

Division: *Institute of Engineering and Technology*

Academic programme: *13.04.02 Power Engineering and Electrical Engineering, Optimization of Developing Power Supply Systems of Industrial Enterprises and Cities*

Mode of study: *full-time*

Programme length: *2 years*

Programme level: *Master's degree*

Language of instruction: *Russian*

Programme description: *This programme trains specialists for research, design-and-engineering, and operation activities in the fields related to the functioning of electric power supply systems.*

Graduates are capable of:

- *optimizing electric power supply systems to save energy, minimize electric power waste, etc.;*
- *solving the issues of reactive power compensation;*
- *solving the issues of building electric power supply systems with consideration to the power quality when feeding: powerful current type converters; electric arc steel-making furnaces; rolling mills, etc.*

In the process of training, students refine their skills in using the main software for 3D modelling, computer-aided calculations, creation of digital models: MATHCAD, MATLAB. Students learn the programming using Python and C++ languages aimed for solving of applied tasks. In addition, students learn the basics of using neural networks to solve problems of electric power supply.

Main programme-specific classes:

- *Modelling in Electric Power Supply Systems*
- *Power Converter Equipment in Electric Power Supply Systems*
- *Emergency Control Automatics in Electric Power Supply Systems*
- *Diagnostics and Monitoring of the Electric Equipment Condition in Electric Power Supply Systems*
- *Issues of Optimization of Electric Power Supply Systems*
- *Controlling the Operation Modes of Electric Power Supply Systems*

Programme manager: *Anna V. Khlopova, Candidate of Sciences (Engineering), Associate Professor of the Department of Power Stations, Grids, and Electric Power Systems*