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Higher and Postgraduate Educational Programs

☐ Project EP ☒ Participant of project EP

OHPE (Developer)

non-profit joint-stock company "Abai Kazakh National Pedagogical University"

Title of project EP

Co-developers

West Kazakhstan University named after Makhambet Utemisov NPJSC

Non-commercial joint-stock company "K.Zhubanov Aktobe regional university"

NJC «KazNWTTU»

non-profit limited company "Atyrau University named after Kh. Dosmukhamedov"

Date of registration in the Registry

12.06.2024

Registration number

6B01500459

Date of EP passport updating

10.07.2026 23:21

Field of education

6B01 Pedagogical sciences

Direction of personnel training

6B015 Training of teachers in Natural science subjects

Group of educational programs

B011 Teacher training in informatics

Educational program

6B01513 Informatics (IP)

EP purpose

Training of a professional teacher with modern subject, communicative, digital, entrepreneurial competencies, incl capable of creating high-quality educational content and organizing the educational process.

EP type

Innovative EP

Level on NQF

6

Level on SQF

6

EP distinctive features

No

Language of education

Russian

Kazakh

multilingual

Professional Standard for EP

Exists



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№	Name of professional standard
1	Professional standards for teachers of educational organizations

Professional standards (career standards)

Professional standard has been used at developing EP ☒

Professional standard №1

Professional standard	Профессиональные стандарты для педагогов
Approval year	2024
CCEA	

Professions

Profession №1

Profession	Учителя средней школы
Уровень по ОРК	6
Labor functions	Осуществление классного руководства Оценивание учебных достижений обучающихся Осуществление учебного процесса. Приобщение обучающихся к систематическому обучению Осуществление учебно-методической деятельности

Profession №2

Profession	Педагоги колледжей и других образовательных учреждений
Уровень по ОРК	6
Labor functions	Осуществление деятельности руководителя учебной группы. Проведение мониторинга образовательных достижений обучающихся. Осуществление учебного процесса с учетом индивидуальных способностей и потребностей обучающихся Осуществление научно-методической деятельности.

Volume of the credits

240

Degree to be conferred

Bachelor

Period of study

4

Date of approval EP on the Academic Council

27.04.2026

Date when EP was approved by the Republican Educational and Methodological Board of the Ministry of Science and Higher Education of the Republic of Kazakhstan

17.05.2023

☒Existence of the annex to the license for the direction of personnel training

The license number on the direction of training



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The training format is online

EP accreditation existence

Atlas of new professions

не предусмотрено

Regional standard

не предусмотрено

The formed educational outcomes

Nº	Educational outcome	Code	Reflects the labor function
1	Possess intercultural	ON1	Проведение мониторинга образовательных достижений обучающихся. Осуществление научно-методической деятельности.
2	To collect and	ON2	Осуществление учебного процесса. Осуществление классного руководства. Осуществление учебно-методической деятельности. Оценивание учебных достижений обучающихся. Осуществление учебного процесса с учетом индивидуальных способностей и потребностей обучающихся. Осуществление деятельности руководителя учебной группы. Приобщение обучающихся к системе ценностей.
3	Critically select	ON3	Осуществление учебно-методической деятельности. Осуществление учебного процесса с учетом индивидуальных способностей и потребностей обучающихся.
4	To understand	ON4	Осуществление учебного процесса с учетом индивидуальных способностей и потребностей обучающихся. Осуществление учебного процесса. Осуществление учебно-методической деятельности. Оценивание учебных достижений обучающихся. Осуществление классного руководства. Приобщение обучающихся к системе ценностей. Осуществление деятельности руководителя учебной группы.
5	To comprehend	ON5	Осуществление классного руководства. Осуществление научно-методической деятельности. Осуществление учебно-методической деятельности. Оценивание учебных достижений обучающихся. Осуществление учебного процесса.
6	To solve standard	ON6	Осуществление учебно-методической деятельности. Осуществление учебного процесса с учетом индивидуальных способностей и потребностей обучающихся. Оценивание учебных достижений обучающихся. Осуществление научно-методической деятельности.
7	Possess fundament	ON7	Осуществление научно-методической деятельности. Осуществление деятельности руководителя учебной группы. Осуществление учебного процесса с учетом индивидуальных способностей и потребностей обучающихся. Приобщение обучающихся к системе ценностей. Осуществление учебного процесса с учетом индивидуальных способностей и потребностей обучающихся. Осуществление учебно-методической деятельности.
8	Apply IT to expand the	ON8	Осуществление учебного процесса. Оценивание учебных достижений обучающихся. Осуществление учебно-методической деятельности. Осуществление учебного процесса с учетом индивидуальных способностей и потребностей обучающихся.
9	To apply theoretical	ON9	Осуществление научно-методической деятельности. Осуществление учебного процесса с учетом индивидуальных способностей и потребностей обучающихся. Осуществление деятельности руководителя учебной группы. Приобщение обучающихся к системе ценностей. Осуществление учебно-методической деятельности. Осуществление учебного процесса.

