REPORT

on the results of the work of the external expert commission on the assessment of compliance with the requirements of the standards of primary specialized accreditation (EX-ANTE) of educational programs 6B01507 – "Computer Science and Robotics" Non-profit joint stock company "Shakarim Semey University" in the period from April 19 to 21, 2023

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Semey, 2023

CONTENT

(I) <u>LIST OF DESIGNATIONS AND ABBREVIATIONS</u>

IAAR – Independent agency for accreditation and raiting
EEC – external expert commission
AMS – administrative and managerial staff
BD – basic disciplines
SAC – state attestation commission
SMSE – state mandatory standard of education
ECTS – European Credit Transfer and Accumulation System
ICT – information and communication technologies
IC – individual curriculum
CC – component of choice
CQAFES – Committee for Quality Assurance in the Field of education and Science of the Ministry of Education and Science
CED – catalog of elective disciplines
MEP – modular educational programs
RW – research work
NQF – National Qualifications framework
RC – required component
GED – general education disciplines
EP – educational programs
PD – profile disciplines
TS – teaching staff
RK – Republic of Kazakhstan
WC – working curriculum
QMS – quality management system
IWU – independent work of undergraduates
IWS – independent work of students
IWST – independent work of students under the guidance of a teacher
EMC – educational and methodical complex
EMCD – educational and methodological complex of the discipline
EMCS – educational and methodical complex of the specialty
EMC – educational and methodological council

(II) INTRODUCTION

In accordance with Order No. 26-23-OD dated 10.02.2023 of the Director General of the Independent agency for accreditation and raiting, from April 19 to April 21, 2023, an external expert commission assessed the compliance of the educational program 6B01507 – "Computer Science and Robotics" of the Non-profit Joint Stock Company "Shakarim University of Semey" (Semey) standards of primary specialized accreditation of the educational program of the organization of higher and postgraduate education of the IAAR (No. 68-18/1-OD dated May 25, 2018, first edition).

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

Composition of the EEC:

Chairman of EEC IAAR Tamyarov Andrey Valerievich Candidate of Technical Sciences, Associate Professor of the Ulyanovsk State Technical University;

Coordinator of EEC IAAR – **Nasyrova Gulfiya Rifkatovna,** Candidate of Economic Sciences, Project Manager for the formation of external expert commissions IAAR;

Foreign expert – **Natalie Aleksandra Gurvitš-Suits** PhD, Tallinn University of Technology (Tallinn University of Technology) (Tallinn, Estonia)**;**

Foreign expert of IAAR - Starciuc Nicolae dr. habilitatus in veterinary medicine, professor State Agrarian University of Moldova (SAUM)**;**

National expert of IAAR – **Kartbayev Timur Saatdinovich** PhD, Academician of the MAEN, Corresponding member of the National Research Institute of the Republic of Kazakhstan, digital officer of the Kazakh National Women's Pedagogical University (Almaty);

National expert of IAAR – **Rakhimova Gulmira Akhmetovna** Candidate of Economic Sciences, Associate Professor of KATU. Seifullina (Astana);

National expert of IAAR – **Sisenova Asel Tursyngalievna** Candidate of Economic Sciences, Professor "Turan" University (Almaty);

National expert of IAAR – **Dzholdasbayeva Gulnara Karimovna** Doctor of Economics, Professor Almaty Technological University (Almaty);

National expert of IAAR – **Kopishev Eldar Yertayevich** Candidate of Chemical Sciences, Associate Professor Eurasian National University named afterGumilyova (Astana);

National expert of IAAR – **Gabdullina Ainur Zhumagazieva** Candidate of Historical Sciences, Associate Professor S.Seifullin Kazakh Agrotechnical University; (Astana, Republic of Kazakhstan);

National expert of IAAR – **Gabdulov Madi Asetovich** Candidate of Agricultural Sciences, Associate Professor Zhangir Khan West Kazakhstan Agrarian and Technical University (Uralsk, Republic of Kazakhstan);

National expert of IAAR – **Rakhmetulayeva Sabina Batyrkhanovna** PhD Associate Professor, PhD of the Department "Information Systems" International University of Information Technologies (MUIT);

National expert of IAAR – **Berbekova Saule Zhorabekovna** Candidate of Philological Sciences, Associate Professor, Astana IT University (Astana, Republic of Kazakhstan);

National expert of IAAR – **Aybuldinov Elaman Kanatovich** PhD, Professor Member of the Board of the NAO "Atyrau University named after H. Dosmukhamedov", Vice-Rector for Science and International Relations (Atyrau, Republic of Kazakhstan);

Expert of IAAR, Employer – **Adylkhan Asset Berdygaliuly** NCE "Atameken" of East Kazakhstan region (Ust-Kamenogorsk);

Expert of IAAR, Employer – **Dzhagiparova Gulmira Zainulovna** Head of the commercial unit, KT Cloud lab (Almaty);

Expert of IAAR, Student – **Oserbatov Raul Batbairuly,** 3rd year student of East Kazakhstan

Technical University. Serikbaeva (Ust-Kamenogorsk);

Expert of IAAR, Student – Alibekova Kamilla 3rd year doctoral student, Palacki University (Olomouc, Czech Republic);

Expert of IAAR, Student – Umbet Zhanbota Kalkamanovna master's student 2nd year of Kazakh National University im. Al-Farabi (Almaty);;

Expert of IAAR, Student – Zhabykbai Dana Berikkyzy, 3rd year student of the Kazakh National Agricultural Research University (Almaty);

Expert of IAAR, Student – Omarova Adel, member of the Alliance of Students of Kazakhstan, Kazakh Agrotechnical University named after S.Seifullin;

Expert of IAAR, Student – Nurgeldieva Aruzhan 2nd year master's student Kazakh National Agrarian Research University;

Expert of IAAR, Student – Tynymbaeva Aruzhan Muratkyzy 2nd year master's student of the Eurasian National University named afterGumilyova; (Astana, Republic of Kazakhstan);

Expert of IAAR, Student – Kolibaykyzy Aktoty 2nd year master's student EP 7M01503, Chemistry Al-Farabi Kazakh National University.

(III) REPRESENTATION OF THE EDUCATIONAL ORGANIZATION

Non-profit Joint Stock Company "Shakarim Semey University" is one of the large multidisciplinary higher educational institutions of the north-eastern region of Kazakhstan, which trains specialists in a wide range of popular specialties in the field of technical, natural, socio-humanitarian, pedagogical, agricultural sciences, veterinary medicine, business.

The history of the NPJSC "Shakarim Semey University" begins in 1934 - the foundation of the Semipalatinsk Pedagogical Institute https://shakarim.edu.kz/pages/universitet/istoriya-universiteta .

Training of personnel with higher and postgraduate education at the university is carried out in 45 bachelor's degree programs, 37 master's degree programs of scientific and pedagogical direction and profile direction, as well as in 10 educational programs of PhD doctoral studies (https://shakarim.edu.kz/pages/edu-programs?path=obrazovaniye). In order to develop additional competencies for students, 13 additional educational programs (Minor) have been launched since 2021 and 25 Minor programs have been presented to choose from today. More than 10 massive open online courses (MOOCs) and more than 150 video lectures have been recorded.

To meet the interests of students, the discipline "Physical Culture" is held in the form of various sections: football, volleyball, basketball, fitness, chess, togyzkumalak, table tennis and others. Each student independently chooses a section, recording takes place online via https://api.student.shakarim.kz .

In order to improve professional development, social activity and quality of life of the older generation, the Silver University project has been launched. This is a new form of activity aimed at supporting citizens of the older generation (63+).

The University entered the program of 15 centers of academic excellence in the regions launched by the Ministry of Foreign Affairs of the Republic of Kazakhstan. For the first time, a multifunctional website dedicated to the work of Shakarim Kudaiberdiyev has been created (https://shakarim.kz/). In order to digitalize the educational process, the SemGU APP mobile application has been launched.

In order to support the Fund "Shakarim shapagaty" was created, a fair of agricultural products was held. In order to develop the scientific and entrepreneurial activities of students, a START-UP project competition is held at the university with the allocation of financial resources to the winners for the implementation of the project.

To improve educational and social work, the badge "Uzdik student" was developed, the project "TOP 100 best students" was launched.

(IV) DESCRIPTION OF THE PREVIOUS ACCREDITATION PROCEDURE

The educational program 6B01507 – "Computer Science and Robotics" is undergoing primary specialized accreditation

(V) DESCRIPTION OF THE VISIT OF THE EEC

The EEC work was carried out on the basis of the approved Program of the visit of the expert commission on specialized accreditation of educational programs to NPJSC "Shakarim University of Semey" in the period from April 19 to 21, 2023.

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

To obtain objective information about the quality of educational programs and the entire infrastructure of the university, to clarify the content of self-assessment reports, meetings were held with the Chairman of the Board-Rector, Vice-rectors in areas of activity, heads of structural divisions, teachers, students. A total of 46 representatives took part in the meetings (Table 1).

Table 1 - Information about employees and students who participated in meetings with EEC IAAR:

Category of participants	Количество
Chairman of the Management Board - Rector	1
Vice-Rector for areas of activity	3
Heads of structural divisions	26
Deans and heads of departments	13
Преподаватели	91
Обучающиеся	113
Всего	**247**

During the tour, the EEC members got acquainted with the state of the material and technical base of the university, the classrooms for lectures, practical and laboratory work on the profile of accredited OP, the university library, the places of operation of support services for the educational, scientific, social and educational process were viewed.

At the EEC IAAR meeting with the university's target groups, the mechanisms for implementing the university's policy were clarified and the individual data presented in the university's self-assessment report were specified.

EEC experts reviewed the databases of practices, and also asked questions to the heads of organizations: Abay oblysy bilim baskarmasy Semey kalasy boyynsha bilim boliminin MSI "No. 38 zhalpi orta bilim beretin mektep-lyceum", MSI "Secondary school No. 39 named after Alikhan Bokeikhan" of the Department of Education of Semey city of the Department of Education of the Abay region, etc.

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

In order to confirm the information provided in the Self-Assessment Report, external experts requested and analyzed the working documentation of the university. Along with this, the experts studied the Internet positioning of the university through the official website of the university (https://shakarim.edu.kz /).

As part of the planned program, recommendations for improving the accredited educational programs of NPJSC "Shakarim University of Semey", developed by the EEC based on the results of the examination, were presented at a meeting with the management on 04/21/2023.

(VI) COMPLIANCE WITH THE STANDARDS OF SPECIALIZED ACCREDITATION

6.1. Standard "Educational Program Management"

> ✓ The organization of higher and (or) postgraduate education should have a published quality assurance policy that reflects the relationship between scientific research, teaching and learning.
> ✓ The organization of higher and (or) postgraduate education should demonstrate the development of a culture of quality assurance, including in the context of EP.
> ✓ Commitment to quality assurance should apply to any activity performed by contractors and partners (outsourcing), including the implementation of joint/double-degree education and academic mobility.
> ✓ The EP management demonstrates transparency in the development of the EP development plan containing the start dates of implementation, based on the analysis of its functioning, the real positioning of the NGO and the orientation of its activities to meet the needs of the state, employers, students and other interested persons.
> ✓ The EP management demonstrates the existence of mechanisms for forming and regularly reviewing the EP development plan and monitoring its implementation, evaluating the achievement of training goals, meeting the needs of students, employers and society, and making decisions aimed at continuous improvement of the EP.
> ✓ The EP management should involve representatives of groups of stakeholders, including employers, students and TS in the formation of the EP development plan.
> ✓ The EP management must demonstrate the individuality and uniqueness of the EP development plan, its consistency with national priorities and the development strategy of the organization of higher and (or) postgraduate education
> ✓ The organization of higher and (or) postgraduate education must demonstrate a clear definition of those responsible for business processes within the framework of the EP, an unambiguous distribution of staff responsibilities, differentiation of functions of collegial bodies.
> ✓ The EP management must provide evidence of the transparency of the educational program management system.
> ✓ The EP management must demonstrate the existence of an internal EP quality assurance system, including its design, management and monitoring, their improvement, and fact-based decision-making.
> ✓ The management of the EP should carry out risk management, including within the framework of the EP undergoing primary accreditation, as well as demonstrate a system of measures aimed at reducing the degree of risk.
> ✓ The management of the EP should ensure the participation of representatives of employers, TS, students and other interested persons in the collegial management bodies of the educational program, as well as their representativeness in making decisions on the management of the educational program.
> ✓ The EO should demonstrate innovation management within the EP, including the analysis and implementation of innovative proposals.
> ✓ The EP management must demonstrate evidence of readiness for openness and accessibility for students, TS, employers and other interested parties.
> ✓ The EP management must be trained in educational management programs.

