	The qualifications obtained at the end of the EP should be clearly defined, explained and consistent with a certain level of NQS.	+			
40.	6.	The University should determine the impact of disciplines and professional practices on the formation of learning outcomes.	+			
41.	7.	An important factor is the ability to prepare students for professional certification.	+			



42.	8.	The University should provide evidence of the participation of students, teaching staff and other stakeholders in the development of EP, ensuring its quality.		+		
43.	9.	The intensiveness of the EP should be clearly defined in Kazakhstan credits and ECTS.	+			
44.	10.	The University should provide the content of academic disciplines and learning outcomes according to the level (bachelor, master, doctoral).	+			
45.	11.	The structure of the EP should provide for different activities corresponding to the learning outcomes.		+		
46.	12.	An important factor is the presence of joint EP with foreign educational organizations.		+		
<b>Total</b>			5	7	0	0
<b>Standard "Continuous monitoring and periodic evaluation of educational programs"</b>						
47	1.	The university should monitor and periodically evaluate the EP in order to achieve the goal and meet the needs of students and society. The results of these processes are aimed at continuous improvement of the EP.	+			
		<b>Monitoring and periodic evaluation of the EP should consider:</b>				
48	2.	the content of the programs in the light of the latest achievements of science in a particular discipline to ensure the relevance of the discipline being taught;		+		
49	3.	changes in the needs of society and the professional environment;		+		
50	4.	workload, academic progress and graduation of students;	+			
51	5.	the effectiveness of student assessment procedures;	+			
52	6.	expectations, needs and satisfaction of students with EP training;		+		
53	7.	educational environment and support services and their compliance with the objectives of the EP.		+		
54	8.	The university and the administration of the EP should provide evidence of the participation of students, employers and other stakeholders in the revision of the EP.		+		
55	9.	All interested parties should be informed of any actions planned or taken in relation to the EP. All changes made in the EP should be published.			+	
56	10.	The EP management should ensure a review of the content and structure of the EP, taking into account changes in the labor market, employers' requirements and social demands of society.	+			
<b>Total</b>			4	5	1	0

Standard "Student-centered learning, teaching and assessment of progress"						
57	1.	Administrative staff should ensure respect and attention to different groups of students and their needs, providing them with flexible learning paths.		+		
58	2.	Administrative staff must ensure the use of various forms and methods of teaching and learning.		+		
59	3.	An important point is availability of own research works in the field of teaching methods for academic disciplines.			+	
60	4.	Administrative staff must demonstrate the presence of a feedback system on the use of various teaching methods and evaluation of learning outcomes.		+		
61	5.	Administrative staff should demonstrate support for the autonomy of students with simultaneous guidance and assistance from teachers.		+		
62	6.	Administrative staff must demonstrate the availability of a procedure for responding to student complaints.			+	
63	7.	The university should ensure consistency, transparency and objectivity of the mechanism for assessing the results of training for each SS, including the appeal.		+		
64	8.	The university must ensure that the procedures for evaluating the results of the students' education correspond to the planned learning outcomes and the objectives of the program. Criteria and assessment methods in the framework of the SS should be published in advance.		+		
65	9.	The university should define the mechanisms to ensure that each graduate has got the results of education in a complete form of their formation.		+		
66	10.	Assessing people should possess modern methods of assessing learning outcomes and regularly improve their skills in this area.		+		
<b>Total</b>			1	7	2	0
Standard «Students»						
67	1.	The university should demonstrate the policy of forming a number t of students from admission to graduation and ensure the transparency of its procedures. The procedures governing the life cycle of students (from admission to completion) must be defined, approved, published.		+		
68	2.	The EP's management should demonstrate the implementation of special adaptation and support programs for first-year students and foreign students.		+		
69	3.	The university must demonstrate the compliance of its actions with the Lisbon Recognition Convention.		+		
70	4.	The university should cooperate with other educational organizations and national centers of the European Network of National Information Centers for Academic Recognition and Mobility / National Academic Information Recognition Centers ENIC / NARIC in		+		

		order to ensure comparable recognition of qualifications.				
71	5.	EP management must demonstrate the presence and application of a mechanism to recognize the results of academic mobility of students, as well as the results of additional, formal and non-formal education.		+		
72	6.	The university should provide an Opportunity for external and internal mobility of EP students, as well as assist them in obtaining external grants for training.			+	
73	7.	The management of EP should make the maximum amount of effort to provide students with places of professional training, to facilitate the employment of graduates, to maintain communication with them.	+			
74	8.	The university must provide graduates of EP with documents confirming their qualifications, including the achieved learning outcomes, as well as the context, content and status of the education received and evidence of its completion.	+			
75	9.	An important factor is the monitoring of employment and professional activities of EP graduates.		+		
76	10.	EP management should actively encourage students to self-education and development outside the main program (extracurricular activities).		+		
77	11.	An important factor is the existence of a valid alumni association / graduates council.			+	
78	12.	An important factor is the availability of a support mechanism for talented students.		+		
<b>Total</b>			4	6	2	0
<b>Standard «Teaching staff»</b>						
79	1.	The higher education institution has to have the objective and transparent personnel policy including hiring, professional body height and development of personnel, providing professional competence of all staff.		+		
80	2.	The higher education institution has to show compliance of personnel potential of teaching staff of the development strategy of higher education institution and specifics of EP.			+	
81	3.	The management of EP has to show awareness of responsibility for the workers and providing for them the favorable conditions for work.		+		
82	4.	The management of EP has to show change of a role of the teacher in connection with transition to student-centered tutoring.		+		
83	5.	The higher education institution has to define teaching staff EP contribution to implementation of the development strategy of higher education institution, etc. strategic documents.		+		
84	6.	The higher education institution has to give opportunities of career development and professional development of teaching staff EP.			+	