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English

10

To use digital tools

ON1

Осуществление учебно-методической деятельности.

Осуществление учебного про

Оценивание учебных достижений обучающихся.

Приобщение обучающихся к систе

Осуществление научно-методической деятельности.

Осуществление учебного процесса с учетом индивидуальных способностей и потреби

Проведение мониторинга образовательных достижений обучающихся.

Data on disciplines

Nº	Name of discipline	Short description of discipline	Cycle
1	Ecology and Life Safety Basics	Purpose – to form knowledge on the basics of ecology and life safety, allowing to analyze environmental processes, assess the socio-ecological consequences of anthropogenic activities, methods and technologies of protection in emergency situations. Develops skills to assess the impact of environmental factors on human health; predict environmental processes for planning and implementing measures to improve life safety; make decisions in adverse environmental and emergency situations, taking into account the possible consequences of accidents, catastrophes, natural disasters.	GED
2	Fundamentals of Scientific Research	The goal is to form knowledge about the principles, technologies, practical methods and techniques of conducting scientific research based on modern achievements of scientists. Forms the basic foundations of scientific culture and ethics, flexible perception of scientific texts, skills of effective application of acquired knowledge in planning and organizing research work, the ability to analyze and summarize research results.	GED
3	Ilyastanu	The purpose of the discipline is to develop a deep-thinking personality with high aesthetic taste, appreciating literature, art, traditions, culture and language of the Kazakh people through a deep and comprehensive study of the works of Ilyas Zhansugurov. Forms an understanding of the importance of the works of Ilyas Zhansugurov in the development of the Kazakh literary language; skills of intellectual and creative thinking, the ability to cherish the values of national and spiritual heritage.	GED
4	Fundamentals of Financial Literacy	The course is aimed at gaining knowledge and skills in the field of personal finance management. Also, as part of the course, students will learn how to use in practice all kinds of tools in the field of finance, save and increase savings, plan a budget competently, learn how to analyze financial information and navigate financial products to choose an adequate investment strategy.	GED
5	Basics of Law and Anti-corruption Culture	The aim is to familiarize students with the main branches and institutions of law, the basics of an anti-corruption culture, as well as the laws of the emergence, development and functioning of the state and law. The course forms the skills of an anti-corruption culture and a high level of theoretical knowledge about the main functions of law in the state and society, its impact on the development of law-based state, civil society.	GED
6	Economics and Entrepreneurship	The purpose is to familiarize students with the economic problems of modern society, the formation of economic thinking and gaining knowledge in the field of theoretical foundations and practical skills in the field of entrepreneurship. It is focused on the formation of students' comprehensive understanding of the laws of the functioning of the economy, obtaining business education aimed at acquiring applied competencies in various fields of entrepreneurial activity, reveals the features of creating and successfully running their own business.	GED