The evidentiary part

NPJSC "Shakarim Semey University" (hereinafter – Shakarim University) is a modern educational, methodological, scientific and cultural center of the north-eastern region of Kazakhstan, trains specialists in an interdisciplinary profile of social, humanitarian, natural, technical, agricultural fields.

At the University, personnel training under the educational program (EP) 6B01507 - "Computer Science and Robotics" is carried out in accordance with the State License of the Ministry of Education and Science of the Republic of Kazakhstan No. KZ38LAA00018432 dated 06/25/2020 to engage in educational activities.

The University has adopted and approved the main regulatory documents defining the Policy in the field of quality culture: The Charter of the University, the Corporate Governance Code, the Rules of academic integrity of participants in the educational process at the University. Shakarima of the city of Semey , etc . These requirements are determined on the basis of ethical norms and values of the university environment, beliefs and aspirations of the authoritative part of the team, expectations and requests of effective public practice, thereby ensuring the development of corporate culture and quality culture.

The university has developed an internal EP quality assurance system, including its design, management and monitoring (https://shakarim.edu.kz/pages/universitet/politika-i-standarty-sistemy-vnutrennego-obespecheniya-kachestva).

The implementation and development of accredited educational programs is determined, first of all, by the mission, vision, development strategy of the university, as well as Plans for the development of educational programs.

The internal quality assurance system is supported at the institutional level by the activities of a number of specialized structural units. At the level of the institute and departments, relevant local regulations are in force, organizational measures are being carried out. Specialized seminars and meetings of collegial bodies are practiced. The results of mutual attendance of training sessions are discussed at the department, measures are developed and implemented to improve the process and learning outcomes.

Strategic plan for the development of the University (https://shakarim.edu.kz/upload/editor/pages/documenty/plan-Universiteta-imeni-Sakarima-na-2021-2025-gg-na-anvar2023.pdf) was reviewed and approved by the decision of the Board of Directors of NPJSC "Shakarim Semey University" (Protocol No. 5 dated May 11, 2021). The Board of Directors reviewed and approved adjustments to the planned indicators of the Strategic Plan of the University (Protocol No. 1 of February 16, 2022).

The University has an extensive management structure, presented on the university's website https://shakarim.edu.kz/structure?path=universitet . Within the framework of accredited educational programs, responsibility for the implementation of business processes is distributed between the management of the institute and departments. All documents regulating the implementation of the EP and the main decisions are discussed at meetings of departments and collegial management bodies. The procedure for the work of collegial bodies is defined and documented.

Outsourcing at the university is expressed in the transfer of part of the services to business structures: catering, economic functions, equipment inspection. Ensuring the quality of the services provided is prescribed in the terms of the concluded contracts.

In terms of educational services, outsourcing manifests itself in the transfer of their part to business structures, third–party organizations - staff training, involvement of hourly workers and part-timers from other universities and organizations in the implementation of EP.

QMS maintenance is carried out through the improvement of the internal regulatory framework, through systematic internal audit and monitoring. The university has a database of internal regulatory documents regulating the main business processes within the EP. TS and employees of all structural divisions of Shakarim University have access to this database. The university has developed regulatory IRDs: Fundamental documents, Management of the educational and methodological process, Management of the research process, Management of the educational process, Management of the library, the process of employment and distribution of graduates, etc.

The qualification characteristics of the positions of the faculty and staff of Shakarim University are reflected in the job descriptions, which describe the requirements for qualifications, knowledge, skills, skills and competencies (https://ais.semgu.kz/index.php). The University has a Personnel Policy (https://drive.google.com/drive/folders/1n2RwMlZfDAT6ZPYBaxs5bYGWrgTyaAaG), Rules of competitive replacement of positions of faculty and researchers of NPJSC "Shakarim University of Semey" (https://drive.google.com/drive/folders/1n2RwMlZfDAT6ZPYBaxs5bYGWrgTyaAaG), Regulations on the personnel reserve "Nadezhda" (https://drive.google.com/drive/folders/1n2RwMlZfDAT6ZPYBaxs5bYGWrgTyaAaG), which determine the policy in the field of human resource management.

All activities carried out based on the results of monitoring are reflected in the minutes of meetings of departments, deans, Faculty Councils, Quality Assurance Commission, Academic Council, Academic Council of the University. Systematic evaluation of the effectiveness of the structural units is carried out by analyzing the implementation of the activities of the NPJSC "Shakarim University of Semey" for the academic year (https://drive.google.com/drive/folders/1n2RwMlZfDAT6ZPYBaxs5bYGWrgTyaAaG).

The development plan EP 6B01507 – "Computer Science and Robotics" was developed with the participation of interested persons, including students, taking into account the analysis of the existing conditions and resources of the university, the specifics of their educational activities, as well as the key provisions of the educational programs being implemented. Members of the department, departments of education, students have the right to express their opinion, disagreement or comments on the development and content of the EP. On the basis of proposals and amendments, changes are made to the project.

The working collegial governing body of the EP is an extended meeting of the Department of Physical and Mathematical Sciences and Computer Science, the Academic Committee of the EP. The highest collegial governing body of the EP is the Academic Council of the University.

The EP is being developed by the Academic Committee (https://drive.google.com/drive/folders/1n2RwMlZfDAT6ZPYBaxs5bYGWrgTyaAaG), is discussed and agreed with employers, then goes through the approval procedure and placement on the university's website.

The assessment of satisfaction with quality assurance by interested participants is revealed on the basis of systematic collection, analysis and management of information obtained through surveys, questionnaires, joint workshops, meetings, etc.

EP managers demonstrate and maintain their openness to communicate with various groups of stakeholders. At the rector's level, there are not only opportunities for written communication, including using modern technologies (rector's blog). The Dean and the head of the department are in close contact with students and TS, their availability was confirmed by the participants of the interviews conducted by EEC members.

The bases of practices EP 6B01507 – "Computer Science and Robotics" are NIS, SS No. 49, SS No. 39, etc. (https://shakarim.edu.kz/pages/obrazovaniye/bazy-professionalnoy-praktiki).

The procedure for conducting all types of practices of students is regulated by the "Regulations on Professional Practice and the definition of organizations as bases of bachelor's degree and higher special education practices of Shakarim University".

Monitoring of EP managers' training in education management programs is carried out at the level of the rector's office with mandatory analysis and consideration of reports on the dynamics of the program's activities at meetings and making appropriate decisions for their implementation. In 2021-2022 . Ospanova D.M., Head of the Department of "Physical and Mathematical Sciences and Computer Science" took advanced training courses "Management in Education" and "Management systems of ISO 37001 standard"; Rakhmatullina Z.T. manager EP 6B01507 "Computer Science and Robotics" - "Management in education"

According to the results of the survey of TS and students , the following answers to the questions were received:

− involvement of TS in the process of making managerial and strategic decisions - satisfactory answers of 97.5% of TS respondents;

− assessment of the accessibility of the manual for TS - satisfactory answers of 98.8 % of respondents;

− encouragement of innovative activity TS - satisfactory answers 96.3% of respondents;

− TS feedback level with management – 98.5% of respondents answered satisfactorily.

Analytical part

The Commission notes that:

The mission, main goals, strategic directions of development, the quality assurance policy of the University and the tasks of the NPJSC EP "Shakarim Semey University" are fully developed, written in documents and implemented in all areas of activity.

The submitted documents as evidence base comply with the IAAR standards.

Representatives from TS and students are involved in the development of development plans, which was confirmed in interviews with target groups. The EP development plan was agreed with the Dean of the Faculty and reviewed at the meetings of the faculty commissions and approved by the

Vice-rector. However, there is no evidence of discussion and coordination with stakeholders (employers, representatives of practice bases and other stakeholders) of the development plan EP 6B01507 – "Computer Science and Robotics".

The EEC notes that in the development plan of EP 6B01507 – "Computer Science and Robotics" there is a risk analysis and consists of only 5 points, it is recommended to compile a risk register of the EP and a comprehensive program to eliminate these risks, including risks for personnel, material resources, academic integrity, etc.

Despite the fact that the EP management has feedback channels for receiving innovative proposals from interested parties, there is no clear mechanism for implementing innovative proposals and the results of implemented innovative proposals have not been demonstrated.

In addition, the EEC notes that in addition to the heads of graduate departments, EP managers have been trained in management programs, which is the best practice.

Strengths / best practice on accredited EP 6B01507 – «Computer Science and Robotics»:

1.   The EP management (university management, department head, EP manager) were fully trained in educational management programs, including advanced training courses at the national and international level.

Recommendations of EEC for EP 6B01507 – «Computer Science and Robotics»:

1. The university management, together with the EP management, analyze all risks, update the risk register and develop a comprehensive risk reduction program for the university and in the context of the EP by December 31, 2023;

2. The EP management should involve more representatives of interest groups, including robotics and IT, in the formation of an EP development plan by December 31, 2023.

3. The Department of Science, together with the management of the EP, to develop a mechanism for implementing innovative proposals within the EP and an innovation implementation plan by December 31, 2023.

Conclusions of EEC for EP 6B01507 – «Computer Science and Robotics»:

According to the standard "Educational Program Management", 15 criteria are disclosed, of which: 1 – strong position, 11 – satisfactory positions, 3 positions suggest improvements..

6.2. Standard "Information Management and Reporting"

> ✓   *EO should demonstrate the availability of a system for collecting, analyzing and managing information based on the use of modern information and communication technologies and software tools and that it uses a variety of methods for collecting and analyzing information in the context of EP.*
> ✓   *The EP management should demonstrate the existence of a mechanism for the systematic use of processed, adequate information to improve the internal quality assurance system.*
> ✓   *The EP management should demonstrate fact-based decision-making.*
> ✓   *Within the framework of the EP, a system of regular reporting should be provided, reflecting all levels of the structure, including an assessment of the effectiveness and efficiency of the activities of structural units, scientific research.*
> ✓   *The EO should establish the frequency, forms and methods of evaluating the management of the EP, the activities of collegial bodies and structural units, senior management, and the implementation of scientific projects.*
> ✓   *The public organization must demonstrate the definition of the procedure and ensuring the protection of information, including the identification of responsible persons for the reliability and timeliness of the analysis of information and the provision of data.*
> ✓   *An important factor is the availability of mechanisms for involving students, employees and TS in the processes of collecting and analyzing information, as well as making decisions based on them.*
> ✓   *The EP management must demonstrate the existence of a mechanism for communication with students, employees and other stakeholders, as well as conflict resolution mechanisms.*
> ✓   *EO should demonstrate the existence of mechanisms for measuring the degree of satisfaction with the needs of TS, staff and students within the framework of the EP.*

> ✓   *EO should provide for an assessment of the effectiveness and efficiency of activities, including in the context of EP.*
> ✓   *The information intended for collection and analysis within the framework of the EP should take into account:*
> - *key performance indicators;*
> - *dynamics of the contingent of students in the context of forms and types;*
> - *academic performance, student achievements and expulsion;*
> - *satisfaction of students with the implementation of the EP and the quality of education at the university;*
> - *availability of educational resources and support systems for students.*
> ✓   *The EO must confirm the implementation of procedures for processing personal data of students, employees and TS on the basis of their documentary consent*

The evidentiary part

The general approaches, key principles and basic mechanisms established in NPJSC "Shakarim Semey University" on information and reporting management meet the requirements and are being developed and improved along the way. The university has a system for collecting, analyzing and managing information based on the use of information and communication technologies and software. There is a system of regular reporting between divisions and structures, reflecting all levels of the structure, including an assessment of the effectiveness and efficiency of the units. The frequency, forms and methods of management assessment, accredited EP are established by regulatory documents within the university. The procedure for ensuring the protection of information is also defined, including the identification of responsible persons for the reliability and timeliness of information analysis and data provision. All internal regulatory documents regulating the educational activities of the university, including those describing documented business processes, are posted on the official website.

