

**MINISTRY OF SCIENCE AND HIGHER EDUCATION
OF THE RUSSIAN FEDERATION**

PENZA STATE UNIVERSITY



Rector of Penza State University

A.D. Guliakov

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**BASIC PROFESSIONAL EDUCATIONAL PROGRAMME
OF HIGHER EDUCATION**

Study Field

13.03.02 Power and Electrical Engineering

Bachelor's Degree Programme

Power Systems and Networks

Qualification (degree)

Bachelor

Mode of Training

Full-time, part-time

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1. GENERAL PROVISIONS

1.1 Basic professional educational programme of higher education (BPEP HE) implemented by the university in the study field 13.03.02 Power and Electrical Engineering

Basic professional educational programme of higher education in the field of study 13.03.02 Power and Electrical Engineering is a system of documents developed by FSBEI HE Penza State University taking into account the requirements of the regional labor market based on the Federal State Educational Standard of Higher Education (FSES HE) in the relevant field of study in accordance with professional standards 16.019 Specialist in the operation of transformer substations and distribution points and management of operating modes of municipal electrical networks, 16.147 Specialist in designing power supply systems for capital construction projects, 20.030 Worker for maintenance and repair of cable power lines, 20.031 Overhead power line maintenance and repair worker, 20.032 Electrical network substation equipment maintenance worker, 20.035 A worker performing the functions of a dispatcher in the field of operational dispatch control in the electric power industry.

An educational programme is a set of basic characteristics of education (scope, content, planned outcomes), organizational and pedagogical conditions, which is presented in the form of a curriculum, academic schedule, programmes of disciplines, courses, disciplines, other components, assessment and methodological materials, and also in the form of a programme of mentoring, schedule of mentoring, and certification forms.

1.2. Regulatory documents on the developing the BPEP HE in the study field 13.03.02 Power and Electrical Engineering

The legal framework for developing BPEP HE of the bachelor's degree programme is formed by:

1.2.1 Federal Law of the Russian Federation dated 29 December 2012 no. 273-FZ "On Education in the Russian Federation" (amended and revised);

1.2.2. Federal state educational standard of higher education - bachelor's degree programme in the study field 13.03.02 Power and Electrical Engineering, approved by order of the Ministry of Education and Science of the Russian Federation dated February, 28, 2018, No.144 (with amendments).

1.2.3. Professional standard 16.019 Specialist in the operation of transformer substations and distribution points and management of operating modes of municipal electrical networks, approved by Order of the Ministry of Labor and Social Protection of the Russian Federation dated April, 25, 2023, No.329n.

1.2.4. Professional standard 16.147 Specialist in designing power supply systems for capital construction projects, approved by Order of the Ministry of Labor and Social Protection of the Russian Federation dated August, 30, 2021, no. 590n.

1.2.5. Professional standard 20.030 Worker for maintenance and repair of cable power lines, approved by Order of the Ministry of Labor and Social Protection of the Russian Federation dated October, 03, 2022, no. 605n.

1.2.6. Professional standard 20.031 Overhead power line maintenance and repair worker, approved by Order of the Ministry of Labor and Social Protection of the Russian Federation dated June, 04, 2018, no. 361n.

1.2.7. Professional standard 20.032 Electrical network substation equipment maintenance worker, approved by Order of the Ministry of Labor and Social Protection of the Russian Federation dated August, 31, 2021, no.611n.

1.2.8. Professional standard 20.035 A worker performing the functions of a dispatcher in the field of operational dispatch control in the electric power industry, approved by Order of the

Ministry of Labor and Social Protection of the Russian Federation dated August, 31, 2021, no.137n.

1.2.9. Order of the Ministry of Science and Higher Education of the Russian Federation no. 245 dated 6 April, 2021 “On approving the procedure for organising and managing teaching and learning within the basic professional educational programmes (Bachelor’s, Specialist’s and Master’s degree programmes)”.

1.2.10. Order of the Ministry of Science and Higher Education of the Russian Federation no. 636 dated 29 June 2015 “On approving the procedure for conducting state final certification within the basic professional educational programmes (Bachelor’s, Specialist’s and Master’s degree programmes)”.

1.2.11. Order of the Ministry of Science and Higher Education of the Russian Federation and the Ministry of Education of the Russian Federation no. 885/390 dated 5 August 2020 “On the practical training of students”.

1.2.12. Other regulatory and methodological documents of the Ministry of Science and Higher Education of the Russian Federation.

1.2.13. University regulations on organising and managing teaching and learning within the basic professional educational programmes – Bachelor’s, Specialist’s and Master’s degree programmes.

1.3 General description of the Bachelor’s degree programme

1.3.1. Aim (mission) of the Bachelor’s degree programme in the study field 13.03.02 Power and Electrical Engineering

The educational programme aims at developing students’ personal qualities and forming the following competences in accordance with the requirements of the Federal State Educational Standard of Higher Education in the study field 13.03.02 Power and Electrical Engineering:

- universal competences, based on general science knowledge, which allow students to work in the chosen area and which contribute to their social mobility and sustainability on the labour market;
- general professional competences, based on knowledge in natural sciences, which allow the students to successfully develop professional competences and be demanded on the labour market;
- professional competences in the corresponding areas of activity, in accordance with professional standards, which determine the students’ readiness to efficiently work in the field of Power Systems and Networks.

The main aim of the bachelor’s degree educational programme is to train bachelors in the field of electrical and power engineering who are capable of being a leader, working in a team, act and win in a competitive environment.

1.3.2. Duration of training within the Bachelor’s degree programme

Under the full-time mode of training, including vacations provided after passing the State Final Certification, regardless of the educational technologies used, the duration of training is 4 years.

Under the part-time mode of training, regardless of the educational technologies used, the duration of training increases by 10 months in comparison with the full-time mode of training and is 4 years 10 months.

Under the individual curriculum for students with disabilities, the duration of training can be increased at their request by no more than one year in comparison with the period established for the full-time mode of training.

1.3.3. Workload of training within the Bachelor's degree programme

The workload of the Bachelor's degree programme in the study field is 240 ECTSs, regardless of the mode of training, educational technologies used, joint-degree programme implementation, programme implementation according to the individual curriculum.

The workload of the Bachelor's degree programme during one academic year is not more than 70 ECTSs regardless of the mode of training, educational technologies used, joint-degree programme implementation, programme implementation according to the individual curriculum (except for accelerated learning), and under accelerated learning – not more than 80 ECTSs.

1.4 Requirements to the level of training necessary for successful completion of the BPEP

Persons who have a secondary general education, confirmed by a certificate of secondary general education or a diploma of secondary vocational education, who have presented certificates of passing the Unified State Exam and have passed a competitive selection in accordance with the Admission Rules, annually approved by the Academic Council of the University, are allowed to take the bachelor's degree programme.

2 DESCRIPTION OF GRADUATE PROFESSIONAL ACTIVITY WITHIN THE BACHELOR'S DEGREE PROGRAMME IN THE STUDY FIELD 13.03.02 POWER AND ELECTRICAL ENGINEERING

2.1 Scope of graduate professional activity

The scope of professional activity in which graduates who have completed a bachelor's programme in this study field (hereinafter referred to as graduates) can carry out professional activities in:

16 Housebuilding and housing and public utilities (in project and operation of electric power facilities);

20 Electric power engineering (in power and electrical engineering)

Graduates can carry out professional activities in other areas of professional activity, provided that their level of education and acquired competences meet the requirements for employee qualifications.

2.2 Focus of graduate professional activity

- electric power stations and substations;
- electric power systems and networks;
- power supply systems for cities, industrial enterprises, agriculture, transport systems and their facilities;
- high-voltage installations for various purposes, electrical insulating materials, structures and means for their diagnostics, lightning and surge protection systems, means for ensuring electromagnetic compatibility of equipment, high-voltage electrical technologies;
- relay protection and automation of electric power systems;
- electrical machines, transformers, electromechanical complexes and systems, including their control and regulation, high-voltage electric power and electrical installations;
- electrical and electronic devices, complexes and systems of electromechanical and electronic devices, automatic devices and systems for converting and controlling energy and information flows;

- electric drive of mechanisms and technological complexes, including electric machines, electric power converters, coupling, control and regulating devices, in all branches of the economy;
- electrical insulation of electric power, electrical engineering devices and radio electronic devices, cable products and wires, electric capacitors, materials, semi-finished products and electrical insulation systems.

2.3 General description of graduate professional activity

A graduate who has completed the bachelor's degree programme is able to prepare technical documentation at various stages of developing a project for an electric power supply system for capital construction projects, develop projects for an electric power supply system for capital construction projects, plan activities for the maintenance and repair of overhead and cable power lines, provide engineering, technical and documentation support for activities for the maintenance and repair of overhead and cable power lines, manage the electric power mode of operation of the power system, check the technical condition of transformer substations and distribution points, plan activities for the operation of transformer substations and distribution points.

Task types of professional activity of graduates:

- project,
- operation.

2.4 List of professional standards and professional functions corresponding to the professional activity

Code and title of professional standard	Generalised labour functions			Labour functions		
	Code	Title	Qualification level	Title	Code	Qualification level (sublevel)
PS16.147 Specialist in designing power supply systems for capital construction projects	A	Development and execution of working documentation for power supply systems (electricity supply, lighting, grounding, cable and overhead networks) of capital construction projects	6	Development and execution of working documentation for power supply systems (electricity supply, lighting, grounding, cable and overhead networks) of capital construction projects	A/01.6	6
				Preparing detailed design for power supply systems (electricity supply, lighting, grounding, cable and overhead networks) of capital construction projects	A/02.6	
PS16.147 Specialist in designing power supply systems for capital	B	Development of design documentation for the power supply system of capital	6	Pre-project survey of a capital construction project for which the power supply system is intended	B/01.6	6

construction projects		construction projects		Development of text and graphic parts of design documentation for the power supply system of capital construction projects	B/02.6	
PS16.147 Specialist in designing power supply systems for capital construction projects	C	Technical management of the processes of development and implementation of the project of the power supply system of the capital construction project	7	Development of a basic diagram of power supply to electrical receivers from the main, additional and backup power supply sources of a capital construction project	C/01.7	7
				Formation of technical specifications and control over the development of a project for the power supply system of capital construction projects	C/02.7	
PS 20.030 Worker for maintenance and repair of cable power lines	J	Planning and implementation of activities for the maintenance and repair of cable power transmission lines	6	Formation of plans and programmes for maintenance of cable power transmission lines	J/01.6	6
				Technical management of projects for work in the service area of cable power transmission lines	J/02.6	
PS 20.030 Worker for maintenance and repair of cable power lines	I	Engineering and technical support for maintenance and repair of cable power transmission lines	5	Justification of plans and programmes of activities for the maintenance and repair of cable power transmission lines	I/02.5	5
				Development of normative and technical documentation for maintenance and repair of cable power transmission lines	I/03.5	
PS 16.019 Specialist in the operation of transformer substations and distribution points and	C	Management of the structural unit for maintenance and repair of transformer substations and distribution points	6	Planning and control of activities for the operation of transformer substations and distribution points	C/02.6	6

management of operating modes of municipal electrical networks						
PS 16.019 Specialist in the operation of transformer substations and distribution points and management of operating modes of municipal electrical networks	A	Ensuring the operation of transformer substations and distribution points	5	Checking the technical condition of transformer substations and distribution points	A/01.5	5
PS 20.031 Overhead power line maintenance and repair worker	G	Engineering and technical support for maintenance and repair of overhead power lines	5	Justification of plans and programmes of activities for the maintenance and repair of overhead power transmission lines	G/02.5	5
				Development of normative and technical documentation for maintenance and repair of overhead power lines	G/03.5	
PS 20.031 Overhead power line maintenance and repair worker	H	Planning and implementation of activities for the maintenance and repair of overhead power lines	6	Formation of plans and programmes for maintenance and repair of overhead power lines	H/01.6	6
				Technical management of projects for work in the service area of overhead power lines	H/02.6	
PS 20.031 Overhead power line maintenance and repair worker	I	Management of maintenance and repair activities of overhead power lines	6	Organization of work of subordinate employees on repair and maintenance of overhead power lines	I/02.6	6

PS 20.035 A worker performing the functions of a dispatcher in the field of operational dispatch control in the electric power industry	A	Management of the electric power system operation mode	6	Voltage regulation in an electrical network with a nominal voltage of 110 kV and higher	A/03.6	6
	A	Management of the electric power system operation mode	6	Regulation of active power flows	A/02.6	6
PS 20.032 Electrical network substation equipment maintenance worker	G	Engineering and technical support for activities related to maintenance and repair of equipment for electrical network substations	5	Monitoring the technical condition of substation equipment	G/01.5	5