85	7.	The management of EP has to involve in teaching practicing people of the relevant industries.		+		
86	8.	The management of EP has to provide purposeful actions for development of young teachers.			+	
87	9.	The higher education institution has to show motivation of professional and personal development of teachers of EP, including encouragement to both integration of scientific activity and education, and application of innovative methods of teaching.		+		
88	10.	Important factor is the fissile application of teaching staff of information and communication technologies in educational process (for example, on-line of tutoring, an e-portfolio, the MOOC, etc.).		+		
89	11.	Important factor is development of the academic mobility within EP, engaging of the best foreign and domestic teachers.			+	
90	12.	Important factor is the involvement of teaching staff EP into life of society (teaching staff role in an education system, in an advancement of science, the region, creation of the cultural environment, participation in exhibitions, creative competitions, programs of charity etc).	+			
<b>Total</b>			<b>1</b>	<b>7</b>	<b>4</b>	<b>0</b>
<b>Standard «Educational recourses and support systems for students»</b>						
91	1.	The management of EP has to show sufficiency of material resources and infrastructure.			+	
92	2.	The management of EP has to show existence of procedures of support of various groups of students, including informing and consultation.		+		
		The management of EP has to show compliance of information resources to specifics of EP, including compliance:				
93	3.	technological support of students and teaching staff according to educational programs (for example, online tutoring, model operation, databases, programs of the analysis of data);			+	
94	4.	library resources, including fund of educational, methodical and scientific literature for the general education, basic and main subjects on paper and electronic media, periodicals, access to scientific databases;			+	

95	5.	access to educational Internet resources;		+		
96	6.	examination of results of research, final works, theses on plagiarism;		+		
97	7.	functioning of WI-FI in the territory of the organization of education.		+		
98	8.	The higher education institution has to aspire to that the educational inventory and software used for development of EP was similar with used in the relevant industries.			+	
99	9.	The higher education institution has to provide compliance to safety requirements in the course of tutoring.		+		
100	10.	The higher education institution has to seek to consider needs of various groups of students for EP (the adults working of foreign students and also students with limited opportunities).			+	
<b>Total</b>			<b>0</b>	<b>5</b>	<b>5</b>	<b>0</b>
<b>Standard «Informing of society»</b>						
		information published by higher education institution within EP has to be precise, objective, relevant and has to include:				
101	1.	the implemented programs, with the indication of the expected results of tutoring;	+			
102	2.	information on a possibility of assignment of qualification on the termination EP;	+			
103	3.	information on teaching, tutoring, estimated procedures;		+		
104	4.	data on lowest passing scores and the educational opportunities given to students;	+			
105	5.	information on opportunities for employment of graduates.		+		
106	6.	The management of EP has to use various ways of dissemination of information (including media, web resources, information networks other) for informing the general public and interested persons.		+		
107	7.	Informing the public has to provide support and explanation of national programs of development of the country and the system of the higher and postgraduate education.		+		
108	8.	The higher education institution has to publish the audited financial statements on own web resource.	+			
109	9.	The higher education institution has to show reflection on a web resource of information characterizing higher	+			



		education institution in general and in EP.				
110	10.	Important factor is availability of adequate and objective information about teaching staff EP, in a section of a personnel.	+			
111	11.	Important factor is informing the public on cooperation and interaction with partners within EP, including with the scientific/consulting organizations, business by partners, social partners and the organizations of education.		+		
112	12.	The higher education institution has to place information and references to external resources by results of procedures of external assessment.		+		
113	13.	Important factor is participation of higher education institution and the realized EP in various procedures of external assessment.	+			
<b>Total</b>			<b>7</b>	<b>6</b>	<b>0</b>	<b>0</b>
<b>Standards of separate specialties</b>						
<b>Natural sciences, Agriculture, Technical sciences, and Technologies</b>						
		Educational programs for the directions "Natural Sciences", "Technical Science and Technologies", such as "Mathematics", "Physics", "Intelligence systems", etc., have to meet the following requirements:				
114	1.	For the purpose of acquaintance of students with the professional environment and relevant issues in the field of specialization and also for acquisition of skills on the basis of theoretical preparation the education program has to include the disciplines and actions directed to obtaining practical experience and skills in the specialty in general and to the main subjects in particular including: - excursions to the enterprises in the field of specialization (the plants, workshops, research institutes, laboratories, educational-experimental farms, etc.), - holding separate occupations or the whole disciplines at the enterprise of specialization, - holding seminars for the solution of the practical tasks relevant for the enterprises in the field of specialization, etc.		+		
115	2.	The teaching staff involved in the education program has to include the nominal teachers having the long experience as the permanent member of staff at the enterprises in the field of specialization of the education program.		+		
116	3.	Content of all disciplines of EP has to be based and include to some extent accurate interrelation with the maintenance of fundamental natural sciences as Mathematics, Chemistry, and Physics.	+			
117	4.	The management of EP has to provide measures for strengthening of practical preparation in the field of specialization.	+			
118	5.	The management of EP has to provide preparation of students in application of modern information technologies		+		

	<b>Total</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>
	<b>Total for the document</b>	<b>32</b>	<b>66</b>	<b>20</b>	<b>0</b>