In order to ensure the functioning of the information collection, analysis and management system based on modern information and communication technologies and software, Shakarim University carried out the following work: creation of a unified corporate information environment, introduction of electronic document management (https://sdo.semgu.kz/login.php). A program has been implemented to transfer text messages and file data between departments, which significantly speeds up the paperwork process and significantly reduces the paper flow (https://ais.semgu.kz/login.php).

The official website of the university is located at https://shakarim.edu.kz /. The official website of the University provides information on the following sections: Applicants, Students, Graduates, Faculties, College, Employers, Rector's Blog, Announcements, News, etc. There is information about all departments of the university.

The university's web portal contains information on the following sections: About the University, Education, Science, International Cooperation, Youth Policy. On the website you can get information about EP, scientific activities, international cooperation, information about TS, EP development plan, QED and others. The website provides communication with all interested parties (students and their parents, employers, TS).

Information management processes are carried out in accordance with regulatory documents through the Electronic Document Management System of Shakarim University.

When conducting consultations on the educational process, the possibilities of e–mail are used; contact hours with TS are at the departments in accordance with the approved schedule of classes.

In the management of educational, methodological, scientific, educational processes, there are documents regulating the activities of the university: orders of the rector, orders of vice-rectors, heads of structural divisions, directorates in areas of activity, documents for students and TS (orders for TS, students), semi-annual, annual reports of structural divisions.

Information support is provided by the presence of an electronic library. The library user has the opportunity to use the database (DB) of the electronic catalogues of the scientific library, which reflects the entire library fund, as well as full-text databases of electronic resources, for free through

the University's website (http://library.semgu.kz /).

Informing the participants of the EP implementation about the changes being made is carried out by announcing on the university's website (https://shakarim.edu.kz /), in the electronic document management system (https://ais.semgu.kz/login.php).

Quality assurance of EP implementation is achieved on the basis of internal regulatory documentation: Academic Policy, Quality Policy, documented procedures for internal audits, etc.

The tools for ensuring the quality of education are: State mandatory standards of education; regulatory documents of Shakarim University; university-wide regular survey of students on the quality of teaching in educational programs and others.

The procedure for documentary confirmation by students, employees and TS of their consent to the processing of personal data is provided by the order of the Rector of the University, a list of data for which processing is carried out, and applications for consent, signing of an employment contract (https://drive.google.com/drive/folders/176R_yg5G769KCBFADUomuzrD6OamqOoe).

Analytical part

The university has demonstrated the existence and evidence of the use in the EP management processes of a system for collecting and analyzing statistics on the contingent of students, available resources, personnel, consulting, research and international activities, through which it manages both the EP itself and other areas of activity, using a variety of methods.

Information management processes and reporting are evaluated by analyzing methods and forms of information collection and analysis, decisions of collegial bodies and management, examination of information resources of the university, systems and software, interviewing all interested parties.

The information collected and analyzed by the university within the framework of the EP takes into account:

- dynamics of the contingent of students EP – reflected in the accounting documents.

- analysis of the level of academic performance - achievements of students.

- satisfaction of students with the implementation of the EP and the quality of education at the university, as well as the availability of educational resources and support systems for students - is determined by means of a questionnaire of students. Information about the results of the survey is stored and sent to departments. The analysis and decisions based on the results of the survey are recorded in the protocols of the collegial bodies, but despite this, the development plans do not approve specific indicators for achieving KPIs in all areas of activity in the implementation of accredited EP.

Strengths / best practice on accredited EP 6B01507 – «Computer Science and Robotics»:
- According to this standard, EP have no strengths.

Recommendations of EEC for EP 6B01507 – «Computer Science and Robotics»:
1. The EP management should adjust the EP development plans in order to include measurable indicators of achievement in all areas of activity in the implementation of accredited EP from the 2023-2024 academic year.

Conclusions of EEC for EP 6B01507 – «Computer Science and Robotics»:
According to the Information Management and Reporting standard, 16 criteria have been disclosed, of which 16 have satisfactory positions.

6.3 Standard «Development and approval of the educational program»

> ✓ *The EO should define and document the EP development procedures and their approval at the institutional level.*

✓ *The EP management must ensure that the content of the EP meets the set goals, including the expected learning outcomes.*

✓ *The management of the EP should demonstrate the existence of mechanisms for reviewing the content and structure of the EP, taking into account changes in the labor market, the requirements of employers and the social request of society.*

✓ *The EP management should ensure that there are developed models of the EP graduate describing learning outcomes and personal qualities.*

✓ *The EP management must demonstrate the conduct of external examinations of the content of the EP and the planned results of its implementation.*

✓ *The qualification awarded upon completion of the EP must be clearly defined and correspond to a certain level of the HCK and QF-EHEA.*

✓ *The EP management should determine the impact of disciplines and professional practices on the formation of learning outcomes.*

✓ *An important factor is the possibility of training students for professional certification.*

✓ *The EP management must provide evidence of the participation of students, TS and other stakeholders in the development of the EP, ensuring its quality.*

✓ *The EP management should ensure that the content of academic disciplines and planned results correspond to the level of education (bachelor's, master's, doctoral studies).*

✓ *The EP structure should provide for various types of activities that ensure that students achieve the planned learning outcomes.*

✓ *An important factor is the correspondence of the content of the EP and the results of the EP training implemented by organizations of higher and (or) postgraduate education in the ЕПВО.*

The evidentiary part

Information about educational programs is posted on the official website of the university and in the Unified Higher Education Management System (UHEMS), where the goals and objectives of the EP, priorities and features are indicated.

Shakarim University independently develops the EP taking into account the Dublin Descriptors and the European Qualifications Framework, in accordance with the Classifier of Areas of Training with Higher and Postgraduate Education, the requirements of SGESE, regulatory legal acts of higher and postgraduate education, as well as the Academic Policy of the University (https://shakarim.edu.kz//upload/editor/pages/documenty/Akademiceskaa-politika-NAO-Universitet-imSakarima-gSemejdocx.pdf) and is implemented through curricula (standard, individual and working) and programs (syllabuses).

The development of an educational program for the bachelor's degree level is based on the new RLA for the implementation of the Law of the Republic of Kazakhstan dated July 4, 2018 No. 171-VI "On Amendments and Additions to some Legislative Acts of the Republic of Kazakhstan on the expansion of academic and managerial independence of higher educational institutions".

In order to achieve high quality of educational programs, ensure academic mobility of students and teachers, and implement the principle of continuity of all levels of education, the university has developed a "Regulation on the educational program" (https://shakarim.edu.kz/pages/obrazovaniye/vnutrenniye-normativnyye-dokumenty).

Models of EP graduates have been developed, where learning outcomes and personal qualities are described.

In order to improve the quality and efficiency of the development of educational and methodological support for disciplines in the 2021-2022 academic year, an electronic working curriculum (syllabus) was introduced into the electronic document management system. The electronic syllabus is signed by the participants of the electronic document management system via EDS. Requirements for the development and design of the syllabus are set out in the Documented procedure "Educational and methodological support of discipline" DP 042-1.01-2021, form F DP 042-1.01-2021-1 (https://shakarim.edu.kz/pages/obrazovaniye/vnutrenniye-normativnyye-dokumenty).

Based on the "TS Training Load Planning and Distribution Rules" (https://drive.google.com/drive/folders/1ltTzxENwdtbWYwlZP5YqzbCkQ68otg3w) the calculation of the academic load of the department is carried out. The scope of work of the TS of the University is established annually by the decision of the Academic Council of the University, taking into account

the need to perform all types of classroom, educational and methodological (including mutual attendance of classes, attendance of open classes), research, educational, public works, in accordance with the position. In the database ais.semgu.kz individual plans of teachers are formed, which are signed by the participants of the electronic document management system through EDS.

The University achieves the satisfaction of internal and external stakeholders through the modernization of the EP, the implementation of additional EP/Minor (https://shakarim.edu.kz/pages/obrazovaniye/minor), the introduction and recognition of microqualification programs (micro credentials), the introduction of elements of dual training, the implementation of multilingual education.

The University provides for the passage of professional certification of students, their participation in seminars and trainings on certification and special courses. In addition to mastering the disciplines of the educational program, students have the opportunity to take advanced training courses, both in their specialization and in related branches of science. So, in the current academic year, second-year students have started studying Coursera courses, after successful completion of which they will receive the appropriate certificates. In the future, these students will have the opportunity to recalculate the assessment of the discipline in accordance with the result of the course on the Coursera platform.

The goal of EP 6B01507 "Computer Science and Robotics" is reflected in the development plans of the EP and is aimed at training highly qualified personnel who meet the needs of modern society, as well as at the formation of general cultural (universal, general scientific, socio-personal, instrumental, etc.) and professional competencies in accordance with the requirements of SGESE.

The main goal of the educational program 6B01507 – "Computer Science and Robotics" is to train competitive specialists with high social and civic responsibility, able to carry out professional activities: digitalization of education and organization of training in the field of computer science and robotics using innovative technologies.

Practical teachers from the school are involved in the educational process: Serikbaeva M.Sh. - MSI "Gymnasium No. 37 named after Ybyray Altynsarin" of the Semey City Education Department of the Abay region Education Department, computer science teacher; Syzdykova A.T. MSI "Secondary School No. 39 named after Alikhan Bokeikhan" of the Semey City Education Department of the Abay region Education Department, computer science teacher.

One of the main job responsibilities of TS is continuous professional development. To date, all teachers of the Department of "FMNiI" have completed advanced training courses, which is 100% of the total number of TS.

The department independently establishes the ratio between the classroom load (teacher's work with students) and the volume of extracurricular (extracurricular) work, as well as the hourly wage. The annual load of TS is 1,440 hours (48 credits) per year (Appendix 14 https://drive.google.com/drive/folders/1ltTzxENwdtbWYwlZP5YqzbCkQ68otg3w).

Extracurricular (extracurricular) work includes:
– educational and methodical work – at least 60% of the full time;
– research work – no more than 30%;
– social and educational work – no more than 10%.

The National Qualifications Framework of the Republic of Kazakhstan is a tool for combining the sphere of labor and the sphere of education and is a generalized description of the qualification levels recognized at the national level and the main ways to achieve them in Kazakhstan.

The practice bases of EP 6B01507 "Computer Science and Robotics" are:
– MSI "Shakarim Multidisciplinary Gymnasium No. 5" of the Semey City Education Department of the Abay Region Education Department,
– MSI "Alikhan Bokeikhan Secondary School No. 39" of the Semey City Education Department of the Abay Region Education Department,
– MSI "Toleubai Amanov Secondary School No. 16" of the Semey City Education Department of the Abay Region Education Department,

– MSI "Secondary School-Lyceum No. 38" of the Semey City Education Department of the Abay Region Education Department,

– MSI "Akhmet Baitursynuly Secondary School No. 47" of the Semey City Education Department of the Abay Region Education Department,

– MSI "SS No. 25" of the Semey City Education Department of the Abay Region Education Department,

– MSI "SS No. 49" of the Semey City Education Department of the Abay Region Education Department (https://shakarim.edu.kz/pages/obrazovaniye/bazy-professionalnoy-praktiki

The results of the TS survey showed that they were satisfied:

- To what extent does the content of the educational program meet your scientific and professional interests and needs? – marked satisfactorily 100 %;

- What attention is paid by the management of the educational institution to the content of the educational program? – marked satisfactorily 100 %;

- compliance of students' knowledge obtained at this university with the realities of the requirements of the modern labor market – 100 %;

- formation of educational programs for the organization of education among students with the ability and skills to analyze situations and make forecasts – 98.8%.

Students assessed how much they agree that the taught material is relevant: 83.9% – full agreement, 11.9% – agree, 3.8% – partially agree, 0.4% – disagree, 0.4% – complete disagreement.