2.5. Types of tasks and tasks of professional activity

On successful completion of the Bachelor's degree programme, graduates should be able to perform professional tasks in line with the professional tasks: project, operation

List of graduate professional tasks:

Professional area (according to the Catalogue of the Ministry of Labour)	Type of professional task	Professional task	Focus of professional activity (or study field)
16 Housebuilding and housing and public utilities 20 Electric power engineering	project	<ul style="list-style-type: none"> – collecting and analyzing data for designing objects of professional activity (PA); – preparing competitive options for technical solutions in the design of PA objects; - selecting appropriate solutions and preparing sections of pre-project documentation based on standard technical 	<ul style="list-style-type: none"> - electric power stations and substations; - electric power systems and networks; - power supply systems for cities, industrial enterprises, agriculture, transport systems and their facilities; - high-voltage installations for various purposes, electrical insulating materials, structures and

		solutions for designing PA objects.	means for their diagnostics, lightning and overvoltage protection systems, means for ensuring electromagnetic compatibility of equipment, high-voltage electrical technologies; - relay protection and automation of electric power systems; - electrical machines, transformers, electromechanical complexes and systems, including their control and regulation, high-voltage electric power and electrical installations; - electrical and electronic devices, complexes and systems of electromechanical and electronic devices, automatic devices and systems for converting and controlling energy and information flows; - electric drive of mechanisms and technological complexes, including electric machines, electric power converters, coupling, control and regulation devices, in all sectors of the economy; - electrical insulation of electric power, electrical engineering and radio electronic devices, cable products and wires, electrical capacitors, materials, semi-finished products and electrical insulation systems.
16 Housebuilding and housing and public utilities 20 Electric power engineering	operation	– control of the technical condition of the technological equipment of the PA objects; – maintenance and repair of the PA objects.	- electric power stations and substations; - electric power systems and networks; - power supply systems for cities, industrial

			<p>enterprises, agriculture, transport systems and their facilities;</p> <ul style="list-style-type: none"> - high-voltage installations for various purposes, electrical insulating materials, structures and means for their diagnostics, lightning and overvoltage protection systems, means for ensuring electromagnetic compatibility of equipment, high-voltage electrical technologies; - relay protection and automation of electric power systems; - electrical machines, transformers, electromechanical complexes and systems, including their control and regulation, high-voltage electric power and electrical installations; - electrical and electronic devices, complexes and systems of electromechanical and electronic devices, automatic devices and systems for converting and controlling energy and information flows; - electric drive of mechanisms and technological complexes, including electric machines, electric power converters, coupling, control and regulation devices, in all sectors of the economy; - electrical insulation of electric power, electrical engineering and radio electronic devices, cable products and wires, electrical capacitors, materials, semi-finished products and electrical
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			insulation systems.
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3. GRADUATE COMPETENCES GAINED ON SUCCESSFUL COMPLETION OF THE BACHELOR'S DEGREE PROGRAMME PROGRAMME IN THE STUDY FIELD

On successful completion of the basic professional educational programme (Bachelor's degree programme) in the study field 13.03.02 Power and Electrical Engineering, graduates should have the following universal, general professional and professional competences:

3.1. Universal competences (UC) and their indicators:

Category (group) of universal competence	Competence	Competence indicator
Systematic and critical thinking	UC-1. Ability to search, critically analyze information, apply a system approach to solve the tasks in hand	UC-1.1. Ability to analyze the task, highlighting its basic components
		UC-1.2. Ability to identify, interpret and rank information required to solve the task in hand
		UC-1.3. Ability to search for information to solve the task in hand using various types of requests
		UC-1.4. When processing information, ability to distinguish facts from opinions, interpretation, assessment, to form their own opinions and judgments, to give reasons for their conclusions and point of view
		UC-1.5. Ability to consider and offer possible solutions to the task in hand, assessing their advantages and disadvantages
Project development and implementation	UC-2. Ability to identify the range of tasks within the framework of the goal in hand and choose the best ways to solve them, based on current legal norms, available resources and restrictions	UC-2.1. Ability to identify the range of tasks within the framework of the goal in hand, to identify links between them
		UC-2.2. Ability to offer ways to solve tasks in hand and expected outcomes; to evaluate the proposed methods in terms of compliance with the project goal
		UC-2.3. Ability to plan the implementation of tasks within their area of responsibility, taking into account available resources and restrictions, current legal norms
		UC-2.4. Ability to perform tasks in their area of responsibility in accordance with planned outcomes and control points, and, if necessary, to adjust methods to solve the tasks
		UC-2.5. Ability to present the results of the project, to offer opportunities for their use and/or improvement
Team work and leadership	UC-3. Ability to carry out social interaction and implement their role in a team	UC-3.1. Ability to define their role in social interaction and teamwork, based on a cooperation strategy to achieve the goal in hand
		UC-3.2. When implementing their role in social interaction and teamwork, ability to take into account the behavioral characteristics and interests of other participants
		UC-3.3. Ability to analyze the possible consequences of

		personal actions in social interaction and teamwork, and to build productive interactions with this in mind
		UC- 3.4 Ability to exchange information, knowledge and experience with team members; to evaluate ideas from other team members to achieve the goal in hand
		UC-3.5 Ability to comply with norms and established rules of teamwork; to take personal responsibility for the result
Communication	UC-4. Ability to carry out business communication in oral and written forms in the state language of the Russian Federation and foreign language(s)	UC-4.1 Ability to select a communication style in Russian depending on the purpose and terms of the partnership; to adapt speech, communication style and body language to interaction situations
		UC – 4.2 Ability to conduct business correspondence in Russian, taking into account the stylistic features of formal and informal letters
		UC-4.3 Ability to conduct business correspondence in a foreign language, taking into account the stylistic features of formal letters and sociocultural differences
		UC-4.4 Ability to translate formal and professional texts from a foreign language into Russian, from Russian into a foreign language for personal purposes
		UC-4.5 Ability to orally present the results of their activities in a foreign language, to keep the conversation going during their discussion
Intercultural interaction	UC-5. Ability to perceive intercultural diversity of society in socio-historical, ethical and philosophical contexts	UC-5.1. Ability to demonstrate a tolerant perception of social and cultural differences, respectful and careful attitude towards historical heritage and cultural traditions
		UC-5.2. Ability to find and use the information necessary for self-development and interaction with other people about the cultural characteristics and traditions of various social groups
		UC-5.3. Ability to show in their behavior a respectful attitude towards the historical heritage and sociocultural traditions of various social groups, based on knowledge of the stages of the historical development of Russia in the context of world history and cultural traditions of the world
		UC-5.4. Ability to consciously choose value guidelines and civic position; to discuss and solve problems of ideological, social and personal nature
		UC-5.5 In social and professional communication, ability to take into account the historical heritage and sociocultural traditions of various social groups, ethnic groups and faiths, including world religions, philosophical and ethical teachings
Self-organization and self-development	UC-6. Ability to manage their time, build and implement a	UC-6.1 Ability to use time management tools and methods when performing specific tasks, projects, and achieving goals in hand
		UC-6.2 Ability to identify priorities for their own

(including self protection)	trajectory of self-development based on the principles of lifelong education	activities, personal development and professional growth
		UC-6.3 Ability to assess the requirements of the labor market and the supply of educational services to build a trajectory for their own professional growth
	UC-7. Ability to maintain the proper level of physical fitness to ensure full social and professional activities	UC – 6.4 Ability to build a professional career and determine a professional development strategy
		UC – 7.1 Ability to select health-saving technologies to maintain a healthy lifestyle, taking into account the physiological characteristics of the body and the conditions for implementing professional activities
		UC-7.2 Ability to plan their working and free time for the optimal combination of physical and mental stress and ensuring performance
		UC – 7.3 Ability to comply with and promote healthy lifestyle standards in various life situations and in professional activities
Life safety	UC-8. Ability to create and maintain safe living conditions in everyday life and professional activities to preserve the natural environment, ensure sustainable development of society, including in the event of the threat and occurrence of emergencies and military conflicts	UC-8.1 Ability to analyze the factors of the harmful influence of environmental elements (technical means, technological processes, materials, buildings and structures, natural and social phenomena)
		UC – 8.2 Ability to identify hazardous and harmful factors within the framework of the activities carried out
		UC – 8.3 Ability to identify problems related to safety violations in the workplace; to offer measures to prevent emergency situations
		UC - 8.4 Ability to explain the rules of behavior in the event of emergencies of natural and man-made origin; to provide first aid, to describe ways to participate in recovery activities
		UC 8.5 Ability to identify negative factors that can cause harm to the natural environment and sustainable development of society, including those leading to emergencies and military conflicts
Economic culture including financial literacy	UC-9. Ability to make informed economic decisions in various areas of life	UC-9.1. Understanding of the basic principles of the functioning of the economy and economic development, the goals and forms of state participation in the economy
		UC-9.2. Ability to apply personal economic and financial planning methods to achieve current and long-term financial goals, to use financial tools to manage personal finances (personal budget), to control their own economic and financial risks
Civic position	UC-10. Ability to form an intolerant attitude towards manifestations of extremism, terrorism, corrupt behavior and counteract them in professional	UC-10.1. Ability to analyze the current legal norms that ensure the fight against extremism, terrorism, corruption, as well as ways to prevent them and create an intolerant attitude towards them
		UC-10.2. Ability to plan, organize and conduct events that ensure the formation of citizenship, prevention of corruption, counteracting extremism and terrorism.
		UC-10.3. Ability to comply with the rules of public interaction that contribute to the effective implementation

	activities	of measures to counter extremism, terrorism, and intolerance towards corruption
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3.2. General professional competences (GPC) and their indicators

Category (group) of universal competence	Competence	Competence indicator
Informational culture	GPC-1. Ability to understand the principles of operation of modern information technologies and use them for professional tasks	GPC-1.1 Ability to use information and communication technologies when searching for necessary information
		GPC-1.2 Ability to apply modern principles of searching, storing, processing, analyzing and presenting information in the required format
		GPC-1.3 Ability to use modern information (computer) technologies to prepare text, graphic, design documentation in their subject area.
		GPC-1.4 Ability to demonstrate knowledge of documentation requirements (Unified system for design documentation) and the ability to make drawings of simple objects
	GPC-2. Ability to develop algorithms and computer programmes suitable for practical application	GPC-2.1 Ability to develop algorithms for automating calculations, design and data processing.
		GPC-2.2 Ability to implement algorithms for solving standard problems of calculation, design and data processing in engineering mathematical software using programming languages.
Fundamental training	GPC-3. Ability to apply appropriate physical and mathematical apparatus, methods of analysis and modeling, theoretical and experimental research when solving professional problems	GPC-3.1 Ability to demonstrate knowledge of the fundamental laws of nature and basic physical and mathematical laws
		GPC-3.2 Ability to apply physical laws and mathematical methods to solve theoretical and applied problems
		GPC-3.3 Ability to select modeling methods and measuring tools for conducting experimental research when solving professional problems
Theoretical and practical professional training	GPC-4. Ability to use methods of analysis and modeling of electrical circuits and electrical machines	GPC-4.1 Ability to use methods of analysis and modeling of linear and nonlinear DC and AC circuits
		GPC-4.2 Ability to use methods for calculating transient processes in electrical DC and AC circuits
		GPC-4.3 Ability to apply basic knowledge of electromagnetic field theory and distributed parameter circuits
		GPC-4.4 Ability to demonstrate understanding of how devices operate
		GPC-4.5 Ability to analyze the steady-state operating conditions of transformers and rotating electrical machines of various types, to use

		knowledge of their operating modes and characteristics
	GPC-5. Ability to use the properties of structural and electrical engineering materials in calculating the parameters and modes of objects of professional activity	GPC-5.1 Ability to demonstrate knowledge of the area of application, properties, characteristics and testing methods of structural materials in accordance with the required characteristics for use in the field of professional activity
		GPC-5.2 Ability to demonstrate knowledge of the area of application, properties, characteristics and research methods of electrical engineering materials, to select electrical engineering materials in accordance with the required characteristics for use in the field of professional activity
		GPC-5.3 Ability to perform strength calculations of simple structures
	GPC-6. Ability to carry out measurements of electrical and non-electrical quantities in relation to objects of professional activity	GPC-6.1 Ability to demonstrate knowledge of basic methods and means of conducting experimental research, standardization and certification systems
		GPC-6.2 Ability to select measuring tools, carry out measurements of electrical and non-electrical quantities
		GPC-6.3 Ability to process measurement results and evaluate their error

