**Bachelor degree program abstract in the field of training
 13.03.02 Power Engineering and Electrical Engineering**

*1. Code and name of the field of training, program name.*

13.03.02 Power Engineering and Electrical Engineering, specificity – «Power Supply».

*2. Program educational objectives*: to develop students` general cultural, general professional and professional competences in accordance with the requirements of the educational standard of higher education independently defined by NRNU MEPhI in the given direction of bachelors` training.

Forms and terms of education:

- full-time – training period - 4 years;

- correspondence form of training – training period - 5 years.

Entrance examinations – Mathematics, Physics, Russian.

*3.The description of professional activity of undergraduates of GEP of bachelor course:*

**The area of professional activity of undergraduates includes:** a combination of technical means, techniques and methods of processes implementation: the production, transmission, distribution, conversion, application and energy flows management; development, manufacture and quality control of elements, apparatus, devices, systems and their components implementing the above-mentioned processes.

**The objects of professional activity of undergraduates are:**

 for the electric power industry: electric power stations and substations; electric power systems and networks; systems of power supply of cities, industry, agriculture, transport systems and their facilities; installations of high voltage for various purposes, insulating materials, constructions and means of their diagnostics, lightning and overvoltage protection systems, a means of ensuring electromagnetic compatibility of equipment, high-voltage electrical technology; relay protection and automation of electric power systems; power plants, power plants and complexes based on renewable energy sources;

for electrical engineering: electrical machines, transformers, electromechanical complexes and systems, including their control and regulation; electric and electronic devices, complexes and systems of electromechanical and electronic devices, automatic devices and energy flows control systems; electromagnetic systems and devices of the mechanisms, technological installations and electrical products, primary converters of the measurement systems, monitoring and control of production processes; electrical insulation of electricity and electro technical devices, cable products, wires, electric capacitors, materials and electrical insulation systems of electrical machines, transformers, cables, electric capacitors; electric driveand automation of technological machinery and complexes in various industries; electro-technological installations and processes, installations and electric devices; various types of electric vehicles, automated systems of control and means of ensuring the optimal functioning of the transport systems. elements and systems of electrical equipment of cars and tractors; ship automated electrical power systems, converting devices, electric drives of power, technological and auxiliary installations, their systems of automation, control and diagnostics; electrical power systems, converters and electric drives of power, technological and auxiliary installations, their systems of automation, control and diagnostics in aircraft; power engineering sector and networks of enterprises, organizations and institutions; low and high voltage electrical equipment; potentially dangerous technological processes and production; methods and means of protection of human, industrial facilities and habitats from human impact; staff.

**Types of professional activities**: research and innovation; design and engineering; production and technology; installation and commissioning; service and operation; organization and management.

**Undergraduateprofession**: electrical engineer; power engineer; electromechanicalengineer; engineer-designer of electrical networks

**Employment:** electric stations and substations; electric power plants and complexes based on alternative and renewable energy sources; power system; electrical machines, transformers, electromechanical complexes and systems, including their management and regulation; automatic control and relay protection devices in the electric power industry.

Minimum exam marks for a competitive group: Mathematics – 38, Physics – 40; Russian -38.