Analytical part

According to the developed EP, taking into account the personal needs and capabilities of students, there is a graduate model, which describes the principles of ensuring the competitiveness of a specialist; the qualification characteristics of a graduate; requirements for the development and conditions for the implementation of the basic educational training program; requirements for a graduate of a specialty; the competence of a graduate of a university in the field of training, but despite this, EEC members note that they participate in The EP's external expertise is a narrow circle of external experts and mainly in the pedagogical part.

In accordance with the mission and vision of the University, the implemented EP are aimed at ensuring the continuity of training levels, at solving the issues of forming a "perfect personality", training a specialist with broad fundamental knowledge, with developed hard and soft skills, proactive, able to adapt to the changing requirements of the labor market and technology, ensuring the level of training of specialists to modern requirements and world standards. However, the EEC notes the need to expand the geography of countries by double-degree and joint EP.

The management of accredited EP has a good potential for the implementation of MOS courses as part of the study of mass open online courses on various educational platforms, as well as for the implementation of professional certification of students and teaching staff in the framework of international certification programs.

Strengths / best practice on accredited EP 6B01507 – «Computer Science and Robotics»:
- According to this standard, EP have no strengths.

Recommendations of EEC for EP 6B01507 «Computer Science and Robotics»:
1. The EP management should expand the qualitative and quantitative composition of external EP experts and additionally attract an expert from the ICT industry and robotics before the beginning of the 2023-2024 academic year.

2. The EP management within the EP disciplines should develop a plan for the implementation of professional certification by the end of 2023 and annually promote the receipt of professional certificates in IT areas by students within the disciplines free of charge (for example, Microsoft, Apple, Cisco, robotics and/or others).

3. The Center for International Cooperation, together with the management of the EP, to develop a plan to expand cooperation with foreign universities within the framework of a double-degree EP and/or joint EP until December 31, 2023.

Conclusions of EEC for EP 6B01507 – «Computer Science and Robotics»:
According to the standard "Development and approval of an educational program", 12 criteria are disclosed, of which all 12 have satisfactory positions.

6.4. Standard «Continuous monitoring and periodic evaluation of educational programs»

> ✓ *The EO should define mechanisms for monitoring and periodic evaluation of the EP to ensure the achievement of the goal and meet the needs of students, society and show the orientation of the mechanisms for the continuous improvement of the EP.*
> ✓ *Monitoring and periodic evaluation of the EP should include:*
> • *the content of programs in the light of the latest scientific achievements in a particular discipline to ensure the relevance of the discipline taught;*
> • *changes in the needs of society and the professional environment;*
> • *workload, academic performance and graduation of students;*
> • *effectiveness of student assessment procedures;*
> • *expectations, needs and satisfaction of students with EP training;*
> • *the educational environment and support services, and their compliance with the goals of the EP.*
> ✓ *The EP management should demonstrate a systematic approach in monitoring and periodically evaluating the quality of the EP.*
> ✓ *EO, the EP management should define a mechanism for informing all stakeholders about any planned or undertaken actions regarding the EP.*
> ✓ *All changes made to the EP must be published*

The evidentiary part
The university defines and consistently applies procedures for monitoring, periodic evaluation and revision of educational programs in order to ensure that they achieve their goals and meet the needs of students and society.

Shakarim University provides a revision of the content and structure of the EP taking into account changes in the labor market, the requirements of employers and the social request of society.

All interested parties take part in the revision of the EP, which makes it possible to identify real production requests formulated by employers and other stakeholders. Employers' participation in the revision of the EP is carried out by:

– participation of representatives of employers in the examination of the EP;

– participation of representatives of employers in the formation of the content of practice-oriented disciplines, practices and research work, in the formation of research topics,

– involvement of representatives of the professional community in teaching according to the educational program.

The application of the education quality assurance system makes it possible to ensure the participation in the educational process of all interested persons: students receiving knowledge; teachers providing educational services; employers who are representatives of the labor market for whom training is being conducted.

The above-mentioned participation is manifested in the constant monitoring and periodic evaluation of educational programs. The main objective of the assessment is to systematically identify the degree of satisfaction of students and graduates with the quality of educational services. The University's Center for Social Monitoring and Forecasting uses questionnaires and interviews based on specially designed questionnaires to solve this problem. The results of processing the answers indicate the satisfaction of students with the activities of the university in the main areas (https://shakarim.edu.kz/pages/universitet/materialy-sotsiologicheskikh-issledovanii)

Monitoring and periodic evaluation of the EP is carried out according to the quality of students'

knowledge; according to employers' reviews; according to students' reviews of the EP, etc. Monitoring of students' academic achievements is carried out twice a year at the end of the semester. The frequency of other types of monitoring is once a year.

To control the quality of teaching and the level of knowledge of students, internal cathedral and university control is regularly carried out. The departments monitor the quality of TS classes (schedule of open classes, mutual visits, protocols of their discussion).

The workload, academic performance and graduation of students comply with regulatory requirements and SGESE.

The participation of TS, employers and students in the development of the EP is presented in the following documents:

1) feedback from employers on the results of practical training;

2) reviews from organizations on the EP.

The results of the examination sessions are discussed at the meetings of the departments. At the end of the academic year, at a meeting of the department with the participation of all interested parties (TS, employers, students) who have the right to vote, a self-assessment of the EP is carried out, taking into account the changes made, the results achieved, the effectiveness and efficiency of the implementation of the EP are discussed. Making changes to the EP is possible by revising the RUPa, Kada, working curricula, syllabuses. The results of the self-assessment are reflected in the minutes of the meeting of the department.

Results of the session of students EP 6B01507 - Computer Science and Robotics for the last 4 years in the context of courses

course	Educational program	«excellent»	«excellent» и «good»	«excellent», «good» and «satisfactory»	«excellent», «good», «satisfactory», «not satisfactory»
		2019-2020 academic year			
1 course	6B01507 - Computer Science and Robotics	-	3	-	-
		2020-2021 academic year			
1 course	6B01507 - Computer Science and Robotics	1	1	-	-
2 course		1	4	-	-
		2021-2022 academic year			
1 course	6B01507 - Computer Science and Robotics	-	9	-	-
2 курс		-	2	-	1
3 course		-	5	-	-
		2022-2023 academic year			
1 course	6B01507 - Computer Science and Robotics	-	18	-	-
2 course		-	9	1	-
3 course		1	1	-	-
4 course		-	5	-	-

A student who does not agree with the results of the assessment on the exam has the right to appeal. In some cases (due to illness, family circumstances, or other objective reasons), the dean of the faculty may allow the student to take an individual examination session.

The educational environment and support services correspond to the goals of the EP, so the educational process for accredited programs is implemented in specialized classrooms and training

laboratories, at branches of departments equipped with the necessary equipment and software.

Analytical part

When conducting EP events, all interested parties are informed: the EP management brings information to the TS through discussion at department meetings, employers are also informed through communication via communication means, the Internet, the developed EP are sent to them for reviews, representatives are invited to discuss individual issues, conferences, open days are held; students receive all information from advisors They can also contact the EP management for clarification.

An example of fruitful cooperation with educational organizations are agreements on the establishment of a branch of the department. Within the framework of cooperation, educational and methodological developments, consultations, classes, joint assignments, practical training are exchanged.

The quality management system for the provision of educational services for EP provides for: improving the quality of the teaching staff of EP, optimizing curricula, developing the material and technical base, forming information resources and ensuring their availability, forming a high-quality contingent of students, quality control of training and others.

Strengths / best practice on accredited EP 6B01507 – «Computer Science and Robotics»:
- According to this standard, EP have no strengths.

Recommendations of EEC for EP 6B01507 - Computer Science and Robotics:
- There are no recommendations for this standard.

Conclusions of EEC for EP 6B01507 – «Computer Science and Robotics»:
According to the standard "Continuous monitoring and periodic evaluation of educational programs", 10 criteria are disclosed, of which: 10 have a satisfactory position.

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

> ✓ *The EP management should ensure respect and attention to different groups of students and their needs, provide them with flexible learning paths.*
> ✓ *The EP guidelines should provide for the use of various forms and methods of teaching and learning.*
> ✓ *An important factor is the availability of own research in the field of teaching methods of EP academic disciplines.*
> ✓ *The EP management should demonstrate the availability of feedback mechanisms for the use of various teaching methods and evaluation of learning outcomes.*
> ✓ *The EP management should demonstrate the existence of mechanisms to support the autonomy of students with simultaneous guidance and assistance from the teacher.*
> ✓ *The EP management must demonstrate that there is a procedure for responding to student complaints.*
> ✓ *EO should ensure consistency, transparency and objectivity of the learning outcomes assessment mechanism for each EP, including the appeal.*
> ✓ *EO should ensure that the procedures for evaluating the results of training of EP students correspond to the planned results and goals of the program, publication of criteria and evaluation methods in advance.*
> ✓ *The EO should define mechanisms to ensure that each EP graduate achieves learning outcomes and ensures the completeness of their formation.*
> ✓ *Evaluators should be familiar with modern methods of evaluating learning outcomes and regularly improve their skills in this area.*

The evidentiary part

Shakarim University implements a student-centered learning system, which is based on the fact that the student is an active subject of the educational process. The active activity of students includes the definition of the content of educational programs, the independent formation of an educational trajectory, the choice of a teacher, an assessment of the level of effectiveness of training and teaching methods, an assessment of the professional qualities of TS, an assessment of the level of material and technical support of the educational process and the sanitary condition of the premises. Respect for the

personality and consideration of the needs of students in the framework of student-centered learning is provided by an individual learning trajectory, portfolio systems, as well as forms of learning that produce their own activity (business games, discussions, round tables, independent creative work, scientific work, excursions, communicative games, communication trainings).

The main goal of the priority direction of the Strategic Development Plan of Shakarim University "Ensuring high-quality training of competitive personnel": training highly qualified specialists who are competitive in the domestic and international labor market through the integration of science, education and innovation.

In Shakarim University, in order to implement the principle of student-centered learning, academic groups are formed by levels and language of instruction. For the undergraduate level, the number of students in the group is set at no more than 30 people.

The needs of students are identified in accordance with the Law of the Republic of Kazakhstan on Education, and are met through their choice of subjects, educational and elective courses, extracurricular activities and associations in the system of additional education.

The manual EP 6B01507 – "Computer Science and Robotics" ensures respect and attention to various groups of students and their needs.

Ensuring equal opportunities for students is achieved by the completeness of educational, methodological, organizational, and informational support of the educational process in three languages of instruction: Kazakh, Russian and English.

The principle of gender equality applies to all students. There is equal access to educational, research, and educational activities. The possibilities of choosing and combining disciplines are regulated by the introduction of prerequisites in the main characteristic of EP 6B01507 – "Computer Science and Robotics", which require mandatory inclusion in the IUP of the previous discipline.

To ensure the harmonious development of students, taking into account intellectual development and individual characteristics, the university has student associations and associations, student parliament: "Club of Young Leaders", "Club of talented youth", "Shakarim "Adaldyk alany"", "Club of Young journalists", "Club of young entrepreneurs "Enactus", "Shakarim zhastary", "Youth Intellectual Center", debater clubs "Congress" and "Parasat", volunteer club "SVK", student media center "Shakarim social media", student-youth theater "Karakoz", "Shakarim parasattylyk ordasy", "School of akyns named after Dulat Babatayuly", whose participants are students of EP (https://shakarim.edu.kz/student/molodezhnaya-politika/organizations).

When teaching a number of disciplines, a multimedia complex, interactive whiteboards, presentations and videos are used. The Department of "Physical and Mathematical Sciences and Computer Science" is working on the introduction of innovative technologies into the educational process during laboratory and practical work, taking into account the specifics of the EP, for example, a project-oriented teaching method, discussions, brainstorming, situation analysis, essay writing, presentations, clubs, field classes, when conducting a number of disciplines and others .

The university has a gallery of graduates. https://shakarim.edu.kz/studentam/vypuskniki. As well as the Alumni Association https://shakarim.edu.kz/pages/vypusnikam/assotsiatsiya-vypusknikov-universitet-shakarima .