3.3. Professional competences (PC) and their indicators

Professional task	Focus of professional activity or study field	Competence	Competence indicator	Basis for competence inclusion in the educational programme
Task type of professional activity: project				
– collecting and analyzing data for designing objects of professional activity (PA); – preparing competitive options for technical solutions in the design of PA objects; – selecting appropriate	– electric power stations and substations; – electric power systems and networks; – power supply systems for cities, industrial	PC-1. Ability to take part in designing professional objects in accordance with the terms of reference and regulatory and technical documentation, following various technical requirements	PC-1.1 Ability to draw up text sections of sets of design and working documentation for the electrical power supply system of facilities	PS16.147 Labour function A/01.6, Development of working documentation for power supply systems (electricity supply, lighting, grounding, cable and overhead networks) of capital construction

solutions and preparing sections of pre-project documentation based on standard technical solutions for designing PA objects.	enterprises, agriculture, transport systems and their facilities; - electrical machines, transformers, electromechanical complexes and systems, including their control and regulation, high-voltage electric power and electrical installations;			projects
			PC-1.2 Ability to draw up graphic sections of sets of design and working documentation for the electrical power supply system of facilities	PS16.147 Labour function A/02.6, Preparation for the release of working documentation for power supply systems (electricity supply, lighting, grounding, cable and overhead networks) of capital construction projects
			PC-1.3 Ability to gather, process and analyze data about the capital construction facility for which the electric power supply system is intended	PS16.147 Labour function B/01.6, Pre-project examination of a capital construction project for which the power supply system is intended
			PC-1.4 Ability to conduct an analysis of the technical specifications for the pre-design inspection of a capital construction project for which the electrical power supply system is intended	PS16.147 Labour function B/01.6, Pre-project examination of a capital construction project for which the power supply system is intended
			PC-1.5 Ability to develop sets of design documentation for individual sections of the project at various stages of designing an electrical power supply system for facilities	PS16.147 Labour function B/02.6, Development of text and graphic parts of design documentation for the power supply system of capital construction projects

			PC-1.6 Ability to develop options for structural diagrams of the electrical power supply system and select optimal structural diagrams	PS16.147 Labour function C/01.7, Development of a basic diagram of power supply to electrical receivers from the main, additional and backup power supply sources of a capital construction project
			PC-1.7 Ability to select equipment for the electrical power supply system of facilities	PS16.147 Labour function C/02.7 Formation of technical specifications and control over the development of a project for the power supply system of capital construction projects
<p>– preparing competitive options for technical solutions in the design of PA objects; - selecting appropriate solutions and preparing sections of pre-project documentation based on standard technical solutions for designing PA objects.</p>	<p>- electric power stations and substations; - electric power systems and networks; - power supply systems for cities, industrial enterprises, agriculture, transport systems and their facilities; - high-voltage installations for various purposes, electrical insulating materials, structures and</p>	<p>PC-2. Ability to calculate operating modes of objects and determine the parameters of equipment of professional objects</p>	PC-2.1 Ability to determine the characteristics of the capital construction facility for which the electrical power supply system is intended	PS16.147 Labour function B/01.6, Pre-project examination of a capital construction project for which the power supply system is intended
			PC-2.2 Ability to select optimal technical solutions for developing individual sections at various stages of the electrical power supply system project for the facility	PS16.147 Labour function B/02.6, Development of text and graphic parts of design documentation for the power supply system of capital construction projects
			PC-2.3 Ability to select equipment for individual sections of the project at various stages of designing an electrical power	PS16.147 Labour function B/02.6, Development of text and graphic parts of design documentation for

	means for their diagnostics, lightning and overvoltage protection systems, means for ensuring electromagnetic compatibility of equipment, high-voltage electrical technologies; - relay protection and automation of electric power systems; - electrical machines, transformers, electromechanical complexes and systems, including their control and regulation, high-voltage electric power and electrical installations; - electrical and electronic devices, complexes and systems of electromechanical and electronic devices, automatic devices and systems for		supply system for facilities	the power supply system of capital construction projects
			PC-2.4 Ability to design surge protection systems, including selection of protective characteristics of surge suppressors	Labor market analysis, consultations with employers

	converting and controlling energy and information flows; - electric drive of mechanisms and technological complexes, including electric machines, electric power converters, coupling, control and regulation devices, in all sectors of the economy; - electrical insulation of electric power, electrical engineering and radio electronic devices, cable products and wires, electrical capacitors, materials, semi-finished products and electrical insulation systems. изоляции.			
- selecting appropriate solutions and preparing sections of pre-project documentation based on	- electric power stations and substations; - electric power systems and networks;	PC-3. Willingness to provide the required modes and specified parameters of the technological process according to a given methodology	PC-3.1 Ability to check the correctness of calculations made to justify plans and programmes for maintenance and repair of cable	PS 20.030 Labour function J/01.6, Formation of plans and programmes for maintenance of cable power transmission lines

standard technical solutions designing objects.	for PA	<ul style="list-style-type: none"> - power supply systems for cities, industrial enterprises, agriculture, transport systems and their facilities; - high-voltage installations for various purposes, electrical insulating materials, structures and means for their diagnostics, lightning and overvoltage protection systems, means for ensuring electromagnetic compatibility of equipment, high-voltage electrical technologies; - relay protection and automation of electric power systems; - electrical machines, transformers, electromechanical complexes and systems, including their control and 	power lines	
			PC-3.2 Ability to prevent the development of disruptions to the normal operation of the electrical part of the electrical power system	PS 20.030 Labour function G/01.5 Maintenance of executive documentation for operational, technical maintenance and repair of cable power transmission lines I/02.5 Justification of plans and programmes of activities for the maintenance and repair of cable power transmission lines PS 20.035 Labour function A/03.6 Voltage regulation in an electrical network with a nominal voltage of 110 kV and higher
			PC-3.3 Ability to create the most reliable post-emergency electrical connection diagrams for power industry facilities	PS 20.035 Labour function A/03.6 Voltage regulation in an electrical network with a nominal voltage of 110 kV and higher Labor market analysis, consultations with employers
			PC-3.4 Ability to make decisions on authorizing the removal for repair and commissioning of power lines, equipment and devices, carried out immediately before the start of switching	PS 20.035 Labour function A/03.6 Voltage regulation in an electrical network with a nominal voltage of 110 kV and higher Labor market analysis, consultations with employers
			PC-3.5 Ability to regulate the	PS 20.035 Labour function A/03.6 Voltage

<p>regulation, high-voltage electric power and electrical installations;</p> <p>- electrical and electronic devices, complexes and systems of electromechanical and electronic devices, automatic devices and systems for converting and controlling energy and information flows;</p> <p>- electric drive of mechanisms and technological complexes, including electric machines, electric power converters, coupling, control and regulation devices, in all sectors of the economy;</p> <p>- electrical insulation of electric power, electrical engineering and radio electronic devices, cable</p>			voltage in the electrical network with a rated voltage of 110 kV and above	regulation in an electrical network with a nominal voltage of 110 kV and higher Labor market analysis, consultations with employers
			PC-3.6 Ability to regulate active power flows	PS 20.035 Labour function A/02.6 Regulation of active power flows
			PC-3.7 Ability to gather and analyze data characterizing local conditions (data on ice and wind, air pollution along the route of overhead power lines)	Labor market analysis, consultations with employers
			PC-3.8 Ability to prepare proposals for schedules of inspections, repairs and maintenance of overhead power lines	PS 20.031 Labour function G/02.5, Justification of plans and programmes of activities for the maintenance and repair of overhead power transmission lines
			PC-3.9 Ability to conduct technical and economic calculations in cases of laying several parallel circuits for power transmission	PS 20.031 Labour function H/01.6 Formation of plans and programmes for maintenance and repair of overhead power lines

	products and wires, electrical capacitors, materials, semi-finished products and electrical insulation systems.			
- selecting appropriate solutions and preparing sections of pre-project documentation based on standard technical solutions for designing PA objects.	- electric power stations and substations; - electric power systems and networks; - power supply systems for cities, industrial enterprises, agriculture, transport systems and their facilities; - high-voltage installations for various purposes, electrical insulating materials, structures and means for their diagnostics, lightning and overvoltage protection systems, means for ensuring electromagnetic compatibility of equipment, high-voltage	PC-4. Ability to compose and execute standard technical documentation	PC-4.1 Ability to develop technical specifications for the design of construction, reconstruction and modernization of cable power lines	PS 20.030 Labour function I/03.5, Development of regulatory and technical documentation for maintenance and repair of cable power transmission lines
			PC-4.2 Ability to develop technical specifications for the design of construction, reconstruction and modernization of overhead lines	PS 20.030 Labour function J/01.6, Formation of plans and programmes for maintenance of cable power transmission lines
			PC-4.3 Ability to conduct technical and economic calculations in cases of laying several parallel circuits for power transmission	PS 20.031 Labour function G/03.5, Development of normative and technical documentation for maintenance and repair of overhead power lines
			PC-4.4 Ability to form proposals to improve the efficiency and productivity of labor, the quality and safety of work performed by subordinate employees	PS 20.031 Labour function I/02.6 Organization of work of subordinate employees on repair and maintenance of overhead power lines

	<p>electrical technologies; - relay protection and automation of electric power systems; - electrical machines, transformers, electromechanical complexes and systems, including their control and regulation, high-voltage electric power and electrical installations; - electrical and electronic devices, complexes and systems of electromechanical and electronic devices, automatic devices and systems for converting and controlling energy and information flows; - electric drive of mechanisms and technological complexes, including electric</p>			
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	<p>machines, electric power converters, coupling, control and regulation devices, in all sectors of the economy;</p> <p>- electrical insulation of electric power, electrical engineering and radio electronic devices, cable products and wires, electrical capacitors, materials, semi-finished products and electrical insulation systems.</p>			
Task type of professional activity: operation				
<p>– control of the technical condition of the technological equipment of the PA objects;</p> <p>– maintenance and repair of the PA objects.</p>	<p>- electric power stations and substations;</p> <p>- electric power systems and networks;</p> <p>- power supply systems for cities, industrial enterprises, agriculture, transport systems and their facilities;</p> <p>- high-voltage</p>	<p>PC-5. Ability to participate in the installation of equipment elements of professional facilities and willingness to participate in testing of commissioned electrical power and electrical engineering equipment</p>	<p>PC-5.1 Ability to determine the types and volumes of work to be performed at transformer substations and distribution points during maintenance and repair work</p>	<p>Labor market analysis, consultations with employers</p> <p>PS 16.019</p> <p>Labour function C/02.6 Planning and control of activities for the operation of transformer substations and distribution points,</p> <p>PS 20.031</p> <p>Labour function H/02.6</p> <p>Technical management of projects for work in the service area of overhead power lines</p>

	installations for various purposes, electrical insulating materials, structures and means for their diagnostics, lightning and overvoltage protection systems, means for ensuring electromagnetic compatibility of equipment, high-voltage electrical technologies; - relay protection and automation of electric power systems; - electrical machines, transformers, electromechanical complexes and systems, including their control and regulation, high-voltage electric power and electrical installations; - electrical and electronic devices, complexes and systems		PC-5.2 Ability to monitor compliance with requirements for the technology of repair and maintenance of structures, quality and safety of work	Labor market analysis, consultations with employers
			PC-5.3 Ability to receive overhead power lines from repair and installation	Labor market analysis, consultations with employers
			PC-5.4 Ability to monitor the compliance of cable power transmission line elements submitted for installation with the requirements of standards, technical specifications, and design documentation	PS 20.030 Labour function J/02.6 Technical management of projects for work in the service area of cable power transmission lines
			PC-5.5 Ability to receive cable power lines from repair and installation	PS 20.030 Labour function J/02.6 Technical management of projects for work in the service area of cable power transmission lines

	<p>of electromechanical and electronic devices, automatic devices and systems for converting and controlling energy and information flows;</p> <ul style="list-style-type: none"> - electric drive of mechanisms and technological complexes, including electric machines, electric power converters, coupling, control and regulation devices, in all sectors of the economy; - electrical insulation of electric power, electrical engineering and radio electronic devices, cable products and wires, electrical capacitors, materials, semi-finished products and electrical insulation systems. 			
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– maintenance and repair of the PA objects.	- electric power stations and substations; - electric power systems and networks; - power supply systems for cities, industrial enterprises, agriculture, transport systems and their facilities; - high-voltage installations for various purposes, electrical insulating materials, structures and means for their diagnostics, lightning and overvoltage protection systems, means for ensuring electromagnetic compatibility of equipment, high-voltage electrical technologies; - relay protection and automation of electric power	PC-6. Ability to assess the technical condition and remaining life of equipment	PC-6.1. Ability to conduct inspections and preventive tests of transformer substations and distribution points to identify violations and defects in their operation	PS 16.019 Labour function A/01.5, Checking the technical condition of transformer substations and distribution points
			PC-6.2. Ability to determine the types and volumes of work to be performed at transformer substations and distribution points during maintenance and repair work	PS 16.019 Labour function C/02.6 Planning and control of activities for the operation of transformer substations and distribution points PS 20.032 G/01.5 Monitoring the technical condition of equipment of electrical network substations
			PC-6.3. Ability to form schedules for inspection, repair and maintenance of cable power lines	PS 20.030 Labour function J/01.6, Formation of plans and programmes for maintenance of cable power transmission lines

	<p>systems; - electrical machines, transformers, electromechanical complexes and systems, including their control and regulation, high-voltage electric power and electrical installations; - electrical and electronic devices, complexes and systems of electromechanical and electronic devices, automatic devices and systems for converting and controlling energy and information flows; - electric drive of mechanisms and technological complexes, including electric machines, electric power converters, coupling, control and regulation devices, in all</p>			
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	sectors of the economy; - electrical insulation of electric power, electrical engineering and radio electronic devices, cable products and wires, electrical capacitors, materials, semi-finished products and electrical insulation systems.			
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4. DOCUMENTS ON THE CONTENT AND MANAGEMENT OF TEACHING AND LEARNING WITHIN THE BACHELOR'S DEGREE PROGRAMME IN THE STUDY FIELD 13.03.02 POWER AND ELECTRICAL ENGINEERING

In accordance with the article 2 of the Federal Law of the Russian Federation dated 29 December 2012 no. 273-FZ "On Education in the Russian Federation" and the Federal State Educational Standard of Higher Education in the relevant study field, the content and management of teaching and learning within the basic professional educational programme is regulated by the curriculum, academic schedule, programmes of academic disciplines (modules), programmes of academic and on-the-job trainings, other materials that ensure the quality of student training, as well as assessment and methodological materials.