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7	Algorithms and Data Structures	and programs for solving various problems. For this purpose, the structure of the program, the principles of constructing algorithms and programs, solution methods, algorithmization, programming, debugging and implementation of programs using the high-level programming language Python are considered. Students can: apply knowledge and a system of concepts in the field of modern programming, general principles of software implementation of algorithms of various classes; implement algorithms using the Python programming language; analyze the effectiveness of algorithms used to solve applied problems; use appropriate subject terminology and syntactic structures; test and debug program codes.	BD
8	Assessment and Development	Objective: understanding the value of assessment in the learning process and the ability to provide constructive assessment in an ethical manner at various stages of the learning process and critically evaluate and analyze their understanding and practice regarding assessment Students can: be well versed in a variety of assessment and feedback methods (for example, formative and final assessment), apply pedagogical principles to determine and recognize the levels of educational competence of students.	BD
9	Introduction to Programming	Purpose: As part of the course, future teachers study ways to develop algorithms and programs for solving various tasks. To do this, they analyze the structure of the program, the principles of constructing algorithms and programs, solution methods, algorithmization, programming, debugging and implementation of programs using the Python programming language. Students can: apply knowledge and a system of concepts in the field of modern programming, general principles of software implementation of algorithms of various classes; implement algorithms using the Python programming language; analyze the effectiveness of algorithms used to solve applied problems; use appropriate subject terminology and syntactic structures; test and debug program codes.	BD
10	Age and Physiological Features of the Development of Children	Objective: to monitor the development of students, plan and implement age-appropriate learning processes, taking into account the individual needs of students, creatively support universal learning and the well-being of students. Students can: Recognize individual starting points of different students, their learning potential and needs for specific support consider the individual needs of their students for specific support, guidance, training and evaluation.	BD
11	Psychology in Education and Concepts of Interaction and Communication	Purpose: to master modern psychological theories and models, the functioning of personality and its individual properties. Content: Future teachers contribute to the favorable development of students by promoting dialogue, interaction and communication in the educational process. They are able to communicate, interact and cooperate with the families of students, as well as in various other types of partnerships and create new relationships suitable for the development of their own pedagogical activities.	BD
12	Education Science and Key Theories of Learning	The purpose of this course is to improve pedagogical competence in the field of pedagogy and didactics. Future teachers study the basics of pedagogical science, such as conceptual ideas about a person, leading to various theories of learning and pedagogical models. Based on the understanding of theoretical concepts, future teachers can make appropriate pedagogical choices for various educational situations.	BD
13	Discrete Mathematics	The main goal of mastering the Discrete Mathematics discipline is to teach students methods for solving discrete mathematics problems and related thinking. In the learning process, it is required to give students a stock of basic knowledge in the main sections of discrete mathematics, to teach the rational and effective use of the knowledge gained in solving typical problems of discrete mathematics; to form students' understanding of discrete mathematics as a method of studying a wide range of objects and processes.	BD
14	Basics of Artificial Intelligence	Purpose: The course is aimed at forming a holistic view of the current state of the theory and practice of building intelligent systems for various purposes among future teachers. Students can: perform a comparative analysis of various knowledge representation models for solving applied problems of computer modeling of human intellectual activity; implement knowledge representation models (including their symbiosis) in logical and functional programming languages; apply modern tools and programming technologies.	BD

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15	Research, Development and Innovation	ability to develop, update and apply innovative approaches and learning technologies in the context of ongoing changes in society and the educational environment. Students can: develop their own teaching skills through research-based approaches, apply critical thinking when collecting and using data for software development; participate in research and/or develop cooperation between universities and stakeholders; document their own research activities and present results using various forms of communication.	BD
16	Inclusive Educational Environment	Goal: understanding and the ability to take into account the diversity of students in the learning teaching process, in a reasonable way, psychologically and ethically maintain well-being, taking into account the context of their lives. Students can:Embrace diversity, identify barriers to participation and learning identify development priorities, plan activities for the adaptation of educational programs, the development of differentiated lessons promote collaboration in the school community to create a foundation of inclusive values and support student participation and academic achievement.	BD
17	Theoretical Foundations of Computer Science	Purpose: The discipline is basic for a large number of core disciplines. The discipline forms knowledge about combinatorics, mathematical logic, methods of information theory, information coding, theory of algorithms and methods of graphical representation of the algorithm necessary for the successful development of the basics of theoretical computer science. In the course of studying the discipline, future teachers will master the skills of using a computing device to solve relevant applied problems and the ability to solve typical tasks. Students can: know the general principles of information theory and the implementation of algorithms of various classes; possess the basic skills of using sections of theoretical computer science; analyze the effectiveness of algorithms used to solve applied problems.	BD
18	Mathematics	Purpose: To familiarize future teachers with the theoretical knowledge of the main sections of mathematics included in the course program, and with the basic practical mathematical methods, to facilitate the acquisition of future teachers' skills in using Students can: use knowledge of the basic provisions of mathematics, methods of mathematical research using differential calculus, the main stages of the development of mathematical thought in their teaching activities; be able to translate statements and conclusions from natural language into the language of formal logic, simplify and analyze; skillfully use mathematical terminology and apply mathematical methods in practice.	BD
19	Teaching Methods and Technologies	Purpose: to increase competencies in the field of pedagogy and didactics. Students have a holistic understanding of the methodological system of education, can model strategies and technologies for solving specific pedagogical problems, planning, guidance, teaching and evaluation, are able to use knowledge, forms, methods and technologies of teaching in accordance with the conditions of a particular school and the capabilities of students. Students can: choose pedagogical models suitable for their training; apply teaching methods creatively and in a variety of ways, taking into account the opportunities offered by technology; use a suitable learning environment in their teaching; know and apply the norms and principles of copyright and data protection.	BD
20	Teaching Planning and Individualization of Learning	Purpose: formation of skills of individualization of teaching, taking into account the diversity of students and the use of teaching technologies, based on pedagogical and independent research. Students can: understand the requirements of competence, entrepreneurship, and sustainable development in their pedagogical and subject area when planning and conducting training; plan and predict other conditions that affect learning; apply the principles of individual learning and guidance in practice, take into account the needs of their students, and support the development of their personality and self-esteem.	BD