In the academic year 2021-2022, a MOOC was created at Shakarim University through the Moodle platform (https://mooc.semgu.kz) Massive Open Online Courses are interactive educational courses available to a wide audience online, where each student receives a set of video lectures, homework and tests.

The university has an effective system of information and feedback: the Shakarim University website, a page for applicants, history and events sites, an electronic library, a student forum, an educational portal, etc.

Feedback system and evaluation of learning outcomes is carried out by questioning students and TS (https://shakarim.edu.kz /). Systematic work for feedback is provided at the meetings of the department, faculty. Based on the analysis of feedback results on the implementation of student-centered learning, EP provides for a change in the methodology of teaching disciplines, i.e. a shift in emphasis on independent activity and reflection, increasing personal responsibility for learning

outcomes.

The main methods of periodic evaluation of educational activities include questionnaires, interviews and surveys; internal audits; analysis of the rector's blog, "complaints and suggestions box"; media content analysis, etc.

The teaching staff is actively engaged in the methodology of teaching disciplines. Within each EP discipline there are publications of teachers confirming the existence of their own research in the field of teaching methods of disciplines.

Analytical part

Systematic work is carried out at the university to monitor the academic performance of students. A mechanism for assessing the knowledge, skills and qualities acquired by students in the course of training.

TS accredited EP widely uses information and communication, interactive, video lectures, seminars, conferences, project and research teaching methods in the educational process, which is confirmed each time during mutual visits and open classes.

The organization of the control system of educational achievements of students is carried out by the registrar office, which is subordinate to the Department of the Organization of the educational process. Shakarim University has developed forms of documentation – rating sheets, examination, final and summary sheets. Preparation of students for the examination session, development of control materials, test tasks, projects, case assignments, essays is the subject of discussion at the meeting of the Department, the COC of the Faculty of Natural Mathematics. The methods and forms of conducting current and boundary control, intermediate certification, the system of analysis and monitoring of the results of examination sessions are determined and conducted in accordance with the requirements of the credit system of training.

The student has the right to appeal. For this purpose, an appeal commission is created for the period of the examination session from among experienced teachers whose qualifications correspond to the profile of the disciplines submitted to the examination session.

The qualification of teachers of the department is regulated by the qualification requirements for hiring employees (compliance of basic education with the EP profile, degree, title, experience of scientific and pedagogical activity, etc.).

Strengths / best practice on accredited EP 6B01507 – «Computer Science and Robotics»:
- According to this standard, EP have no strengths.

Recommendations of EEC for EP 6B01507 «Computer Science and Robotics»:
- There are no recommendations for this standard.

Conclusions of EEC for EP 6B01507 – «Computer Science and Robotics»:
According to the standard "Student-centered learning, teaching and assessment of academic performance", 10 criteria are disclosed, of which 10 criteria have a satisfactory position.

6.6. Standard «Students»

> ✓ *The EO must demonstrate the existence of a policy for the formation of a contingent of students in the context of the EP, ensure transparency and publication of its procedures governing the life cycle of students (from admission to completion).*
> ✓ *The EP management should determine the order of formation of the contingent of students based on:*
> - *minimum requirements for applicants;*
> - *the maximum size of the group during seminars, practical, laboratory and studio classes;*
> - *forecasting the number of state grants;*
> - *analysis of available material and technical, information resources, human resources;*
> - *analysis of potential social conditions for students, including the provision of places in the*

> ✓ *dormitory*
> ✓ *The EP management must demonstrate readiness to conduct special adaptation and support programs for newly enrolled and foreign students.*
> ✓ *The EO must demonstrate compliance of its actions with the Lisbon Recognition Convention, the existence of a mechanism for recognizing the results of academic mobility of students, as well as the results of additional, formal and non-formal education.*
> ✓ *The EO should cooperate with other educational organizations and national centers of the "European Network of National Information Centers for Academic Recognition and Mobility/National Academic Recognition Information Centers" ENIC/NARIC in order to ensure comparable recognition of qualifications.*
> ✓ *EO should provide an opportunity for external and internal mobility of EP students, as well as readiness to assist them in obtaining external grants for training.*
> ✓ *The management of the EP should demonstrate readiness to provide students with internship places, promote the employment of graduates, and maintain communication with them.*
> ✓ *EO should provide for the possibility of providing EP graduates with documents confirming their qualifications, including the achieved learning outcomes, as well as the context, content and status of the education received and certificates of its completion*

The evidentiary part

Shakarim University is guided by the policy of transparency of procedures from admission to graduation of EP students.

The rules and procedures for accepting documents of applicants entering Shakarim University are based on the following regulatory documents:

- Law of the Republic of Kazakhstan dated July 27, 2007 No. 319-III "On Education" (with amendments and additions as of 02/21/2019);

- Standard rules for admission to training in educational organizations implementing professional training programs of higher education, approved by the Decree of the Government of the Republic of Kazakhstan dated October 31, 2018 No. 600 (with amendments and additions dated 06/08/2020);

- The rules for awarding an educational grant to pay for higher or postgraduate education with the award of a bachelor's or master's degree, approved by the Decree of the Government of the Republic of Kazakhstan dated January 23, 2008 No. 58 (Rules as amended by the Decree of the Government of the Republic of Kazakhstan dated 08.06.2020 No. 362).

The policy of contingent formation at Semey Shakarim University is determined by the republican regulatory documents and the internal document "Rules for Admission of students to NPJSC "Semey Shakarim University"" approved by the Board of Directors.

The policy of forming a contingent of students consists in admitting to the number of students the most prepared for studying at the university persons who consciously chose the EP, as a result of transfer from one EP to another, from one educational institution to another, registration of academic leave, deductions.

The formation of a contingent of students is carried out by placing a state educational order for the training of specialists with higher education, as well as paying for training at the expense of citizens' own funds and other sources.

The total contingent of students EP 6B01507 Computer Science and Robotics:

Курсы	На 1 сентября 2019-2020 уч года			На 1 сентября 2020-2021 уч года			На 1 сентября 2021-2022 уч года			На 1 сентября 2022-2023 уч года			На 26.02.2023		
	очное		Дистанционное обучение	очное		Дистанционное обучение	очное		Дистанционное обучение	очное		Дистанционное обучение	очное		Дистанционное обучение
	грант	Платная основа		грант	Платная основа		грант	Платная основа		грант	Платная основа		грант	Платная основа	
1	2		7	1	2	5	9		26	18		24	18		19
2							1	2	8	9	1	34	9	1	34
3							2	3	3		2	2	1	1	
4										2	3		2	3	
Итого	2		7	1	2	5	12	5	37	29	6	60	30	5	53
	9			8			54			95			88		

To help students, a Student Handbook has been developed, which is located on the university's website and in the personal account for students. The directory is updated annually taking into account changes in the normative documents of the University. The Student's Guide provides information on academic issues, transfer from course to course, obtaining the services of a Student Service Center, international cooperation, vacant grants, Presidential scholarships, etc. https://shakarim.edu.kz/pages/studentam/putevoditel-obuchayushchegosya

The criterion for transferring from course to course is the transferable score – GPA, established by the decision of the Academic Council of the University.

The procedure for the transfer and restoration of students at Shakarim University is carried out in accordance with the documented procedure "Regulations on the rules of transfer and restoration of students at Shakarim University"

The procedure for granting academic leave to students is carried out in accordance with the Academic Policy of the University. On all these issues, students receive advice at the Student Service Center (COE) and at the Dean's Office of the EMF.

In order to prevent possible problems related to students' academic performance and behavior, intensive work of advisors and curators with student groups is carried out. During the academic year, curatorial hours are held with groups of students, current issues, internal regulations, results of current, boundary and final control, etc. are considered.

https:/sdo.semgu.kz – electronic document management system, put into operation since April 2022.

The electronic document management system is designed to ensure a paperless, legally significant exchange of documents between all participants in the university's activities.

https:/smart.semgu.kz – an automated information system for employees, which allows to systematize and simplify the types of statistical reports on the contingent of students according to various indicators (the basis of training, the level of training, various statuses: M&E grant, academic leave, academic mobility), to make the layout of the contingent of students for all types of quotas for admission. The information system has been put into operation since January 2022, and is supplemented with types of reports as necessary.

https://adminpanel.shakarim.kz – the head's panel for visual representation of quantitative and qualitative information about the university's activities, put into operation since November 2021, is currently at the filling stage.

To date, the information is presented in the following sections: "Contingent of students", "TS", "Educational activities", "Scientific activities", "Educational activities", "Logistics and infrastructure", "International cooperation".

https://student.shakarim.kz is a new portal for students, it will be put into operation in stages from the 2nd semester of the 2022-2023 academic year.

https://talapker.semgu.kz – portal for organizing the work of the admissions committee, put into operation when admitting applicants for the 2022-2023 academic year.

The University recognizes the results of additional, formal and non-formal education of

students when organizing transfer processes from other universities, when recognizing the results of academic mobility. Recognition of the results of additional, formal and non-formal education is carried out by the Quality Assurance Commission, which are established at each faculty. The regulation of the processes for the recognition of educational results is described in the Academic Policy of the university and in the internal regulatory document "Regulation on the recognition of the results of formal and non-formal education" https://drive.google.com/drive/folders/1drz85Sv-K8MGKkm2xpnSq65gWVH6hQtl .

The University has developed regulations on internal and external academic mobility, posted on the website https://shakarim.edu.kz/pages/obrazovaniye/polozheniye-o-vnutrenney-akademicheskoy-mobilnosti , https://shakarim.edu.kz/pages/mezhdunarodnoye-sotrudnichestvo/polozheniye-ob-akademicheskoy-mobilnosti.

All university students have the right to participate in the academic mobility program. When sending abroad, the university is guided by the Rules of direction for studying abroad, including within the framework of academic mobility, approved by the order. The main criterion for selecting students to study for academic mobility abroad is the availability of an international certificate (for example, IELTS, TOEFL) or successful passing of a test at a university (advanced level).

In the 1st semester of the 2022-2023 academic year, students of the 2nd year of the educational program 6B01507 - "Computer Science and Robotics" Serik Ayim Serikkyzy, Bikzhanova Indira Vakilevna and Mukhametbekova Anel Bulatbekkyzy were trained at NPJSC "Pavlodar Pedagogical University" under the program of internal academic mobility (Order No. 647 A/c of 05.09.2022) (Appendix 25 https://drive.google.com/drive/folders/1drz85Sv-K8MGKkm2xpnSq65gWVH6hQtl).

The interchange was provided by Liana Anatolyevna Akhmedeeva, a student who studied for one semester at Shakarim University according to EP 6B01507 – "Computer Science and Robotics" (Order No. 657 A/c dated 09.09.2022) (Appendix 26 https://drive.google.com/drive/folders/1drz85Sv-K8MGKkm2xpnSq65gWVH6hQtl).

Planning and practical training is carried out on the basis of work programs and methodological guidelines. Based on the "Regulations on Professional Practice and the definition of organizations as bases of Bachelor's degree and higher special education practices at Shakarim University" (https://ais.semgu.kz/login.php) cross-cutting programs of practices have been developed, which formulate the goals and objectives of practices, practical skills, general and professional competencies acquired by students, as well as forms of reporting on practices. For each type of practice, the department has developed methodological recommendations for its organization and conduct.

The complaint procedure is implemented according to the following schemes:

1. Curators/advisors → department → faculty→ supervising Vice-rector → Chairman of the Board-Rector

Curators/advisors transmit complaints and suggestions of students to the head of the department, the dean of the faculty, the supervising vice-rector. Complaints that the curator reports orally or in writing to the head of the department, as a rule, are resolved by the latter in a relatively short time. However, if the resolution of the complaint is not within the authority of the head of the department, they are also reported orally or in writing to the dean of the faculty. In most cases, all conflicts are resolved at the level of the head of the department or the dean of the faculty.

2. Student → Department of Social Affairs and Youth Policy

In this case, written applications from students and teachers are registered with the Department of Social Affairs and Youth Policy and are considered at the level of the Vice-Rector for Social and Educational Work.

If a student applies for social support, the application is considered in accordance with internal regulatory documents.