4.1. Academic schedule

The academic schedule reflects the terms and periods of completing the stages of the Bachelor's degree programme in each year of study: theoretical training, examination sessions, academic and on-the-job trainings, State Final Certification and vacations.

The academic schedule is given in Annex 1.

4.2. Curriculum within the Bachelor's degree programme

The curriculum determines the list and sequence of disciplines, academic and on-the-job trainings, interim assessment and State Final Certification, their workload in ECTS and academic hours, distribution of lectures, practical and laboratory classes, amount of face-to-face and individual work of students, as well as a list of competences formed on completion of the curriculum.

The curricula for full-time and part-time training is given in Annex 2.

4.3. Programmes of academic disciplines

The programmes of academic disciplines (modules) determine the aims of the discipline, place of the discipline in the structure of the basic professional educational programme, learning outcomes in the discipline correlated with the planned results of the basic professional educational programme (competences and their indicators), structure and content of the discipline, educational technologies used in managing face-to-face and individual work of students, educational and methodological support of individual work of students, educational-methodological and material-technical support of the discipline.

The programmes of academic disciplines are given in Annex 3.

4.4. Programmes of academic and on-the-job trainings and assessment tools

In accordance with the Federal State Educational Standard of Higher Education in the study field 13.03.02 Electric and Power Engineering, part 2 “Practical trainings” within the basic professional educational programme (Bachelor’s degree programme) is compulsory and focused on the professional and practical training of students. During practical trainings students test the knowledge and skills gained within theoretical disciplines, acquire practical skills, gain professional experience and contribute to the integrated development of universal, general professional and professional competences of students.

The part “Practical trainings” includes academic and on-the-job trainings.

For practical training, PSU has signed agreements with the following Russian enterprises:

- branch of the PJSC Russian Network Volga-Penzaenergo (including Nizhny Lomov, Kuznetsk, Kamenka, Serdobsrk);

- AO Russian Power System Operator RDO of the Penza Region, Penza

- OOO «Engineering Production Company», Penza

- OOO Network Company, Penza

- Penza branch of PJSC “T-Plus” (Power Plant-1, Power Plant-2), Penza

- substations Penza-1, Penza-2

- JSC Penza City Electric Network

- OJSC Penzadieselmash, Penza;

- OJSC Penztyazhpromarmatura, Penza

- training centre of the PJSC Russian Network Volga-Penzaenergo, Penza

- laboratory at the Department of Power and Electrical Engineering, Penza State University, Penza (Classes 8-209, 8-212, 7a-103).

For students with disabilities, the choice of places for having practical training depends on their state of health and accessibility requirements.

4.4.1. Programmes of academic trainings and assessment tools

Within the basic professional educational programme, the following types of academic training are provided:

- a) Academic (Introductory) Training– 2nd semester; 3 ECTS (for full-time and part-time modes).

- b) Academic Training (Training to Obtain Primary Skills in Working with Software)–4th semester; 3 ECTS (for full-time and part-time modes of training).

The programmes of academic trainings and assessment tools are given in Annex 4.

4.4.2. Programmes of on-the-job trainings and assessment tools

Within the basic professional educational programme, the following types of on-the-job training are provided:

- a) On-the-Job (Project) Training – 6th semester (full-time mode of training) and 8th semester (part-time mode of training), 3ECTSs.

b) On-the-Job (Operation) Training – 8th semester (full-time mode of training) and 10th semester (part-time mode of training), 3 ECTS.

c) On-the-Job (Pre-Graduation) Training – 8th semester (full-time mode of training) and 10th semester (part-time mode of training), 6 ECTS.

The programmes of on-the-job trainings and assessment tools are given in Annex 5.

4.5. Programme of the State Final Certification and assessment tools

The programme of the State Final Certification and assessment tools of the State Final Certification for graduates of basic professional educational programme in the study field 13.03.02 Power and Electrical Engineering, Bachelor's degree programme "Power systems and networks" are given in Annex 6.

4.6. Programme and schedule of mentoring

The programme and schedule of mentoring determine the aims and objectives of mentoring, principles of its organization, forms and conditions of its implementation, quality monitoring conditions and terms of implementing the content of mentoring.

The programme and schedule of mentoring are given in Annex 7.

4.7. Competence-based model for the graduate of the educational programme

The documents regulating the content and management of teaching and learning within the Bachelor's degree programme were developed on the basis of the competence-based model for the graduate of the educational programme in the study field 13.03.02 Power and Electrical Engineering, Bachelor's degree programme "Power Systems and Networks", approved by the Methodological Council of the university (Annex 8).

5. AVAILABLE RESOURCES WITHIN THE BACHELOR'S DEGREE PROGRAMME IN THE STUDY FIELD 13.03.02 POWER AND ELECTRICAL ENGINEERING AT PSU

5.1. Material-technical and methodological-information support within the Bachelor's degree programme

The university has facilities and resources (premises and equipment) for implementing the Bachelor's degree programme within Block 1 "Disciplines (modules)" and Block 3 "State Final Certification" in accordance with the curriculum, which correspond to the current sanitary and fire safety rules and regulations.

The premises include classrooms for lectures and classes which are provided for by the Bachelor's degree programme are equipped with technical teaching aids, which are determined in the programmes of disciplines (modules).

The premises for individual work of students are provided with computer equipment with access to the Internet and the digital learning environment of the university.

The university has the necessary set of licensed and free software, including nationally produced (it is determined in the programmes of disciplines (modules) and subject to updating if necessary).

Each student during the entire period of study is provided with individual unlimited access to the digital learning environment of the university from any place with the Internet connection both on and off campus.

The digital learning environment of the university:

- provides access to the curricula, programmes of academic disciplines (modules) and practical trainings, electronic publications and digital learning and teaching materials specified in the programmes;

- forms an electronic portfolio of students, as well as stores student academic papers, reviews and assessments.

In case of implementing the Bachelor's degree programme using e-learning, distance learning technologies, the digital learning environment additionally:

- tracks teaching and learning, records results of current and interim assessment;
- serves as a platform for conducting all types of classes and assessing learning outcomes, which are provided using distance learning technologies;
- enables interaction between the participants of teaching and learning, including synchronous and (or) asynchronous interaction via the Internet.

The functioning of the electronic information and educational environment is ensured by the appropriate means of information and communication technologies and the qualifications of workers who use and maintain it.

The functioning of the digital learning environment complies with the legislation of the Russian Federation

The library stock is filled with printed publications at the rate of at least 0.25 copies of each publication specified in the programmes of disciplines (modules) and practical trainings per student from among persons simultaneously mastering the relevant discipline or undergoing the relevant practical training.

Students are provided with access (remote access) to modern professional databases and information reference systems, which are determined in the programmes of disciplines (modules) and subject to updating (if necessary):

1. <http://window.edu.ru/>;
2. <http://fcior.edu.ru/>;
3. <http://e.lanbook.com> (Electronic Library System Lan);
4. <http://lib.pnzgu.ru/> (Electronic catalogue);
5. <http://www.studmedlib.ru/> (Electronic Library System Student's Consultant).

Students from among persons with disabilities are provided with printed and (or) digital learning materials in forms adapted to their disabilities.

5.2. Staffing within the Bachelor's degree programme

The Bachelor's degree programme is implemented by teaching staff of the university, as well as by persons involved in running the programme under the contract.

The qualifications of teaching staff of the university correspond to the qualification characteristics established in qualification catalogues and (or) professional standards (if any).

At least 70% of teaching staff of the university and persons involved in implementing the Bachelor's degree programme (in terms of integer values) conduct scientific, educational, methodological and (or) practical work corresponding to the study field of the disciplines (modules) taught.

At least 5% of teaching staff of the university and persons involved in implementing the Bachelor's degree programme (in terms of integer values) are managers and (or) employees from other organisations, the activities of which are related to the study field of the basic professional educational programme (who have worked for at least three years in the profession): OOO Network Company, AO Russian Power System Operator RDO of the Penza Region Power System, branch of the PJSC Russian Network Volga-Penzaenergo.

At least 60% of teaching staff of the university and persons involved in implementing the Bachelor's degree programme (in terms of integer values) have an academic degree (including an academic degree obtained in a foreign state and recognized in the Russian Federation) and (or) an academic title (including an academic title obtained in a foreign state and recognized in the Russian Federation).

In accordance with the study field of the basic professional educational programme, the graduating department is the Department of Power and Electrical Engineering.

5.3. Funding within the Bachelor's degree programme

The Bachelor's degree programme is funded in the amount not lower than the standard values of costs for public services for implementing basic professional educational programmes of higher education (Bachelor's degree programmes) and correcting coefficients to the standard values of costs determined by the Ministry of Science and Higher Education of the Russian Federation.

6. REGULATORY AND METHODOLOGICAL SUPPORT OF THE QUALITY AS-SESSMENT SYSTEM OF GRADUATE COMPLETION OF THE BACHELOR'S DEGREE PROGRAMME IN THE STUDY FIELD 13.03.02 POWER AND ELECTRICAL ENGINEERING

6.1. Mechanism of objective internal and external independent assessment of the quality of teaching and learning and regulatory support of the quality assurance system

The quality of learning and teaching within the Bachelor's degree programme is determined by the *internal assessment* system and *external assessment* system that the university undergoes on a voluntary basis.

Under regular internal assessment of the quality of learning and teaching, the university engages employers and (or) their associations, other legal entities and (or) individuals, including teaching and administrative staff of the university in order to improve the Bachelor's degree programme.

As part of the internal assessment of the quality of learning and teaching, students are provided with the opportunity to assess the conditions, content, organisation and quality of the academic process as a whole and specific disciplines (modules) and practical trainings.

External assessment of the quality of learning and teaching under the Bachelor's degree programme within the state accreditation is carried out to confirm the compliance of teaching and learning under the Bachelor's degree programme with the requirements of the Federal State Educational Standard of Higher Education.

External assessment of the quality of learning and teaching under the Bachelor's degree programme can be carried out within the professional and public accreditation conducted by employers, their associations, as well as authorised organisations, including foreign ones, or authorised national professional and public organisations that are part of international organisations, in order to recognize the quality and competence of students that meet the professional standards and labour market requirements for specialists in the corresponding study field.