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21	Pedagogical Research	from various sources, using research results in the development of one's pedagogical thinking and practice Students can:be aware of the nature of pedagogy and its basic terminology. Recognize the central areas of research in pedagogy and understand the difference between everyday thinking and scientific knowledge. Distinguish between cultural ideas about human nature and their significance for the work of a teacher. Adopt changes in the field of education, taking into account the prospects for their development.	BD
22	Physics	The purpose of teaching the discipline "Physics" is to study the basic physical phenomena. Mastering the fundamental concepts, laws and theories of classical and modern physics. Formation of a scientific worldview and modern physical thinking. Familiarization with modern scientific equipment, the formation of skills for conducting a physical experiment, learn to evaluate the numerical orders of magnitude characteristic of various sections of natural science.	BD
23	Computer Systems Architecture and Operating Systems	This course studies the structure and operating principles of computer systems, including the interaction between processors, memory, and input/output devices, as well as the functions of operating systems. Students learn the fundamentals of computer architecture, resource management methods, process organization, and the working principles of modern operating systems.	BD
24	Immersive and Smart Technologies in Education	The purpose of the discipline is the formation of students' basic knowledge and skills of working with VR/AR technologies and their application in working with projects and the formation of skills of using VR/AR technologies in education, virtual, augmented and mixed reality, basic concepts, the relevance and future of these technologies is to introduce the concept and form an idea about the basic concepts and differences of virtual and augmented reality.	BD
25	Cloud and Mobile Technologies	Purpose: As part of the course, future teachers will get acquainted with cloud computing technology, the concept of ubiquitous computing, and the use of cloud computing in the formation of new IT infrastructures. They study methods for creating a cloud service, working with existing cloud services, and using cloud computing. Students can: understand the basic principles of cloud technologies, principles and methods of developing applications for cloud systems using various platforms; show skills in developing software for cloud systems, and system administration for the development and maintenance of applications deployed in the clouds.	BD
26	Data Analysis and Visualization	The course teaches students skills in collecting, processing, analyzing, and visualizing data. Students work with various data sources and can present information graphically to communicate results clearly and effectively.	BD
27	Solving Non-standard Tasks in Computer Science	The discipline teaches students to solve non-standard and complex problems. During the course, students learn to analyze the conditions of a problem, develop algorithmic solutions, and choose effective strategies. They also explore the use of data structures, search methods, sorting techniques, recursion, and practical problem-solving techniques that involve logical and creative thinking.	BD
28	Methodology and Technology of Distance Education	Purpose: formation of students' competencies necessary for a new type of professional activity – the organization and implementation of distance learning. Content: Basic concepts and technologies of distance learning. Internet education, virtual education. Digital gadgets and digital tools for distance learning. Typology and forms of training sessions: Internet lessons, chat classes, web lessons, distance Olympiads and projects, contests, webinars, etc. in distance learning. Diagnostics and evaluation in distance learning.	BD
29	Working with Application Programs	The subject is aimed at developing students' competencies in the field of using application software and acquiring skills in using application software packages to solve practical problems.	BD