3. Student→Chairman of the Management Board-Rector

This scheme is implemented through the rector's Blog or reception on personal issues.

A number of complaints, such as appeals on current control, appeals on current (rating) control and intermediate certification are regulated by the Department for the Organization of the Educational Process.

4. Since 2022, a public reception has been established at the university, which creates an opportunity for free expression of opinions and feedback from all members of the university. You can submit an application / offer online on the official website of the university, where a special page "public reception" is open (https://shakarim.edu.kz/suggestion-box).

The university has 7 youth organizations, 2 clubs, 4 clubs and 2 leagues. The number of students involved in them exceeds 1,500 people. There are 5 junior deans, student councils of 4 dormitories. Most of the students are members of the Alliance of Students of Kazakhstan, Zhastar Rukhy, Zhaydarman, debate clubs, etc.

https://shakarim.edu.kz/student/molodezhnaya-politika/organizations

Full-time students take part in amateur performances, sports sections, clubs and clubs of interest, as well as in city, regional, republican competitions. Members of these organizations and communities are student activists Makhambetova Marzhan, Toleugazy Nurdos, Yerlankyzy Yerkezhan.

The student of the group IR1-101 Toleugazy Nurdos is a member of the student organization "Sanaly Urpak". A student of the IR1-101 group Yerlankyzy Yerkezhan is a member of the Youth Wing of "Jastar ruhy" under the "AMANAT" party, a student of the IR1-101 group Mukhametbekova Anel is a member of the student organization "Shakarim volunteers club".

Students are not only members, but also take prizes:

In May 2022, students of the group IR1-101 Makhambetova Marzhan and IR1-101 Akhmetualieva Anel participated in the National Cup of Student Entrepreneurship "Enactus Kazakhstan". There is a certificate of participation and a team cup. (https://www.instagram.com/p/CdcWjZqK0cw/?igshid=YmMyMTA2M2Y = Enactus Kazakhstan national EXPO 12-13.05.2022).

Also Makhambetova Marzhan participated on November 27-28, 2022 in the Business Forum "Enactus Kazakhstan" (https://www.instagram.com/p/ClYQidUqd4T/?igshid=YmMyMTA2M2Y = (https://www.instagram.com/p/Cls-HRjKRk_/?igshid=YmMyMTA2M2Y =

Since the 2022-2023 academic year, the University has implemented the project "Social Credit", the purpose of which is to socialize students, encourage them to participate in public works and increase social responsibility. As part of the social credit, volunteer services are organized in various areas. You can earn credits by performing volunteer services, participating in various charitable services in the direction of "Mercy", voluntarily teaching within the framework of your specialty in the direction of "Education", participating in university events in the directions of "Asar" and "Help". 2842 students from 3049 took part in the Social Credit project and received social hours in 8 directions. To date, 400 social services have been announced. Information about the types of work performed, as well as the number of credits mastered, is available to each student in his personal account https://student.shakarim.kz/auth/login . Information on the results of the development of social credit by students of the accredited EP in the first half of the 2022-2023 academic year is available on the website https://faculty.shakarim.kz/admin/social-services-students .

In order to ensure the participation of students in public works and create conditions for the socialization of young people, the Regulation on "Social Credit" was approved and an electronic (KPI) database for evaluation was created. The project, started in 2021, continues to this day. (Appendix 27 https://drive.google.com/drive/folders/1drz85Sv-K8MGKkm2xpnSq65gWVH6hQtl).

Every year in May, students who have been active in public life during the year and have achieved various achievements are awarded. Successful students are identified through the website https://top100.shakarim.kz .

The Top 100 students magazine is posted on the website of the Youth Policy section, and students of the accredited educational program are part of the university activists, for example Makhambetova Marzhan (group IR1-101) and Silam Balzhan (group IR-901). https://shakarim.edu.kz/upload/pages/documents/document_1654510501.pdf?path=molodezhnaya-politika).

The order of accommodation in the hostel is carried out through the website https://sdo.semgu.kz/index.php . 779 students live in 4 dormitories belonging to the university.

Analytical part

The university provides an opportunity for external and internal mobility of EP students. Memoranda have been signed and contracts have been drawn up for the development of interaction between internal and external mobility. EEC experts note the need for further development of the implementation of the program "Academic mobility of students".

EEC experts note that special attention is paid at the university to general educational, patriotic and general education events, however, when conducting interviews with students, it was noted that there were insufficient events outside the main program within the framework of special courses (meetings with practitioners, master classes on special courses with external partners, circles on special subjects).

Strengths / best practice on accredited EP 6B01507 – «Computer Science and Robotics»:
- According to this standard, EP have no strengths.

Recommendations of EEC for EP 6B01507 «Computer Science and Robotics»:
1. The EP management should include indicative indicators in the development plans of educational programs, in the work plans of departments and the implementation of the item "outgoing academic mobility of students (external, internal)", "attracting students under the academic mobility program (external, internal)" until the beginning of the 2023-2024 academic year and implement these plans from 2023-2024 academic year.
2. The EP management should develop and approve a program of professional self-education of students before the beginning of the 2023-2024 academic year and implement it from 2023-2024 academic year.

Conclusions of EEC for EP 6B01507 – «Computer Science and Robotics»:
According to the "Students" standard, 12 criteria are disclosed, of which:
11 criteria have a satisfactory position; 1 position requires improvement.

6.7. Standard «Teaching staff»

> ✓ *The EO must have an objective and transparent personnel policy, including in the context of the EP, including hiring, professional growth and development of personnel, ensuring the professional competence of the entire staff.*
> ✓ *The EO must demonstrate the compliance of the TS personnel potential with the specifics of the EP.*
> ✓ *EP management must demonstrate awareness of responsibility for its employees and ensure favorable working conditions for them*
> ✓ *The EP management should demonstrate the change in the role of the teacher in connection with the transition to student-centered learning. 7.2.5 The NGO should determine the contribution of the TS EP to the implementation of the development strategy of the NGO, and other strategic documents.*
> ✓ *EO should provide opportunities for career growth and professional development of TS EP.*
> ✓ *The EP management should demonstrate readiness to involve practitioners of relevant sectors of the economy in teaching.*
> ✓ *The EO should demonstrate motivation for the professional and personal development of EP teachers, including encouragement for the integration of scientific activity and education, the use of innovative teaching methods.*
> ✓ *An important factor is the readiness to develop academic mobility within the framework of the EP, to attract the best foreign and domestic teachers.*

The evidentiary part

At the university, the personnel policy is carried out in accordance with the main priorities of the University's Development Program and corresponds to modern trends in the field of working with human resources.

The University has developed Rules for the competitive replacement of positions of the teaching staff and researchers of NPJSC "Shakarim University of Semey", approved at a meeting of the Board of Directors https://drive.google.com/drive/folders/1n2RwMlZfDAT6ZPYBaxs5bYGWrgTyaAaG .

Motivation of professional and personal development of TS, students and structural units provides financial incentives for achievements in research activities:

– for obtaining a PhD degree (Regulations on the remuneration system of NPJSC employees "Shakarim University of Semey", item 7, P 042-5.02-2021, dated 01.09.2021 https://drive.google.com/drive/folders/16CbJ2u5HVTM6lswgLxjv0XAffCL_D_Sw);

– for the preparation of a protected PhD (Regulations on the remuneration system of NPJSC employees "Shakarim University of Semey", item 7, P042-5.02-2021, dated 01.09.2021);

– for receiving academic titles of professor and associate professor (Regulations on the remuneration system of NPJSC employees "Shakarim University of Semey", item 7, P042-5.02-2021, dated 01.09.2021);

– for the preparation of the winning student of the Republican Subject Olympiad (Regulations on the participation of students in Republican subject Olympiads, P042-2.04-2022, from 04/18/2022 https://drive.google.com/drive/folders/16CbJ2u5HVTM6lswgLxjv0XAffCL_D_Sw);

– a student who won a prize at the Republican Subject Olympiad (Regulations on the participation of students in the Republican subject Olympiads, P042-2.04-2022, dated 04/18/2022);

– for the preparation of the winning student of the Republican Contest of students' research papers (internal order);

- a student who won a prize at the Republican contest of scientific andstudents' research papers (internal order);

– at the end of the year for scientific achievements – the best faculty, the best department, the best scientist, the best young scientist, the best doctoral student and the best master's student (Regulations on the remuneration system of employees of NPJSC "Shakarim University of Semey", item 7, P042-5.02-2021, dated 01.09.2021).

In order to develop scientific, entrepreneurship of students and TS of the university funded competitions are held:

– competition of startup projects among TS and students (Regulations on the holding of the "Start-up" project competition P042-2.13-2021, dated 09/10/2021;

– competition of non-university grants among young scientists (Regulations on internal grants of NPJSC "Shakarim University of Semey", P041-2.10-2021, dated 04/20/2021

The quantitative composition of the teaching staff is approved annually according to the staffing table. According to the staffing table, the composition of the department according to the accredited EP includes: 1 head of the department, 9 candidates of sciences, acting associate professors, 4 PhD doctors, 7 masters. Settling down at the Department of "FMNiI" according to the educational program 6B01507 – "Computer Science and Robotics" is 65%. All teachers of the educational program have a basic education and carry out pedagogical activities according to an individual plan.

Practical teachers from the school Serikbayeva M.Sh. – computer science teacher MSI "Gymnasium No. 37 named after Ybyray Altynsarin" of the Department of Education of Semey city of the Department of Education of the Abay region and Syzdykova A.T. – computer science teacher MSI "Secondary school No. 39 named after Alikhan Bokeikhan" of the Department of Education of Semey city of the Department of Education of the Abay region.

In order to create conditions for advanced training of teachers, a Center for Advanced training and retraining of personnel was created to generalize and disseminate the work experience of leading University teachers, conduct training and methodological seminars. This structure promotes the development of innovative teaching technologies by teachers and their introduction into the educational process, allows for the practical training of teachers involved in the implementation of experimental programs.

All TS of the department have passed advanced training:

The name of the indicator	2019	2020	2021	2022	2023
Number of TS who have passed advanced training, people/%	10	11	14	19	-

To assess the quality of teaching, as well as to transfer experience to young teachers at the department, a schedule of open classes is drawn up. For the organization of mutual visits, the schedule of mutual visits TS is approved at the beginning of each semester. The analysis of the classes attended is recorded by the teacher in the personal account of the system https://ais.semgu.kz/index.php .

At the meeting of the department, the results of open classes and mutual visits of TS classes are discussed, proposals are made for the introduction of new methods of teaching and evaluating the achievements of students.

The website of the departments and faculty regularly publishes information about classes conducted using various teaching methods, open classes of practical teachers and field classes, laboratory and practical classes using elements of dual training https://fnms.faculty.shakarim.kz/department/teachers/7.

Scientific publications of TS Department of "FMNiI" for 2019-2023:

Publications	2019	2020	2021	2022	2023
In rating journals indexed by the international databases Web of Science, Scopus (with a non-zero impact factor, etc.)	4	2	11	5	1
RSCI	0	3	3	5	0
QAC	6	11	4	4	0
journals of the University and other publications of the Republic of Kazakhstan	15	13	14	44	12
Patents, Copyright certificates	0	0	7	22	5
Textbooks, teaching aids	1	0	10	7	0
Monographs	0	1	0	1	0

Teachers are systematically informed via the university's website and personal e-mail about grant competitions within the country and abroad, as well as about conferences on the profile, about journals indexed in the scientometric databases "Scopus" and "Thomson Reuters" (https://shakarim.edu.kz/pages/nauka/publikatsii-uchenykh-universiteta-v-retsenziruyemykh-mezhdunarodnykh-bazakh-dannykh).

Analytical part

The EEC Commission notes that the university has a personnel policy, but no personnel policy is posted on the official website of the university. Transparency of all personnel procedures is due to the acceptance of documents for senior positions through advertisements in newspapers and on the university's website, those who wish to apply to the Personnel Management and Document Management Department. The competition commission discusses the candidates and offers them for collegial consideration at the Academic Council of the University. It is also important that there is a career growth of specialists, university teachers to heads of structural divisions of the university.