The effective functioning of the system for ensuring the quality of student training is determined by the presence of a quality management system, which is based on the following local regulations of the University:

- Quality Policy of Penza State University;
- Overarching Development Programme of the university in the sphere of quality for an academic year;
- Regulation on internal quality assessment of educational activities and training specialists in higher education programmes;
- Regulation on rating assessment of the activity of research and teaching staff and structural units of Penza State University;

- Regulation on organizing the Student Commission for Education Quality at University;
- University Standard STO PGU 2.12-2018 “State Final Certification within the Basic Professional Educational Programmes of Higher Education (Bachelor’s, Specialist’s and Master’s Degree Programmes)”;
- University Standard STO PGU 3.12-2018 “Graduation Thesis within the Basic Professional Educational Programmes of Higher Education (Bachelor’s, Specialist’s and Master’s Degree Programmes)”;
- Regulation on learning and teaching materials;
- Regulation on current performance assessment of students within the basic professional educational programmes of higher education (Bachelor’s, Specialist’s and Master’s degree programmes);
- Regulation on sets of assessment tools for the disciplines for current and interim performance assessment of students within the basic professional educational programmes of higher education (Bachelor’s, Specialist’s and Master’s degree programmes);
- Regulation on course projects of students within the basic professional educational programmes of higher education (Bachelor’s, Specialist’s and Master’s degree programmes);
- Regulation on interim performance assessment of students within the basic professional educational programmes of higher education (Bachelor’s, Specialist’s and Master’s degree programmes);
- Regulation on practical trainings of students of Penza State University;
- Regulation on training according to individual curriculum and accelerated learning within the basic professional educational programmes of higher education;
- Regulation on implementing basic educational programmes which contain national security information.

6.2. Assessment and teaching materials for current and interim assessment and final certification of students

In accordance with the Federal Law “On Education in the Russian Federation”, assessment of the quality of mastering the basic professional educational programmes of higher education includes current performance assessment, interim performance assessment and state final certification of students.

6.2.1. Sets of assessment tools for current and interim performance assessment

Current and interim performance assessment serve as the main means of providing feedback between teaching staff and students under learning and teaching, which is necessary to stimulate student performance and improve teaching methods.

Current performance assessment is used for checking the assimilation of learning and teaching material and regularly conducted throughout the semester. As a rule, interim performance assessment is carried out at the end of the semester. It may finish both the study of a specific discipline and its section(s). Current and interim performance assessment allow assessing knowledge and skills, as well as competences developed.

The tools of current performance assessment include: interview, colloquium, test, review work, paper, essay and other creative works, oral questioning during classes, reports on laboratory work, calculation and design work, etc.

The tools of interim performance assessment include: pass-fail exam, exam, defending a course project (paper), report (on practical training, research, etc.).

To certify student learning outcomes in accordance with the requirements of the relevant basic professional educational programme of higher education, the university departments develop sets of assessment tools for current and interim performance assessment. The sets include: sample questions and tasks for practical, laboratory and review classes, colloquia, pass-fail exams and exams, tests and computer testing programmes; sample topics of course papers,

essays, reports, etc. These assessment tools allow assessing the achievement of learning outcomes within the specific disciplines and development of student competences at any stage of the basic professional educational programme.

The sets of assessment tools for current and interim performance assessment are part of teaching and learning materials for disciplines (modules) and practical training programmes.

6.2.2. State Final Certification within the Bachelor's degree programme

The State Final Certification of students is mandatory and conducted after completing the basic professional educational programme of higher education (Bachelor's degree programme) in the study field 13.03.02 Power and Electrical Engineering.

The State Final Certification includes the defence of the graduation thesis (Bachelor's thesis), comprising preparation and defence.

The state certification tests are designed to determine the compliance of learning outcomes within the basic professional educational programme of higher education and the requirements of the Federal State Educational Standard of Higher Education, as well as to determine training to perform professional tasks established by the Federal State Educational Standard of Higher Education.

Based on the Procedure for conducting the State Final Certification within the basic professional educational programmes of higher education (Bachelor's, Specialist's and Master's degree programmes) approved by the Order of the Ministry of Science and Higher Education of the Russian Federation dated 29 June 2015 no. 636, requirements of the Federal State Educational Standard of Higher Education, the university developed and approved the regulatory documents for the State Final Certification: University Standard STO PGU 2.12-2018 "State Final Certification within the Basic Professional Educational Programmes of Higher Education (Bachelor's, Specialist's and Master's Degree Programmes)" and University Standard STO PGU 3.12-2018 "Graduation Thesis within the Basic Professional Educational Programmes of Higher Education (Bachelor's, Specialist's and Master's Degree Programmes)".

The graduating department - Department of Power and Electrical Engineering - developed Programme on the State Final Certification on writing and defending graduation theses and assessment tools for the State Final Certification.

On successful completion and defence of the graduation thesis, students should:

- know, understand and fulfil professional tasks of the following type: project and operation;
- perform labour functions, labour activities specified in the professional standard 16.019 Specialist in operating transformer substations and distribution points and managing operating modes of municipal electrical networks; 16.147 Specialist in designing power supply systems for capital construction projects; 20.030 Worker in the technical maintenance and repair of cable power transmission lines; 20.031 Worker in the technical maintenance and repair of overhead power transmission lines; 20.032 Worker in the maintenance of equipment for electrical network substations; 20.035 Worker in implementing dispatcher functions in the field of operational dispatch control in the electric power industry.

Requirements for the graduation thesis in the study field 13.03.02 Power and Electrical Engineering (Bachelor's degree programme «Power Systems and Networks»)

The requirements for the structure and content of the graduation thesis on the basic professional educational programme are determined taking into account the university standard STO PGU 3.12-2018 " Graduation Thesis within the Basic Professional Educational Programmes of Higher Education (Bachelor's, Specialist's and Master's Degree Programmes)".

The completion of the graduation thesis is designed to solve the following problems:

- substantiation of the relevance and significance of the chosen research theme;

- theoretical understanding of the current state of the research object for a certain period of time, adequate application of scientific knowledge methods;
- mastery of modern information technologies.

In the graduation thesis, the student must demonstrate the ability to solve complex technical issues, the ability to analyze various business situations, and draw practical conclusions aimed at improving the performance of organizations and institutions.

The graduation thesis may include both problematic theoretical questions and specific technical tasks.

There are several stages in completing the graduation thesis:

- choosing the theme of the graduation thesis;
- choosing a supervisor, agreeing on the theme;
- drawing up a task for the thesis;
- collecting information;
- making calculations;
- drawing up the thesis.

After successful defense, the graduation thesis serves as the basis for assigning the author of the thesis the qualification of a bachelor in the study field 13.03.02 «Power and Electrical Engineering».

The choice of the theme for the graduation thesis

The student has the right to choose the theme of the graduation thesis by themselves based on the annually updated themes developed by the graduating department.

When choosing the theme of the thesis, it is advisable for the student to be guided by the experience accumulated when writing term papers, scientific reports at conferences and student clubs.

The theme of the thesis chosen by the student is agreed upon with the scientific supervisor and the head of the department before the start of the graduation thesis and is approved by the order of the rector of the university (institute).

When choosing a theme, it is especially important to consider its relevance in modern conditions, practical significance for the organizations where the pre-graduation training was held, and the factual materials were obtained. When formulating the theme of the graduation thesis, it is necessary to take into account the specific conditions in which the research is conducted, as well as the object of the study.

The title of the graduation thesis theme should be concise and reflect the essence of the thesis. It should be taken into account that the title of the theme in all documents must be unchanged and correspond to the order of the rector. Any changes to the theme, the name of the graduate or the supervisor are formalized by the relevant orders of the university and are confirmed by copies of these orders on the eve of the defense.

Information which can be used when writing the graduation thesis

The most important factor influencing the quality of the graduation thesis is the breadth, reliability and relevance of the information base used.

You should start selecting books, articles, and regulatory documents after choosing the theme of the graduation thesis. The student should have a certain "backlog" - a list of literature used in the process of preparing for seminars, term papers, reports, as well as additional literature specified by teachers during lectures on the main courses. The student can ask for help from the supervisor, who will help in choosing the main sources of literature.

It is important to ensure the relevance of theoretical and practical issues of the chosen theme, so it is necessary to pay special attention to the publications of recent years.

Structure of the graduation thesis

Regardless of the chosen theme, the graduation thesis includes:

- an explanatory note to the project of at least 50 pages of typewritten text together with illustrations (without annexes);
- graphic materials consisting of at least 3-4 A1 sheets or a presentation.

Below is an approximate recommended volume and sequence of individual sections of the explanatory note in pages.

- Title page;
- Task;
- Abstract – 1;
- Contents – 1-2;
- Introduction – 3-5;
- Analysis of initial design data (analysis of electrical loads, existing circuits and systems, etc.) – 8-10;
- Justification of the selected circuits (power supply systems, substations, electric power systems, etc.) – 2-5;
- Calculation of the main parameters of the system (power system as a whole, separate substation equipment, power supply circuits for a workshop, enterprise, etc.) – 15-20;
- Selection and verification of the main elements of the electric power system (power supply circuits, etc.) – 15-20;
- Development of experimental programmes, creation of virtual models (if necessary) – 15-20;
- Experimental studies of models – 5-10;
- Calculation of protection systems (from overvoltage: internal and (or) external, protective grounding) – 5-10;
- Conclusion – 1-3;
- References – 2-4;
- Annexes;
- Statement of the graduation thesis.

The design of the explanatory note must comply with the requirements of the Unified System of Design Documentation (USDD).

A student who has successfully completed the entire curriculum, defended a report on the completion of the on-the-job training, received a positive review from the supervisor, and passed the quality control is allowed to defend the graduation thesis. The quality control supervisor checks the correctness of the graduation thesis in accordance with the requirements of the standards. There must also be permission from the head of the department to defend (admission to defend).

The defense of the graduation thesis is carried out at an open meeting of the State Examination Commission (SEC). At the meeting during the defense of the graduation thesis, in addition to the members of the SEC, work managers, consultants, teachers of the department, representatives of enterprises, institutions, and those present can ask questions.

7. DESCRIPTION OF THE UNIVERSITY SOCIAL AND CULTURAL ENVIRONMENT SECURING THE DEVELOPMENT OF STUDENT GENERAL COMPETENCES

The most important function of education at the university is the upbringing of student youth, which has a significant impact on the life of society and its development, and promotes: the preservation, reproduction and development of national culture; the implementation of the continuity of generations in the socio-cultural sphere; the creation of conditions for the free development of an individual who possesses the latest knowledge in the field of future professional and social activity.

7.1. Characteristics of the environment significant for personal education and general competences development:

The environment of an educational institution is considered as a territory and event-related limited set of influences and conditions for the formation of a personality. It acts as a factor in the internal and external psychosocial, social and cultural development of a personality.

The characteristics of the academic environment of Penza State University required for forming the competences are as follows:

- Environment built on values, norms and moral principles of Russian society;
- Legal environment reinforced by the Constitution of the Russian Federation, laws and by-laws governing teaching, learning and youth affairs, University Charter and Internal Regulations;
- Highly intellectual environment, which contributes to developing student innovation potential and engaging young and talented persons in basic science and applied science;
- Human friendly environment supported by modern information and communication technologies;
- Environment of communication and tolerance for interaction of students, teaching, research and administrative staff;
- Environment, which is open to cooperation with employers, various social institutions, including foreign ones;
- Environment focused on psychological comfort, healthy lifestyle, which is rich in events and traditions.

7.2. Aims and objectives of teaching, learning and mentoring within the Bachelor's degree programme:

The primary aim of teaching, learning and mentoring at Penza State University is to create conditions for personal and professional development of students, contributing to their effective adaptation in the social and cultural environment of the Russian and international community: personality development of the student, who will be a highly educated specialist with deep professional knowledge, skills and abilities, who has humanistic outlook, stable moral and civic values, patriotism, civic consciousness, respect for the memory of defenders of their homelands, respect for law and order, respect for working people and older people, mutual respect, care for cultural heritage and traditions of peoples, care for nature and environment.

This aim is achieved by solving the following tasks:

- Creating an environment for creative, intellectual, cultural communication, conducive to self-determination, self-affirmation and self-fulfillment of students;
- Ensuring the relationship of learning, teaching, research and mentoring;
- Improving conditions to foster tolerance and aesthetic, legal and political culture among students, creating prerequisites to broaden a humanistic outlook and promote active citizenship;
- Developing creative associations of students to unlock personal and creative potential of young people;
- Improving student self-government by providing them with interaction, leadership and management skills, self-esteem and self-confidence;
- Forming a health-preserving educational environment through promoting physical culture as an important factor in the harmonious development of the personality, high professional and labour activity, healthy lifestyle, work productivity and creative longevity;
- Creating an information environment that promotes the advancement of student creative abilities, communication culture through exchanging socially significant information;
- Building a system of psychological support for students to create a comfortable learning environment at the university;
- Forming corporate identity of students, teaching, research and administrative staff;
- Familiarising with national and world history and culture, mastering communicative skills.

7.3. Focus of mentoring and awareness-raising at the Department

7.3.1. Focus areas of mentoring at the department:

- Activities aimed at personal development, self-determination and socialisation of students;
- Activities targeted at promoting patriotism and citizenship among students;
- Activities directed at inspiring respect for the memory of defenders of their homeland;
- Activities directed at inspiring respect for working persons and older persons in students;
- Activities directed at inspiring respect for law and order in students;
- Activities aimed at developing a caring attitude to cultural heritage and traditions of the multinational people of the Russian Federation among students;
- Activities targeted at fostering spiritual and moral values among students and familiarising them with rules and norms adopted in Russian society in the interests of the person, family, society and state;
- Activities aimed at adopting a caring attitude to nature and environment among students;
- Activities directed at preventing destructive behaviour of students.