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30	Fundamentals of Applied Behavior Analysis	(ABA), to critically analyze data-based functions of behavior; design and implement individualized interventions in inclusive educational settings; and evaluate their effectiveness, safety, and ethical soundness. Develops skills to: operationalize behavior; collect and analyze data (incl. ABC); identify behavioral functions; design and apply behavior support plans; teach functionally equivalent alternative behavior; manage crisis situations; and assess outcomes.	BD
31	Using Artificial Intelligence Tools in Education	The discipline is designed to teach the effective use of artificial intelligence tools in the educational process. Students learn the skills of personalizing lessons using AI technologies, analyzing learning outcomes, creating interactive materials and automating the educational process, as well as learning to make decisions aimed at improving the quality of education and developing students' abilities.	BD
32	Programming Olympiad Tasks	Purpose: The course is aimed at preparing future teachers and developing skills to solve Olympiad programming tasks, which will allow them to prepare students for participation in Olympiads in the future. Students can: analyze the effectiveness and applicability of existing algorithms for solving applied problems; develop new algorithms for solving specific problems in the field of programming; apply the knowledge gained for research and problem solving in the educational and practical activities of a computer science teacher.	BD
33	Programming in C#	The main volume of the material is devoted to the distinctive (in comparison with other so-called managed languages) features of the C# language: motivation of their appearance, patterns of application and typical mistakes made when using them. Asynchronous I/o and its integration into the language through the async / await construct are considered. The features of the code generated by different syntactic sugars (foreach, using, etc.) are studied.	BD
34	Programming in C++	The course is aimed at studying programming in c++, the student builds algorithms and effectively solves real-life problems. Students of the course gain knowledge by the example of solving problems of varying complexity, from simple tasks to specific automated solutions.	BD
35	Fundamentals of Programming in the BLOCKLY Environment	The discipline "Fundamentals of Programming in the BLOCKLY environment" is aimed at mastering algorithmic thinking and programming logic using visual programming. During the course, students get acquainted with the Blockly interface, learn how to create programs using blocks, master basic programming constructs (variables, conditional operators, loops, functions), develop simple projects and game elements, and also learn methods of testing and debugging programs.	BD
36	Digital Literacy in Primary School	Purpose: During the course, future teachers develop their knowledge and skills in teaching computer technology, presentation and processing of information, safe use of the Internet and computational thinking for elementary school students. Students can: understand the main topics necessary for the safe and effective use of smartphones and computers; master the methodology of teaching the basics of digital literacy, digital hygiene, information security, taking into account the age of children.	PD
37	Generative AI and Machine Learning	The discipline “Generative AI and Machine Learning” is designed to study generative artificial intelligence models and machine learning methods. Students acquire skills in data processing, model development, analysis, and forecasting, as well as explore the effective application of AI tools to create innovative solutions.	PD
38	Methods of Teaching Informatics in High School	This course is a continuing course and contains the main teaching methods for the professional training of computer science teachers in high school; the relationship of computer science teaching methods with other sciences; the main regulatory documentation for the organization, planning and provision of the educational process in computer science.	PD



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39	Cybersecurity and Computer Networks	future teachers, an idea of the nature of the occurrence of typical threats, as well as skills for the practical implementation of measures to protect against them. Students can: define the basic concepts and content of cybersecurity technologies for objects of various levels, the concepts of a set of measures to ensure cybersecurity, algorithms for solving typical cybersecurity tasks and for the use of system, application and special purpose software; develop secure web applications and mobile applications; and possess the skills of using cryptographic algorithms in software development. use domestic and foreign standards on information security in organizations in their professional activities; apply technical means and software services of network security to ensure the continuity of the business process; independently analyze modern sources, draw conclusions, argue them and make decisions based on information; be able to present ideas and arguments on the topic of information technology in writing and orally, to speak to the audience and defend the point of view in the state, English and in the language of international communication.	PD
40	Database Systems	Purpose: During the course, future teachers compare the main data models, their characteristics and principles of operation. Based on the analysis, they practice building a data model, choosing a suitable database management system and creating a database. Students can: determine the knowledge of the basic data and knowledge models (including the "entity-relationship" infological model, the datalogical relational model, production models of knowledge representation), the SQL relational data management language; distinguish between the basic principles of data and knowledge abstraction, ways to implement a database management system, methods for evaluating the quality of design solutions in the creation of database design, principles of working with knowledge and expert systems; be able to build infological and datalogical data models, reasonably choose database management systems and create single-user relational databases.	PD
41	Methods of Teaching of Informatics in Secondary Basic School	The discipline is aimed at the methodology for preparing a future computer science teacher in a primary secondary school, who should be ready to teach and educate students taking into account the specifics of the taught subject; promote socialization, the formation of a common culture of personality, conscious choice and subsequent development of professional educational programs; use a variety of techniques, methods and means of teaching.	PD
42	Object-oriented Programming	Purpose: During the course, future teachers analyze the principles of object-oriented programming in Python and apply them in software development, as well as in teaching activities. Students can: apply the basic principles of object-oriented programming; use classes and modules from the language libraries; and develop programs in an object-oriented programming environment by creating their own classes.	PD
43	Web-programming	In the study of the discipline, students will learn: methods of designing a web site as a static information system; methods of processing and editing digital images; client side software used to create web pages; server side software used to create web pages, databases, virtual server.	PD
44	STEAM Technologies and Robotics in Education	Development of STEAM literacy and competitiveness through the introduction of robotics into the education system, the organization of scientific and methodological support, and the development of research, engineering, and creative abilities using interdisciplinary and project-based approaches. It is also aimed at developing practical skills in robot design and programming, as well as their effective application in the educational process.	PD
45	Digital Technologies in Education	During the course, pre-service teachers develop their professional competence as a teacher through the formation of a holistic view of the role of digital technology in the modern educational environment. They develop their abilities to organize pedagogical activities on the basis of the possibilities of digital technology.	PD
46	Creating Multimedia Content Using Artificial Intelligence Tools	"Graphical User Interface Development" covers the design, development and optimization of graphical interfaces for various software products. Students learn the principles of interface design, user interaction, and user experience management. Studying the course provides students with the skills to create modern, intuitive interfaces that take into account user needs and provide a positive user experience.	PD