EEC experts note that teachers implementing the EP "Computer Science and Robotics" do not fully realize the opportunity to exchange experience within the framework of the academic mobility program in foreign, Kazakh universities and research institutes.

Сильные стороны / лучшая практика по аккредитуемым ЕР «Computer Science and Robotics»

- According to this standard, EP have no strengths.

Recommendations of EEC for EP 6B01507 «Computer Science and Robotics»:

1. The EP management should determine in the development plans indicative indicators of TS participation in the programs "external and internal, outgoing and incoming academic mobility" and begin their implementation starting from the 2023-2024 academic year.

2. The management of the university to post the personnel policy of the university on the official website of the university until July 1, 2023.

Conclusions of EEC for EP 6B01507 – «Computer Science and Robotics»:

According to the standard "Teaching staff and teaching effectiveness", 9 criteria are disclosed, of which 8 positions have satisfactory positions, 1 position implies improvements.

6.8. Standard «Educational resources and student support systems»

✓ *EO should guarantee a sufficient number of educational resources and student support services to ensure the achievement of the EP goal.*
✓ *The EO must demonstrate the sufficiency of material and technical resources and infrastructure, taking into account the needs of various groups of students in the context of EP (adults, working, foreign students, as well as students with disabilities).*
✓ *The EP management should demonstrate the availability of support procedures for various groups of students, including information and counseling.*
✓ *The EP management must demonstrate compliance of information resources with the specifics of the EP, including:*
• *technological support for students and TS (for example, online learning, modeling, databases, data analysis programs);*
• *library resources, including the fund of educational, methodological and scientific literature on general education, basic and profile disciplines on paper and electronic media, periodicals, access to scientific databases;*
• *examination of research results, graduation papers, dissertations for plagiarism;*
• *access to educational Internet resources;*
• *functioning of WI-FI on the territory of the educational organization.*
✓ *EO demonstrates the planning of providing the EP with educational equipment and software similar to those used in the relevant sectors of the economy.*

The evidentiary part

The University ensures the availability of sufficient, accessible and relevant educational resources and student support services. When allocating, planning and providing educational resources, the university takes into account the needs of various groups of students.

Material and technical assets and conditions of the production environment comply with the requirements of ST RK 1158-2002 "Higher professional education. Material and technical base of educational organizations", SGESE RK 5.03.009.-2006 "Education system of the Republic of Kazakhstan.

The formed infrastructure of the university provides comfortable conditions for training, extracurricular activities, research and teaching activities.

The infrastructure of Shakarim University includes 23 facilities, including 11 academic buildings, 4 dormitories, 2 sports complexes, a sports ground with a football field, a garage, a library, a training base, a regional engineering laboratory "Scientific Center for Radioecological Research named after M.S. Panin", a scientific center "Modification of the surface of materials" agrotechnopark. https://shakarim.edu.kz/structure/nauchnyy-tsentr-modifikatsiya-poverkhnosti-materialov?path=nauka

All computers of the university are connected to a local network and connected to the Internet.

Classrooms in academic buildings are equipped with interactive whiteboards and video projectors, buildings are provided with Wi-Fi. Corporate information systems on certain aspects of application have been implemented: electronic document management, electronic library, etc.

To analyze the compliance of available resources at the university, approaches and evaluation criteria have been developed aimed at improving the entire EP database. The implemented approaches include inventory of premises, equipment, questionnaires of students and teachers. Inventory reports are stored in the accounting department, survey questions are posted on the university's website.

Monitoring of laboratory activities is carried out by the commission of the relevant structures of the university by annual verification of measuring instruments, during inventory.

The university ensures compliance with safety requirements during the operation of equipment, safety instructions are given to students when working in analytical laboratories, a note about which is put down in a special journal. Safety requirements are regulated by the organization's occupational health and safety management standard.

The need to purchase equipment is determined by the presence or absence of the necessary equipment for carrying out a certain type of research work. In 2022, 2 specialized classrooms equipped with modern equipment and devices were opened at the Department of Physical and Mathematical Sciences and Computer Science. The offices are designed for 18 and 10 seats. IT is planned to purchase an IT Lab cabinet in 2023. https://shakarim.edu.kz/pages/universitet/gosudarstvennyye-zakupki.

Students and teachers of the departments have the opportunity of free free access to the Internet, via wireless access points (Wi-Fi) from any computer in all academic buildings, dormitories of students.

The Department of "Physical and Mathematical Sciences and Computer Science" has 5 computer classes and 2 laboratories for conducting all types of classroom classes (lectures, practical and laboratory).

In particular, 216 audience "Theory of teaching computer science", 214 audience – "System and applied programming", 209 audience – "Theory of teaching computer science", 205 audience - "Multimedia technologies", 206 audience - "Methods of teaching computer science", 102g audience - "Robotech" and 102b laboratory – "STEM". All laboratory classrooms have laboratory passports. Fire extinguishing equipment, safety magazine, individual and collective protective equipment for students and staff.

Some types of classes in certain disciplines EP 6B01507 – "Computer Science and Robotics" are conducted with elements of dual training directly on the basis of the school, on the basis of contracts concluded with organizations.

To implement EP 6B01507 – "Computer Science and Robotics", there is a necessary classroom fund of 21 classrooms, the total area of which is about 390 m2. The classrooms have an average of 20-25 seats.

Educational and scientific subscriptions, 5 reading rooms, 4 electronic halls and 1 scientific hall have been formed.

All students are provided with access to the library's book collection, which includes educational, methodological, scientific and fiction literature in Kazakh, Russian and foreign languages, as well as foreign and domestic periodicals. The total library stock is 842,990 copies . books, in the state language – 398,815 copies.

Of these

– scientific fund – 132,780 copies, including state. language – 31,609 copies,

– educational literature – 494037 copies, on the state. language – 278883 copies,

– fiction – 66492 copies, on the state. language – 25118 copies,

– other literature (encyclopedias, dictionaries, reference books, etc.) – 149681 copies, on the state. language – 55205 copies.)

The library fund is completed on the basis of curricula and programs of all specialties of the university, applications of departments for literature, research projects carried out, as well as taking into account the reader's requests of students. In addition, in order to increase the library fund with

printed publications, all textbooks, teaching and teaching aids, scientific works of teachers are transferred to the library. In 2023, only 93 titles of periodicals were issued: 15 of them were titles of newspapers of the Republic of Kazakhstan and 78 titles of magazines (60 – RK, 18 – RF).

The fund on electronic and magnetic media is 6522 copies, including 1927 copies in the Kazakh language. In October last year, the Kazakhstan automated Library and Information system "KABIS" was successfully converted and the Scientific Library was transferred to the IRBIS 64+ SUB program, which is a typical integrated solution for the automation of library technologies. This program meets all international requirements for modern library systems, includes ARMa: Administrator, Picker, Cataloger (electronic catalog, reader database and article database), Book distribution, Book security. In 2023, it is planned to purchase the Web-IRBIS module for the purpose of feedback between the employee of the scientific library and the reader (student). The Web-IRBIS software is designed to provide Internet users with access to electronic catalogs and other bibliographic databases of IRBIS.

To organize independent work of students, the university forms and maintains an Electronic Library at SemGU AIS (https://ais.semgu.kz/index.php), containing methodological developments of university teachers (educational and methodological complex of disciplines, electronic textbooks, electronic publications), high-demand literature, literature for multilingual education. Electronic resources are located in 21 directions and amount to 2,433 items. Remote access to these resources is provided around the clock. The digital library of AKNURPRESS publishing house (2027 copies) was also purchased for 3 years. e-books) and "Smart-kitap" (multimedia e-books), which are available to all students and teachers of our university.

Within the framework of the electronic library, access to the resources of the Kazakhstan National Electronic Library (KazNEB), the Republican Interuniversity Electronic Library (RMEB), electronic information resources SpringerLink, "Ssoris", ScienceDirect, e-LIBRARY, the information system "Paragraph", "Adebiet portals", "Epigraph", "KazNUread" (test access to the EBS KazNU named after al-Farabi), Okulyk.kz (school textbooks), etc. The full list of free electronic resources is given on the website of the Scientific Library under the heading "Bibliography" (https://e-lib.semgu.kz).

According to the educational program 6B01507 - "Computer Science and Robotics", the library fund has 7,689 copies (as of 01.02.2023), of which 5,545 copies of books in the state language, which is 72%, 407 storage units in a foreign language.

The total number of copies of educational and methodical literature in the library according to EP 6B01507 "Computer Science and Robotics" is 1,092 copies, including 713 copies in Kaz.yaz.

Funds allocated for the purchase of periodicals for the accredited EP for the reporting period – 496166 tenge.

In total, the library fund for EP 6B01507 "Computer Science and Robotics", including literature on electronic media, is 7972 copies.

Employees of the University have the opportunity to publish their work in the scientific journal "Bulletin of the University. Shakarima G. Semey".

Shakarim University has a licensed software system for detecting text borrowings in educational and scientific works "TURNITIN". There is a general agreement with the California company LLC "TURNITIN" (USA) dated 13.04.2022.

The Regulation "On the procedure for checking written works for the presence of borrowings using the "TURNITIN" system" has been developed and approved (P 042-2.09-2022 of 05/23/2022). Verification is carried out for the borrowing of doctoral and master's theses, theses and projects, scientific articles and teaching aids.

Electronic information resources: full access to databases – Scopus, Science Direct, the Electronic Library System "Polpred", Cyberleninka, the Presidential Library named after B.N. Yeltsin, as well as limited access to some electronic databases.

Educational programs allow people with disabilities to study (inclusive education).

Inclusive education seeks to develop a methodology aimed at children and recognizing that all children are individuals with different learning needs. Coordinator for Inclusive Education

(Tursungozhina G.S.) https://shakarim.edu.kz/pages/obrazovaniye/koordinator The state of inclusive education at the University is monitored annually, which includes the control of material and technical equipment, educational and methodological support and professional readiness of TS.

According to the results of the survey, 99% are satisfied with the level of accessibility of library resources, 99.2% of students are satisfied with the quality of services provided in libraries and reading rooms.

The survey of students showed positive data on the provision of educational materials in the learning process (98.8%), existing educational resources of the university (99.2%), available computer classes (98.2%), availability and quality of Internet resources (98%).

Analytical part

EEC experts got acquainted with the equipment of the material and technical base for the implementation of accredited EP.

According to the results of interviewing the management of EP and students, EEC noted that the university provides various means of communication and communication for TS and students, namely: telephone line, service application registration system, ZOOM platforms, Microsoft products, but employees and students do not have e-corporate mail. There is access to educational Internet resources, the University Library and specialized closed library resources. However, according to the results of interviewing students and a tour of the university, EEC experts note that laboratories with modern hardware and software are insufficiently equipped for more professional development of the laboratory block of disciplines. The EP management needs to continue measures to develop and modernize the laboratory base and upgrade equipment in accordance with current trends in the development of science. For example, to compare Windows-based computer equipment, it is recommended to equip the 1st class with macOS-based computer equipment, as well as equip the 1st class with a set of robotics, etc. In addition, the students noted that due to the lack of computer equipment, they were forced to buy computer equipment, which is difficult to carry with them and causes discomfort for students. In this regard, to analyze the need for computer equipment and develop a purchase plan.

EEC experts did not verify the availability of technological support (online training, modeling, databases, data analysis programs) for EP students, modern equipment adapted to real conditions in production activities used during the educational process was not demonstrated, and the university's IT unit noted that non-licensed software was used.

According to the results of the survey of students, EEC experts observe 66.9% of students are fully satisfied, 19.1% are partially satisfied and 14% are not satisfied.

According to the results of the TS survey, EEC experts recommend that the university management and the EP management bring up for discussion questions (face problems - % TS):
– Lack of technical training facilities in classrooms (sometimes 37.5%);
– Unavailability of necessary literature in the library (sometimes 37.5%);
– Lack of Internet access/weak Internet (often 3.8%, sometimes 30%).

Strengths / best practice on accredited EP 6B01507 – «Computer Science and Robotics»:
- According to this standard, EP have no strengths.