7.3.1. Focus areas of awareness-raising in the work of the Department

The **civil area** is the formation of a civil identity among students, manifested as an awareness of belonging to the state, which is significant for young persons, as well as the prevention of extremism and promotion of interethnic tolerance through broadening knowledge, skills and abilities in regulating interethnic and interfaith relations and fostering culture of interpersonal and interethnic relations.

The **spiritual and moral area** is a system of spiritual and moral development of students, which aims at teaching them to focus on such values as person, family, “truth, love, labour, knowledge, culture, native land, Earth (as common home for mankind), peace (as harmony among nations), righteous behaviour and non-violence”.

The **patriotic area** is the creation of conditions for increasing civil responsibility for the state, enhancing consolidation of society to ensure national security and sustainable development of their country, strengthening citizenship in terms of the history and culture of their country, ensuring intergenerational continuity, providing students with proactive attitude, who love their native land and family, and who have a proactive approach to life.

The **cultural and educational area** is the expansion of student outlook, allowing them to find a rightful place in society and make difference for state and people around, development of social responsibility and cultural enlightenment, familiarisation with traditions and history, promotion of respectful for various anniversaries.

The **environmental area** presupposes forming ecological thinking, necessary moral and aesthetic views on nature and place of human as part of nature, scientific understanding of environmental problems, active life position in environmental protection, rational use of natural resources. The teacher must organize their activities so that students achieve full awareness of complexity of all environmental issues and understanding of the necessity to follow behavior rules while interacting with the nature.

The **physical education area** includes promoting and supporting healthy lifestyle and ensuring health-saving environment, promoting physical culture and sports, holding mass sports events, competitions, preventing and combating smoking, drug and other harmful addictions. At the university it is driven by the physical education system and developed extensive sports facilities providing easy and simple access to sports within the educational and extracurricular process.

The **professional and labour area** means familiarising students with professional activity and related functions in accordance with the study field and qualification level. Professional and labour education involves forming labour motivation, teaching basic principles

of building professional career and behaving in the labour market, familiarizing with traditions and values of the professional community, norms of corporate ethics, creative approach to personal development in the chosen professional field, creating conditions for creative and professional self-fulfillment, etc.

7.4. Forms and methods of mentoring

The universities apply traditional and modern forms and methods of teaching and mentoring. They are implemented in various options for organising a specific mentoring process, which combines and integrates aims, objectives, principles, patterns, methods and techniques of teaching and mentoring.

The forms of mentoring are as follows:

- according to the number of participants – individual (person-to-person interaction in the teacher-student system); group (creative teams, sports teams, clubs, hobby groups, etc.), mass (festivals, olympiads, holidays, clean-up events, etc.);
- according to the target audience, participants status, educational opportunities – events, affairs, games, etc.;
- according to the timing of the event – short-term, long-term, traditional;
- according to the type of activity – work, sports, creative, research, social, etc.;
- according to the result of mentoring – socially significant result, information exchange, decision-making.

Classification of mentoring methods

Methods for developing consciousness	Methods for organising activities and broadening experience	Methods for encouraging activity and behaviour
Conversation, debate, suggestion, instruction, control, explanation, example, clarification, story, self-control, advice, persuasion, etc.	Task, public opinion, pedagogical requirement, assignment, creating educational cases, training, exercise, etc.	Approval, encouragement of social activity, censure, creating cases for success, creating cases for emotional and moral experience, competition, etc.

7.5. Application of educational technologies in the face-to-face and online modes of learning, training and mentoring

The environment for learning, training and mentoring can be created both in the face-to-face and online modes.

The following is applicable:

- relevant traditional, modern and innovative educational technologies (collective creativity; art pedagogy; health saving; inclusive education; portfolio; training; brainstorming; case-study; distance learning, etc.)
- digital educational technologies in online education, e-learning with free access to digital educational content (VR-technologies; artificial intelligence; smart technologies; data mining; big data; gamification; blockchain, etc.).

The technology of student portfolio is implemented in the university digital learning environment within the section “University + Employer”. It is designed for interaction of PSU students / alumni with PSU partner employers. This section provides access to current job opportunities, applicants’ CVs, as well as information about companies offering internships and trainings.

The technologies of distance learning are used in the face-to-face and online modes of learning, training and mentoring: digital learning environment of Penza State University, video conferencing and webinar services (Zoom, Google Meet, Skype, etc.), social network V Kontakte services.

The technologies of digital learning are used in e-learning with free access to digital educational content: e-versions of teaching materials are posted in the digital learning environment of Penza State University; an online course platform online.pnzgu.ru is operated.

7.6. Priority students activities at the university

The types of student activities in the learning, teaching and mentoring system include:

- Project activity;
- Teaching and research;
- Volunteering;
- Social activity, cultural activity, creativity, leisure activity;
- Student and youth international cooperation;
- Activity for arranging and holding events of various focus (civil, patriotic, research, social, cultural, sports, etc.);
- Other activities of students.

7.6.1. Activities and types of student associations

A student association is a voluntary student association at the university, which is created for self-realization and self-development of students, as well as joint solution of various issues and improvement of student life.

The student association is built on the principles of voluntary participation and freedom of choice, partnership and equality, transparency and openness.

The types of student associations by the areas of activity are as follows:

- *Research* (Research Society, Co-Working Centre, etc.);
- *Creativity* (Club of the Cheerful and Sharp-Witted (KVN), Kontrabass Contemporary Dance Theater, Youth Student Choir, Aquamarine Contemporary Dance Theatre, Avenue Vocal Studio, Kirillitsa Student Theatre, Good People Folk Song Ensemble, Fashion Theatre, S-Dance PSU studio);
- *Sports* (Berkut Student Sports Club, PSU Sports Club);
- *Public* (student labour union, student government council, councils of faculties/institutes/halls of residence, etc.);
- *Volunteering* (Volunteer Corps of PSU, All-Russian public movement "Volunteer Doctors" in Penza Oblast, etc.);
- *Information* (Film and Photo Studio, Student View Newspaper, etc.);
- *Professional* (Flammeous Multidisciplinary Team, Record Multidisciplinary Team, Crystal Multidisciplinary Team, Adrenaline Multidisciplinary Team, etc.);
- *Intercultural* (International Alumni Club, etc.);
- *Others*

Year	Planned student communities / associations
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1-4 years	Academic group
Students of different years of study	Communities: student trade union organization, student self-government council, student scientific society, student curatorial team (tutoring), sports teams, KVN club, faculty dance group, professional discipline clubs, PSU security service

7.6.2. Key student communities / associations at the faculty

7.7. Annual events and affairs, competitions and contests

1. Civil area

(UC4, UC 5, UC 8, UC 10)

The activities include:

- International youth forum "Against Extremism "
- Participation in the work of the international summer youth forum "iVolga"
- Participation in the action "Young Voter's Day"
- Participation in the training from the company Consultant Plus "Rules and mistakes of public speaking"
- Meeting with applicants enrolled in the 1st year.
- Day of the Faculty of Industrial Technologies, Power Engineering and Transport

2. Spiritual and moral area

(UC1, UC 2, UC 3, UC 4)

The activities include:

- Participating in annual research conference.
- Preparing and participating in the “Day of the Faculty”.
- Excursions to the University museum, visits to the theatre, the cinema.
- Meetings with mentors (according to the general schedule).
- Preparing and participating in the inter-faculty contest “First-year student”.
- Preparing and participating in the inter-faculty KVN contest.

3. Patriotic area

(UC -1, UC -2, UC -4, UC -5)

The activities include:

- Participating in the inter-faculty contest “Hey, guys!”
- Organizing and holding the event dedicated to the Victory Day.
- Holding congratulatory events dedicated to memorable dates.
- Participating in demonstrations, parades and other events implementing the principle of patriotism (Day of Accord and Reconciliation, Independence Day, Defender of the Homeland Day, etc.)

4. Cultural and educational area

(UC -1, UC -4)

The activities include:

- Visiting exhibitions and presentations;
- Attending theatres, museums;
- Contest of student works.

5. Environmental area

(UC-7, UC -8)

The activities include:

- Participating in the event “Day of the Sura”.
- Participating in All-Russian clean-up day “Green Russia”.
- Participating in city clean-ups.

6. Physical education area

(UC -7, UC -8)

The activities include:

- Participating the contest “My and my family’s health are the health of the nation”.
- Participating in University, city, region, All-Russian sport events and competitions.
- Participating in the event dedicated to the World Aids Day.
- Preparing and passing GTO standards.

7. Professional and labour area

(UC -6, UC -9, UC -10)

The activities include:

- Event for first-year students “Day of Knowledge”.
- Contest “The best academic group”.
- Day of PSU enterprise.

7.8. Forms of presenting students' achievements and methods of assessing competences development within extracurricular activities

Focus	Form	Assessment method
Civil area	Project, campaign, competition, forum, review, report, conference, round table discussion, debate, etc.	Expert review, assessment harmonisation, review, peer review, self-analysis, character reference, diploma, certificate, etc.
Spiritual and moral area	Festival, project, concert, stage performance, contest, creative report, etc.	Review, self-evaluation, self-analysis, diploma, certificate, etc.
Patriotic area	Festival, concert, exhibition, forum, etc.	Review, self-evaluation, self-analysis, character reference, diploma, certificate, etc.
Cultural and educational area	Campaign, rally, competition, contest, forum, report, performance, festival, exhibition, trip, etc.	Review, self-evaluation, self-analysis, character reference, questioning, etc.
Environmental area	Campaign, rally, competition, forum, trip, etc.	Expert review, self-assessment, questioning, self-analysis, character reference, etc.
Physical education area	Campaign, hike, rally, competition, contest, trip	Refereeing, self-analysis, review, certificate, diploma
Professional and labour area	Project, exhibition, fair, excursion, contest, topic stand, trip	Review, assessment harmonization, testing, questioning, self-analysis, character reference

7.8.1. Ways of recognising and encouraging extracurricular activities

The ways of recognising student achievements and social involvement are: achievements portfolio, volunteering record sheets, electronic journal, etc.

The ways of encouraging student extracurricular activities are: certificates, letters of gratitude, entries on the Board of Honour, diplomas, expression of gratitude, presentation of experience and findings (seminar, exhibition, publication, etc.), personal scholarships, one-time cash payments, valuable gifts, funding of participation in olympiads, forums, competitions, etc.

7.9. Infrastructure of the university:

The university has modern facilities for teaching, learning and mentoring of students.

Modern technical means of teaching and learning made by the leading world manufacturers are used in the academic process. An LED screen, video projection equipment for 3D mapping, a wide range of sound and lighting equipment for events of various formats are used. There are equipped premises for mentoring.

Cinema and Concert Hall (Penza, 40 Krasnaya st., building 5).

The Cinema and Concert Hall is designed for 384 seats, provided with modern equipment, high-speed Internet, Wi-Fi technology. High-class sound equipment by JBL and various microphones by Sennheiser, Shure, dbTechnologies make it possible to sound concerts and performances. A motorised screen, a high-resolution and high-brightness NEC video projector for watching movies and organising video conferencing are also installed.

Lighting control using the Martin Light Jockey interface, Martin and Silver Star architectural lighting fixtures and full rotation projectors, fog generators allow highlighting locations on the stage and in the hall.

Event Hall (Penza, 37 Lermontova st., building 11).

The Event Hall is designed for 420 seats, provided with modern equipment and Wi-Fi technology. Hi-Fi audio equipment, including line arrays and a subwoofer by B&G, a digital mixing console by Allen & Heath, radio microphones by Sennheiser make it possible to sound concerts and performances. Lighting equipment, consisting of full rotation devices, effects projectors and architectural lighting fixtures by Silver Star and Involight, smoke generators allow highlighting locations on the stage. A high- resolution and high-brightness NEC video projector and a motorised screen for watching movies and organising video conferencing are also installed.

A high- resolution and high-brightness NEC video projector and a motorised screen for watching movies and organising video conferencing are also installed.

Assembly Hall of Building 9 (Penza, 68 Chkalova st., building 9).

The Assembly Hall is designed for 288 seats, provided with high-speed Internet and Wi-Fi and equipped with a sound system by JBL, radio microphones by dBtechnologies, a video projector by Sanyo and a motorised screen to arrange seminars, lectures and meetings with students.

Temp Sports and Culture Centre (Penza, 85 Sverdlova st.).