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47	Computer Graphics and 3D Modeling	knowledge and skills in using ICT tools in computer graphics and apply this knowledge in their future professional activities. Students can: have an idea of various forms of graphical representation of information; develop creative thinking to manage the process of finding new ideas; own computer graphics technologies and use them in the design of multimedia and virtual educational resources 3D modeling. Purpose: During the course, future teachers practice 3D modeling methods, such as the basics of visualization, the 3Ds Max development environment and modeling based on elementary geometric objects. They study methods of object transformation, coordinate system, object positioning, the basics of polygonal modeling and working with materials. Students can: determine the basic capabilities of 3D editors; methods of creating three-dimensional models; the main stages of working with primitives; the process of creating and applying materials; the basics of creating 3D models and scenes; requirements for hardware and software of a computer designed to work with 3D graphics; demonstrate the use of three-dimensional models to create scenes and animation; knowledge of the process scene visualization and animation (rendering); the capabilities of the selected 3D editor to create a three-dimensional image; to demonstrate the ability to use the capabilities of the selected 3D editor to create simple three-dimensional models; to visualize a three-dimensional model in the form of a scene or animation; to search for ready-made 3D models on the global computer network Internet to introduce objects from other software products into 3D models.	PD	
48	Programming for Mobile Devices	Purpose: acquisition of knowledge, skills and possessions, thanks to which future teachers, using modern integrated development environments, will be able to carry out qualified development of mobile applications, develop an adaptive user interface, design architecture in conditions of limited resources, resulting in a holistic application running on a mobile platform; independently evaluate the decisions made. Students can: own modern software development environments and tools, software design and construction methods; choose algorithms and create a program for mobile applications; test the created software by various means and methods.	PD	
49	Fundamentals of GameDev	The purpose of studying the discipline is to create a game world, characters, work out the mechanics, how to make a project design document and prepare the game for release. Develop the gameplay of the game: work out the plot, the characters of the heroes, mechanics. Formulate and test hypotheses, offer ideas to improve the game, monitor the correct implementation. Interact with the project team: speak with technical specialists in the same language and set clear tasks for performers to adjust the game balance: balance the system of challenges and rewards, manage player interest, analyze player behavior and use data to improve gameplay in future updates, apply various digital technologies to implement the game.	PD	
50	IT project Management	Purpose: During the course, future teachers study the development and maintenance of software. They use knowledge about planning, organizing and controlling all phases of the software life cycle. They also learn basic knowledge of management standards in IT, Agile programming, technology and software debugging using the latest technologies and approaches. In addition, future teachers get a general idea of project management tools. Students can: choose and practically apply the tools and methods for managing changes in an IT project, the tools and methods necessary for managing communications and resources of an IT project; determine the life cycle model corresponding to the specifics of a particular IT project; develop adequate response measures to the risks of IT projects and identify the risks of IT projects, conduct a risk assessment; demonstrate knowledge of the main international and national project management standards; the main types of software products used to automate the management of IT projects; apply project time and knowledge management tools and develop a hierarchical structure of project work, the structure of a corporate IT project management standard; formulate the main features of project-oriented activities and illustrate them with specific examples.	PD	
51	Managing START-UP and EdTech Projects	The discipline is designed to teach students the basics of managing START-UP and EdTech projects. They master the skills of project planning from idea to implementation, conducting market research, building business models, organizing teamwork and efficient use of resources, as well as studying the use of educational technologies in innovative projects.	PD	



 Registry of the EP

Submission of applications

Registry of educational
programs