Recommendations of EEC for EP 6B01507 «Computer Science and Robotics»:
1. The management of the university to analyze the need for computer equipment in the context of the EP by December 31, 2023 and organize a phased purchase of computer equipment with furniture.

2. The university management should consider allocating funding for the acquisition of modern laboratories necessary for the implementation of the EP "Computer Science and Robotics", as well as expand recreation areas for students with the installation of computer technology until 2024.

3. The EP management should analyze the available resources and the staff of the TS, in order to plan for the 2023-2024 academic year the EP development plan with the point of organizing

technological support for students (online training, modeling, databases, data analysis programs), including the provision of corporate mail, increasing the speed and improving the Internet to students and employees, the results The analysis should be reflected in the protocol of the collegial governing bodies, and the implementation of the EP development plan should begin from the beginning of the 2023-2024 academic year.

Conclusions of EEC for EP 6B01507 – «Computer Science and Robotics»:

According to the standard "Educational resources and student support systems", 9 criteria are disclosed, of which: - 9 criteria have a satisfactory position.

6.9. «Standard «Informing the public»

✓ *The EO must publish reliable, objective, up-to-date information about the educational program and its specifics, which should include:*
• *expected learning outcomes of the implemented educational program;*
• *qualifications and/or qualifications that will be awarded upon completion of the educational program;*
• *teaching and learning approaches, as well as the system (procedures, methods and forms) of assessment;*
• *information about passing scores and educational opportunities provided to students;*
• *information about graduate employment opportunities.*
✓ *The EP guidelines should provide for a variety of ways to disseminate information, including mass media, information networks to inform the general public and interested parties.*
✓ *Public awareness should include support and explanation of the national development programs of the country and the system of higher and postgraduate education.*
✓ *The EO must demonstrate the reflection on the web resource of information that characterizes it in general and in the context of educational programs.*
✓ *An important factor is the availability of adequate and objective information about TS EP.*
✓ *An important factor is informing the public about cooperation and interaction with partners within the framework of the EP.*

The evidentiary part

The University's management uses various ways to disseminate information – booklets and promotional materials, the university's website, open days, round tables with heads of enterprises and organizations, career guidance events. Information about the content of the EP is discussed at meetings with representatives from employers.

Placement of information about educational programs and curricula, work programs of training courses, subjects, disciplines (modules), annual calendar study schedules, achievements of the university, faculties, departments, announcements, information reports of Shakarim University is published in the university newspaper "Shakarim Shanyragy", on the website and portal of the university, in republican printed and informational publications.

University Internet resources are created at various levels of hierarchy: from personal websites and department pages to university-wide information repositories and are available to students and teachers both on the internal network and on the international global Internet. To represent the interests of the university in the global network and create a holistic positive image in the world community, a website was created https://shakarim.edu.kz ., which provides the target audience with information about various aspects of the university's activities. In addition to providing users with access to the information resources of the university and departments, the university's website serves to develop scientific and educational ties with universities and potential partners, develop academic mobility of students and teachers, increase the competitiveness and investment attractiveness of the university.

Electronic components of educational and methodical complexes, disciplines of specialties (EUMKD) are placed in the unified information and educational environment of the University.

Adhering to the principle of transparency and accessibility, the department's website page of the university contains detailed and objective information about the TS of the department, indicating biographical data, professional achievements and achievements in the field of science. Link to TS

profiles: https://fnms.faculty.shakarim.kz/department/teachers/7 .

Information about the best students and graduates of the department is available on https://fnms.faculty.shakarim.kz/top-students/7 .

The university has defined the procedure for publishing significant news, including cathedral news (http://www.shakarim medya), on the main page of the Shakarim University website https://shakarim.edu.kz . The analysis and weekly monitoring of the work of departments in this area is carried out by the Center for the development of the university's website.

Informing the general public is carried out through the interaction of the press service of Shakarim University and the department with the media, open days, job fairs, alumni meetings, career guidance events of the department and the university. The publication of materials about all important events taking place in the life of the department takes place, except for publication on the university's website, through the university newspaper, and is also covered in republican and regional newspapers (http://semeytany.kz) and television.

A media plan is created annually for the calendar and academic year, which reflects the schedule of publication in various media (TV, press, Internet).

The applicant or interested person is given the opportunity to ask an online question, leave a review or make a suggestion (https://shakarim.edu.kz/rector/index?path=blog-rektora , https://shakarim.edu.kz/suggestion-box).

Every year, a lot of work is carried out at the university on career guidance, in particular, close ties have been established with students of grades 11 of secondary school No. 16, Secondary School No. 17, Secondary School No. 39, "Shakarim Multidisciplinary Gymnasium with instruction in three languages" No. 5, Secondary School No. 47, Secondary School No. 49, SECONDARY SCHOOL No. 25, SECONDARY SCHOOL No. 38, No. 37, SECONDARY SCHOOL No. 22 NISFamilies'.

Together with the departments and the department of career guidance and admissions committee, career guidance activities are carried out: on March 18, 2022, the "I GO TO SHAKARIM" festival was held in the academic building No. 3 for students of secondary schools in Semey are given in the link https://www.instagram.com/tv/CcQbH8wqt5g/?igshid=MDJmNzVkMjY =

The survey of students conducted during the EEC IAAR visit showed:

- satisfaction with the usefulness of the website of educational organizations in general and faculties in particular was confirmed by 99.2% of students;

- 99.2% are satisfied with the information about courses, educational programs, and academic degrees.

Analytical part

The university publishes information on various areas of activity, such as: support and explanation of the national development programs of the country and the system of higher and postgraduate education, international cooperation, results of external evaluation procedures, information for applicants, information about the structural units of the university, information for students, information about the services of the site, etc. The website contains information about the history of the university, the mission, the strategy according to which the university carries out its activities. Instagram Facebook, Youtube, and the University has a social media page. The website and the educational portal of the university are a single system of information support for students and TS.

However, the university management needs to take targeted actions to improve the availability of up-to-date information about:

- teaching approaches, training, system (procedures, methods and forms) of assessment within the EP;

- about educational programs (https://shakarim.edu.kz/pages/edu-programs?path=obrazovaniye), Catalogs of elective disciplines, etc.

- cooperation and interaction with partners within the EP.

- about employment opportunities for graduates and placement of resumes of graduate students at the request of the students themselves.

Strengths / Best practices on Accredited EP:
Various ways of information dissemination are provided, including mass media, information networks for informing the general public and interested persons.

Recommendations of EEC for EP 6B01507 «Computer Science and Robotics»:
1. The management of the university to determine the requirements for the publication on the university's website of reliable, objective, up-to-date information about complete information on the EP, teaching approaches, training, educational programs, as well as assessment systems (procedures, methods and forms), cooperation and interaction with partners within the EP until August 31, 2023.

Conclusions of EEC for EP 6B01507 – «Computer Science and Robotics»:
According to the "Informing the Public" standard, 10 criteria are disclosed, of which: 1 position has a strong side, 8 - have satisfactory positions, 1 position suggests improvements.

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

Strengths / best practice on accredited EP 6B01507 – «Computer Science and Robotics»:

Standard "Educational Program Management"

1. Руководство ЕР (руководство вуза, заведующий кафедрой, менеджер ЕР) в полном составе прошли обучение по программам менеджмента образования, включая курсы повышения квалификации национального имеждунарожного уровня.

Standard "Information Management and Reporting"
- According to this standard, EP have no strengths.

Standard «Development and approval of the educational program»
- According to this standard, EP have no strengths.

Standard «Continuous monitoring and periodic evaluation of educational programs»
- According to this standard, EP have no strengths.

Standard «Student-centered learning, teaching and performance assessment»
- According to this standard, EP have no strengths.

Standard «Students»
- According to this standard, EP have no strengths.

Standard «Teaching staff»
- According to this standard, EP have no strengths.

Standard «Educational resources and student support systems»
- According to this standard, EP have no strengths.

Standard «Informing the public»

Various ways of information dissemination are provided, including mass media, information networks for informing the general public and interested persons.

(VIII) OVERVIEW RECOMMENDATIONS FOR QUALITY IMPROVEMENT FOR EACH STANDARD

Recommendations of EEC for EP 6B01507 – «Computer Science and Robotics»:

Standard "Educational Program Management"

1. The university management, together with the EP management, analyze all risks, update the risk register and develop a comprehensive risk reduction program for the university and in the context of the EP by December 31, 2023;

2. The EP management should involve more representatives of interest groups, including robotics and IT, in the formation of an EP development plan by December 31, 2023.

3. The Department of Science, together with the management of the EP, to develop a mechanism for implementing innovative proposals within the EP and an innovation implementation plan by December 31, 2023.

Standard "Information Management and Reporting"

1. The EP management to adjust the EP development plans in order to include measurable indicators of achievement in all areas of activity in the implementation of accredited EP from 2023-2024 academic year.

Standard «Development and approval of the educational program»

1. The EP management should expand the qualitative and quantitative composition of external EP experts and additionally attract an expert from the ICT industry and robotics before the beginning of the 2023-2024 academic year.

2. The EP management within the EP disciplines should develop a plan for the implementation of professional certification by the end of 2023 and annually promote the receipt of professional certificates in IT areas by students within the disciplines free of charge (for example, Microsoft, Apple, Cisco, robotics and/or others).

3. The Center for International Cooperation, together with the management of the EP, to develop a plan to expand cooperation with foreign universities within the framework of a two-degree EP and/or joint EP by December 31, 2023.

Standard «Continuous monitoring and periodic evaluation of educational programs»
- There are no recommendations for this standard.

Standard «Student-centered learning, teaching and performance assessment»
- There are no recommendations for this standard.

Standard «Students»

1. The EP management should include indicative indicators in the development plans of educational programs, in the work plans of departments and the implementation of the item "outgoing academic mobility of students (external, internal)", "attracting students under the academic mobility program (external, internal)" until the beginning of the 2023-2024 academic year and implement these plans from 2023-2024 academic year.

2. The EP management should develop and approve a program of professional self-education of students before the beginning of the 2023-2024 academic year and implement it from 2023-2024 academic year.

Standard «Teaching staff»

1. The EP management should determine in the development plans indicative indicators of TS participation in the programs "external and internal, outgoing and incoming academic mobility" and

begin their implementation starting from the 2023-2024 academic year.

2. The management of the university to post the personnel policy of the university on the official website of the university until July 1, 2023.

Standard «Educational resources and student support systems»

1. The management of the university to analyze the need for computer equipment in the context of the EP by December 31, 2023 and organize a phased purchase of computer equipment with furniture.

2. The university management should consider allocating funding for the acquisition of modern laboratories necessary for the implementation of the EP "Computer Science and Robotics", as well as expand recreation areas for students with the installation of computer technology until 2024.

3. The EP management should analyze the available resources and the staff of the TS, in order to plan for the 2023-2024 academic year the EP development plan with the point of organizing technological support for students (online training, modeling, databases, data analysis programs), including the provision of corporate mail, increasing the speed and improving the Internet to students and employees, the results The analysis should be reflected in the protocol of the collegial governing bodies, and the implementation of the EP development plan should begin from the beginning of the 2023-2024 academic year.

Standard «Informing the public»

1. The management of the university to determine the requirements for the publication on the university's website of reliable, objective, up-to-date information about complete information on the EP, teaching approaches, training, educational programs, as well as assessment systems (procedures, methods and forms), cooperation and interaction with partners within the EP until August 31, 2023.

(IX) OVERVIEW RECOMMENDATIONS FOR THE DEVELOPMENT OF THE ORGANIZATION OF EDUCATION

- Harmonization of the content of the EP of the university with foreign educational organizations, purposeful work on the development of joint educational programs with partner universities.

- Expanding the geography of universities for the development of international relations with foreign educational organizations with the involvement of all interested parties, including employers, in the process.

- Development of a PR management strategy of the university in order to strengthen competitiveness in the educational services market.

(X) RECOMMENDATIONS TO THE ACCREDITATION COUNCIL

The External Expert Commission decided to recommend the NPJSC educational programs "Shakarim Semey University" to the Accreditation Council:
- 6B01507 - «Computer Science and Robotics» - *to accredit for a period of 5 (five) years.*