The Temp Sports and Culture Centre is designed for 3500 seats. A modular stage with an area of 100 m² and powerful sound-amplifying equipment, consisting of line arrays, subwoofers and monitors by B&G, a professional mixing console by Allen & Heath, radio microphones by Sennheiser and Invoton allow organising the large-scale cultural events.

The covered arena with an area of 2000 m² with a combined coating of PVC tiles and artificial grass allows organising the mass sports events. Climbing walls, mobile interactive playgrounds and sports equipment allow operating the student clubs on tourism, football, tennis, etc.

Co-Working Centre (Penza, 85 Sverdlova st.).

The Co-Working Centre is designed for 50 seats. It is equipped with high-speed Internet, Wi-Fi, an interactive Smart board kit, a motorised screen and an Epson projector for conducting trainings, educational seminars, video conferences with students.

Impulse Training Centre (Penza, 85 Sverdlova st.).

The Impulse Training Centre is equipped with the Internet, Wi-Fi, a projector and a motorised screen, offices for self-presentations, master classes and trainings. The office for psychological relief, consultations and psychological assessment is equipped with a multipsychometer. A helpline operates for targeted assistance to students in various psychological situations.

Recording Studio (Penza, 40 Krasnaya str., building 5).

The Recording Studio is designed for sound recording and processing. The technical equipment includes a condenser studio microphone by Neumann, professional headphones by Sennheiser and Shure, and active acoustic studio monitors by Yamaha. Sound processing is carried out using studio controllers by Berlinger and Akai.

Film and Photo Studio (Penza, 40 Krasnaya st., building 3).

The Film and Photo Studio is designed for producing and processing photo and video content and covering cultural and sports events, seminars and trainings. It is equipped with a

filmmaking complex, professional cameras by Sony and Canon with a wide range of lenses. It is provided with modern studio lighting and an automated roll-up background lifting system. For rendering photo and video content, powerful computers with increased capacity are used.

Student Printing House (Penza, 57 Chkalova st., residence hall 1).

The Student Printing House is intended for developing design layouts and printing information boards, booklets, business cards, posters. It is equipped with a large-format plotter by Epson, printers and MFPs with colour laser printing by Xerox. It is provided with special cutters, bookbinding machines and a laminator for making notebooks and sketchbooks.

7.9.1. Infrastructure of the universities for implementing the basic professional educational programme

To ensure teaching and learning, the university is constantly developing its infrastructure. There are 19 academic buildings in a single architectural style, located in an ecologically clean area of the city. The infrastructure of the university includes facilities for teaching, learning, mentoring and extracurricular activities.

Culture facilities

Event hall and performance venues	<ul style="list-style-type: none"> – Temp Sports and Culture Centre: Penza, 85 Sverdlova st.; - Cinema and Concert Hall: Penza, 40 Krasnaya st., building 5; – Event Hall: Penza, 68 Chkalova st., building 9; - Event Hall: Penza, 3 Lermontova st., building 10; – Event Hall: Penza, 37 Lermontova st., building 11; – Dance Hall: Penza, 57 Chkalova st., residence hall 1; – Dance Hall: Penza, 2A Marshala Krylova st., residence hall 2; – Dance Hall: Penza, 26A Lermontova st., residence hall 4. - Dance Hall: Penza, 40 Krasnaya st., building 3; - Dance Hall: Penza, 68 Chkalova st., building 9;
Museums and libraries	<ul style="list-style-type: none"> – Information and Exhibition museum of the University History: Penza, 40 Krasnaya st., building 1; – Polytechnic museum: Penza, 40 Krasnaya st., building 3; – Museum of computing engineering: Penza, 40 Krasnaya st., building 7a; – Anatomical Museum: Penza, 3 Lermontova st., building 10; – Pedagogical Education History Museum: Penza, 37 Lermontova st., building 11; - Museum of Entertaining Sciences: Penza, 37 Lermontova st., building 13; – Geological museum: Penza, 37 Lermontova st., building 15; – Zoological museum: Penza, 37 Lermontova st., building 15. <p>Research library:</p> <ul style="list-style-type: none"> – E-Library: Penza, 40 Krasnaya st., building 1, office

	308; – Engineering library: Penza, 40 Krasnaya st., building 3; – Social, Humanities and Fiction Library: Penza, 68 Chkalova st., building 9;
Sports and health facilities	Polytechnic Open Sports and Recreation Stadium: Penza, 40 Krasnaya st.; – Temp Sports and Culture Centre: Penza, 85 Sverdlova st.; – Skiing Centre: Penza, 46B Krasnaya st.; – Skiing Centre: Penza, 37 Lermontova st.; – Swimming Pool: Penza, 37 Lermontova st., building 14; – Gym: Penza, 37 Lermontova st., building 14; – Gym: Penza Region, Serdobs, 285 Lenina st.; – Weightlifting Sports Hall: Penza, 40 Krasnaya st.; – Athletics Sports Hall: Penza, 40 Krasnaya st.; – Playing Sports Hall: Penza, 37 Lermontova st., building 14; – Workout room: Penza, 46 Krasnaya st.; – Workout Rooms (men’s room and women’s room): Penza, 2A Marshala Krylova st., residence hall 2; – Workout Room (for men and women): Penza, 58 Mira st., residence hall 3; – Workout Room (men’s room): Penza, 26A Lermontova st., residence hall 4; – Workout Room: Penza, 14 Lermontova st., residence hall 6. – Recreation centre “Polytechnic”: Penza region, Bessonovski region, Podlesny village; sports and recreation camp “Sputnik”: Penza, Zheleznodorozhny district, Pobeda village.

7.10. Social and cultural environment. Networking with organisations and institutions

The Penza Region as a multinational, multi-religious region with a rich history and cultural heritage is a platform for pursuing the goals of state cultural policy, which determines the stages, methods and means of engaging the population, particularly students, in the social and cultural environment.

Today in Penza there are 219 culture and art sites, memorial structures, 4 regional theatres, more than 20 museums and museum complexes, 18 public libraries, more than 10 concert halls. Students explore them starting from the first days of studying at the university, which enables them to engage in different areas (civil, patriotic, spiritual, moral, cultural, etc.) in three main ways:

– Familiarising. Students get acquainted with the history and cultural heritage of the region; define their place in the cultural and historical context;

- Integrating. Being included in the social and cultural life of the city students may foster the cultural level, realize creative potential and develop artistic taste;
- Applying. Students may use the regional infrastructure for implementing their own creative projects.

Infrastructure of the region

Museums	<ul style="list-style-type: none"> – M.Yu. Lermontov State Museum-Reserve “Tarkhany” (Penza Region, Belinsky District, Lermontovo Village, 1/1 Bugor st.); – K.A. Savitsky Art Gallery (Penza, 3 Sovetskaya st.); – G.V. Myasnikov Museum of One Painting (Penza, 11 Kirova st.); – Association of State Literary and Memorial Museums of the Penza Region (Penza, 2 Kirova st.); – V.G. Belinsky Museum-Estate (Penza region, Belinsky District, Belinsky, 4 Barysheva st.); – Local History Museum (Penza, 73 Krasnaya st.); – V.O. Klyuchevsky Museum (Penza, 66 Klyuchevskogo st.); – I.N. Ulianov Museum – department of Local History Museum (Penza, 54 Krasnaya st.); – N.N. Burdenko Museum – department of Local History Museum (Penza, 28 Lermontova st.); – Folk Art Museum (Penza, 45 Kuibysheva st.).
Monuments	<ul style="list-style-type: none"> – Victory Monument (Penza, Victory sq.); – Sprout Monument (Penza, Sura River embankment); – First Settler Monument (Penza, Kirova st.); – Afghan Gates Memorial (Penza, Marshala Zhukova sq.); – V.I. Lenin Monument (Penza, Lenina sq.); – M.Yu. Lermontov Bust (Penza, Lermontova sq.); – V.G. Belinsky Monument (Penza, Moskovskaya st.); – A.S. Pushkin Bust (Penza, Pushkina st.); – Clock “Cuckoo” (Penza, Fountain Square).
Historical and architectural sites (churches, cathedrals, monasteries, palaces and parks)	<ul style="list-style-type: none"> – Spassky Cathedral (Penza, 3 Cathedral sq.); – Cathedral of the Assumption of the Blessed Virgin Mary (Penza, 1 Zakharova st.); – St. Innocent of Irkutsk Church (Penza, 4 Perekop st.); – Troitse-Scanov Convent. Cave Convent (Penza Region, Narovchat District, Skanovo village, 1 Monastyrskaya st.); – V.G. Belinsky Park (Penza, 1 Karla Marksa st.); – Olympic Park (Penza, 6 Gagarina st.); – 40th Anniversary Victory Park (Penza, Pobeda Park).
Theatres, concert halls	<ul style="list-style-type: none"> – A.V. Lunacharsky Penza Drama Theatre (Penza, 89 Moskovskaya st.);

	<ul style="list-style-type: none"> – Penza Concert Hall (Penza, 215 Suvorova st.); – V.E. Meyerhold House (Penza, 59 Volodarskogo st.); – Kirillitsa Theatre (Penza, 37 Lermontov st., building 17).
Libraries	<ul style="list-style-type: none"> – M.Yu. Lermontov Library (Penza, 168a Stroiteley av.); – University Library (Penza, 40 Krasnaya st., buildings 3, 7; 68 Chkalova st., building 9; 37 Lermontova st., building 11).
Cinemas	<ul style="list-style-type: none"> – Sovremennik (Penza, 10 Pushkina st.); – Suvorovsky (Penza, 144A Suvorova st.); – Vysshaya liga (Penza, 37 Moskovskaya st.); – October (Penza, 39 Kirova st.); – Berlin (Penza, 152B Stroiteley ave.).
Culture and creativity houses	<ul style="list-style-type: none"> – Culture and Leisure Centre (Penza, 11A Lenina st.); – Youth Centre (Penza, 51 Kirova st.); – Druzhba Folk Art House (Penza, 23 Druzhby st.); – Yunost Culture Centre (Penza, 22B Karpinskogo st.); – Gubernskiy Cultural Development Centre (Penza, 1A Leningradskaya st.); – Regional Folk Art Centre (Penza, 127Ternovsky st.).
Entertainment centres	«Rollerdrom Sports and Entertainment Centre (Penza, 6 Gagarina st., building 1)
Sports centres	<ul style="list-style-type: none"> – Rubin Sports Palace (Penza, 9 Revolyutsionnaya st.); – Diesel Ice Arena (Penza, 163 Okruzhnaya st.); – Olympic Sports Palace (Penza, 39A Antonova st.); – Voeikov Martial Arts Palace (Penza, 22B 40 years of October st.); – Temp Sports and Culture Centre (Penza, 85 Sverdlova st.); – Trud Stadium (Penza, 3A Karla Marksa st.); – Pervomaisky Stadium (Penza, 119 Kalinina st.); – Penza Sports Complex (Penza, 1A Gagarina st.); – Zolotaya Shayba Sport Complex (Penza, 9A Antonova st.).
Forest parks, nature reserves	<ul style="list-style-type: none"> – I.I. Sprygin Botanical Garden (Penza, 2A Karla Marksa st.).

7.11. Networking with organisations, social institutions and educational entities

7.11.1 Networking forms and methods:

1. Implementing an educational programme with the involvement of institutions within the network;
2. Interacting using material and technical resources.

3. Organising network educational events – one-time occasional joint events: campaigns, excursions, practical trainings, internships, etc.

4. Launching network educational projects – joint activity timed to specific learning outcomes.

Networking at the university is implemented through a variety of mechanisms: joint educational programmes, distance learning, independent education quality assessment, public and professional accreditation of educational programmes, research-to-practice conferences, exhibitions, forums, including virtual, etc.

Major organizations and institutions

<p>Educational institutions and social media communities</p>	<p>-Penza State University, Penza, 40 Krasnaya st. Official website: https://pnzgu.ru/ VKontakte: https://vk.com/pnzgu Instagram: https://www.instagram.com/pnzgu/; Multidisciplinary college, Penza State University Official website: https://yurk.pnzgu.ru/ VKontakte: https://vk.com/college58; Instagram: https://www.instagram.com/mk_psu/ -Penza State Agrarian University, Penza, 30 Botanicheskaya St. Official website: https://pgau.ru/; VKontakte: https://vk.com/penz_gau; Instagram: https://www.instagram.com/penzenskiigau/ -Penza State University of Architecture and Construction, Penza, 28 Germana Titova st. Official website: http://www.pguas.ru/ VKontakte: https://vk.com/pguaspnz Instagram: https://www.instagram.com/pguas_official/; -Penza State Technological University, Penza, 1a / 11 Baydukova pr. / Gagarina st. Official website: http://www.penzgtu.ru/ VKontakte: https://vk.com/penzgtu Instagram: https://www.instagram.com/penzgtu - Penza Cossack Institute of Technology (branch of) Moscow State University of Technology and Management (First Cossack University), Penza, 6 Volodarskogo st. Official website: https://mgutupenza.ru/ VKontakte: https://vk.com/mgutupkit Instagram: https://www.instagram.com/mgutupkit/</p>
<p>Religious organizations which represent traditional confessions</p>	<p>- Penza Eparchy of the Russian Orthodox Church, Penza, 1 Cathedral sq.;</p> <p>- Saint Innocent of Penza Eparchy Spiritual and Educational Centre at the Epiphany Church,</p>

	Penza, 2 Oktyabskaya st.; - Prayer House of Apostle Andrew the First-Called - Religious organization of the Church of Jesus Christ of Latter-day Saints in Penza, Penza, 53 Bogdanova st., - Bible Centre of the Penza Region, Penza, 42 Urtskogo st.
Youth organisations	- Berkut Student Sports Club, Penza State University; - Union of Youth of the Penza Region; - Local Orthodox Religious Organization of the parish of the Church of the Ascension in Penza, Penza Diocese of the Russian Orthodox Church; - Autonomous non-profit organization "Airsoft Federation of the Penza Region" - Penza Regional Branch of the Young Guard of United Russia - Penza Social Youth Charity Service "Social youth service" - Penza Regional Youth Organization for Preventing Antisocial Manifestations "Perspective" - Penza Regional Branch of the Russian Student Multidisciplinary Teams Organisation
Radio and television	- Radio Vesti FM; - Radio Express; - Radio Echo of Moscow; - Radio Russia Penza; - Radio Most; - TV channel Penza; - TV channel VGTRK Penza; - TV channel Express; - TV channel 11; - Radio Europa Plus - Radio 101.8 - TV channel Ren; - TV channel Nash Dom; - TV Express
Newspapers, journals, publishing houses	- University Newspaper, Penza, 40 Krasnaya st., building 1, floor 2, office 213; - Penzenskaya Pravda, Penza, 16 Karla Marxa st.; - Editing and Publishing House, Penza, 65/2 Kirov st.; - ProGorod Newspaper, 34 Plekhanova st., floor 3; - Telesem Journal, Penza, 29 Moskovskaya st., floor 5; - Regional Publishing Centre, Penza, 65 Kirova

	<p>st.;</p> <ul style="list-style-type: none"> - Nauka i prosvyashcheniye Publ., Penza, Kirov st., 49, floor 2, office 20; - Nash Dom Publ., Penza, 11E Moskovskaya st.; - ProGorod Publ., 104 Krasnaya st., floor 4, office 414; - Penzenskaya Pravda Publ., Penza, 23 Kuibysheva st.; - Sociosphere Scientific Publishing Centre, Penza, 35 Mira st.;
History, local history and search organisations	<ul style="list-style-type: none"> - Penza Region Organisation of Local Historians; - Local History Museum; - V.O. Klyuchevsky Museum; - Penza Branch of the Russian Search Movement.
Veteran organisations	<ul style="list-style-type: none"> - Penza Branch of the Russian Union of Afghanistan Veterans, Penza, 9 Kalinina st.; - Penza Council of Veterans of War, Labour, Armed Forces and Law Enforcement, Penza, 4 Marshala Zhukova sq.; - City Council of Veterans of War, Labour, Armed Forces and Law Enforcement, Penza, 13 Germana Titova st.; - All-Russian Society of Disabled People, Penza, 17A Bogdanova st.; - Penza Regional Council of War Veterans, Penza, 75 Moskovskaya st.; - Penza House of Veterans, Penza, 9 Sobinova st.; - Regional Committee of Soldiers' Mothers, Penza, 36a Kuraeva st.; - Council for Veteran Affairs under the Governor of the Penza Region, Penza, 65 Kirova st.; - Regional Organisation of the Russian Union of Afghanistan Veterans, Penza, 18a Bogdanova st.
Public educational organisations	<ul style="list-style-type: none"> - Union of Youth of the Penza Region, e-mail: ynews@mail.ru, https://vk.com/smpo58; - Centre for Youth Cooperation, Penza, 17 Volodarskogo st., office 5; - Multifunctional Youth Centre, Penza, 51 Kirova st.; - Penza Regional Branch of the Russian Student Multidisciplinary Teams Organisation, Penza, 51 Kirova st.;

<p>Patriotic organisations</p>	<ul style="list-style-type: none"> - Zaseka youth historical club, Penza, 17 Kolkhozny 3 pr.; - Guard Patriotic Club, Penza, 14 Bekeshskaya
<p>Sports teams and clubs</p>	<ul style="list-style-type: none"> - Sports Training Centre of the Penza Region, Penza, 39-a Antonova st. http://shvsm-penza.ru/ - School of the Olympic Reserve of the Penza Region, Penza, 93 Pugacheva st.93 http://uor-penza.ru - N.A. Lavrova Specialised Children and Youth Sports Gymnastics School of the Olympic Reserve, www.burtasy.ru - Specialised Children and Youth Water Sports School of the Olympic Reserve dvs-sura.ru - Specialised Children and Youth Hockey School of the Olympic Reserve - Horizon Specialised Children and Youth Swimming School of the Olympic Reserve http://58sport.ru
<p>Creativity organisations and culture associations</p>	<ul style="list-style-type: none"> - Ministry of Culture and Tourism of the Penza Region, http://minkult.pnzreg.ru/; <p>Museums</p> <ul style="list-style-type: none"> - M.Yu. Lermontov State Museum-Reserve “Tarkhany”, Penza Region, Belinsky District, Lermontovo Village, 1/1 Bugor st., http://tarhany.ru; - K.A. Savitsky Art Gallery (Penza, 3 Sovetskaya st., penza-art@mail.ru; - Museum of Glass and Crystal, Penza Region, Nikolsk, 21 Komsomolskaya st., museum-nikolsk@mail.ru; - G.V. Myasnikov Museum of One Painting, Penza, 11 Kirova st., tel. 56-14-27; - Association of State Literary and Memorial Museums of the Penza Region, Penza, 2 Kirova st., www.litmuzpenza.ru; - Local History Museum, Penza, 73 Krasnaya st., museum@tl.ru; - V.O. Klyuchevsky Museum, Penza, 66 Klyuchevskogo st., tel. 54-38-01; - Folk Art Museum, Penza, 45 Kuibysheva st.; <p>Theatres and performance venues</p> <ul style="list-style-type: none"> - A.V. Lunacharsky Penza Drama Theatre, Penza, 89 Moskovskaya st., dramapnz@rambler.ru; - Penza Concert Hall, Penza, 215 Suvorova st., http://penzakoncert.ru; <p>State libraries</p> <ul style="list-style-type: none"> - M.Yu. Lermontov Library, Penza, 168a Stroiteley av., tel. 63-44-32, 63-44-35; Penza, 10 Belinskogo st., tel. 63-44-21;

	http://liblermont.ru .
Volunteering organisations	<ul style="list-style-type: none"> - Regional Branch of We Are Together Campaign; - Penza Branch of the Victory Volunteers Organisation; - Association of Green Universities; - Volunteer Corps of Penza State University; - Victory Volunteers All-Russian Movement.
Non-profit organisations. Information and research organisations	<ul style="list-style-type: none"> - Research and Methodology Organisation “Privolzhsky House of Knowledge”, http://pdzpenza.ru; - Quarter Louis Disabled People Organisation, http://kvartal-lui.ru; - PenzaHobby Creative Association General Director Timakova Lyudmila, organizations working with disabled people, http://penzahobby.ru; - Social and Pedagogical Support Children and Youth Organisation “Flammeous” Director Kichatov Mikhail; - Penza Branch of the Trade Union of Education and Science Workers of the Russian Federation, http://profobr58.ru/; - Federation of the trade unions in the Penza Region, http://fppo.ru, https://vk.com/club156540412; - Penza Organization of Practicing Psychologists “Circle of Trust” Director Manchenkova Natalya, https://vk.com/krug_doveriya; - Penza Branch of the All-Russian Youth Organisation “Russian Student Teams”, http://rso58.ru; https://vk.com/rso_penza; - Trade union of Penza State University students, (8412) 36-84-60, https://profstud.pnzgu.ru/, profcom-psu@mail.ru; - Penza Branch of the Russian Military Historical Society, https://rvio.histrf.ru, https://vk.com/rviopenza;

7.12 Staffing

Learning, teaching and mentoring are the most important aspects in the work of the university, institutes and faculties, teaching and administrative staff. The huge workload is concentrated in the academic and social affairs of departments, deputy directors / deans for

academic affairs and mentors. On a voluntary basis, socially significant work is performed by active students.

The basic professional educational programme of higher education was compiled in accordance with the requirements of the Federal State Educational Standard of Higher Education in the study field 13.03.02 Power and Electrical Engineering (Bachelor's degree programme) approved by the Order of the Ministry of Science and Higher Education of the Russian Federation dated February 28, 2018 no. 144 (reviewed), professional standards: PS 16.019 Specialist in operating transformer substations and distribution points and managing operating modes of municipal electrical networks, approved by the order of the Ministry of Labor and Social Protection of the Russian Federation dated April 25, 2023 no. 329n; PS 16.147 Specialist in designing power supply systems for capital construction projects, approved by the order of the Ministry of Labor and Social Protection of the Russian Federation dated August 30, 2021 no. 590n; PS 20.030 Worker for maintenance and repair of cable power lines, approved by the order of the Ministry of Labor and Social Protection of the Russian Federation dated October 3, 2022 no. 605n; PS 20.031 Overhead power line maintenance and repair worker, approved by the order of the Ministry of Labor and Social Protection of the Russian Federation dated June 4, 2018 no. 361n; PS 20.032 Electrical network substation equipment maintenance worker, approved by the order of the Ministry of Labor and Social Protection of the Russian Federation dated August 31, 2021 no. 611n; PS 20.035 worker performing the functions of a dispatcher in the field of operational dispatch control in the electric power industry, approved by the order of the Ministry of Labor and Social Protection of the Russian Federation dated August 31, 2021 no. 137n and agreed with the following representatives of employers:

1. Deputy Chief Dispatcher for Operational Work
Branch of AO Russian Power System Operator
RDO of the Penza Region


I.E. Suchkov

2. Director
OOO «Engineering Production Company»


A.Yu. Soldatov

Person responsible for designing the basic professional educational programme of higher education:

Head of Department of Power and Electrical Engineering

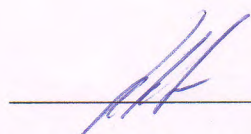

V.N. Ashanin

The programme was approved by the Methodological Committee of the Faculty of Industrial Technologies, Power Engineering and Transport

Record no. 10

« 20 » 06 2024

Head of the Methodological Committee
of the Faculty of Industrial Technologies,
Power Engineering and Transport

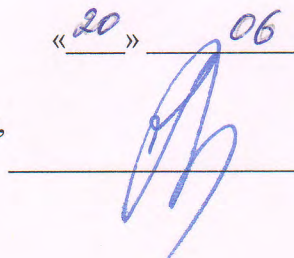

K.V. Lebedinsky

The programme was approved by the Academic Council of the Faculty of Industrial Technologies, Power Engineering and Transport

Record no. 12

« 20 » 06 2024

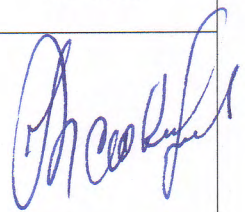
Dean of the Faculty of Industrial Technologies,
Power Engineering and Transport


S.Yu. Kireev

LIST OF AMENDMENTS

to the basic professional educational programme of higher education in the study field 13.03.02
Power and Electrical Engineering

for 2025/2026 academic year:

Component of the basic professional educational programme of higher education	Introduced amendments	Details of the record of the Academic Council of the faculty / institute	Signature of the chairperson of the Academic Council of the faculty / institute
Working programme of the discipline B1.1.1	1. <i>no change</i> 2. ... <i>no change</i>	Record no. <u>1</u> dated « <u>18</u> » <u>09</u> 20 <u>25</u>	
...			
Set of assessment tools for the discipline «...»	1. <i>no change</i> 2. ... <i>no change</i>		
...			

for 20__/20__ academic year:

Component of the basic professional educational programme of higher education	Introduced amendments	Details of the record of the Academic Council of the faculty / institute	Signature of the chairperson of the Academic Council of the faculty / institute
Working programme of the discipline B1.1.1	1. 2. ...	Record no. __ dated «__» __ 20__	
...			
Set of assessment tools for the discipline «...»	1. 2. ...		
...			