

**Division:** *Institute of Engineering and Technology*

**Academic programme:** *13.04.02 Power Engineering and Electrical Engineering, Electrical Power Engineering*

**Mode of study:** *full-time*

**Programme cost:** *189 000 RUB*

**Programme length:** *2 years*

**Programme level:** *Master's degree*

**Language of instruction:** *English*

**Programme description:**

*The training is focused on the creation and application of hardware and software tools for controlling energy conversion processes and precise motion in energy, technological, metallurgical, paper-making, machining, hoisting-and-transport and other industrial electrical systems and complexes. This direction gives students the opportunity to interact with large power machines, as well as control machines and robots, design optimal systems and power supplies, as well as energy-saving technologies. Specialists of the direction are in demand in the oil and gas industry and metallurgy, instrument making, mechanical engineering and other science-intensive industries.*

**Objects of professional activity**

- *Software Engineer*
- *Developer of electrical systems and facilities;*
- *Designer of electrical systems and facilities*
- *Service engineer for electric drive and software controls*

**Main programme-specific classes:**

- *modeling of the processes of mutual transformation of mechanical, electrical, thermal energy, the impact of fields on matter;*
- *electrical machines, reliability, diagnostics and operation of electrical equipment, heat transfer in electromechanics;*
- *control systems for electric drives, electromechatronic energy converters, electromechatronic complexes and systems, modeling in electromechatronics;*

- *industrial controllers and program control systems, automation technologies for electrical and technological complexes, power supply of technological complexes;*
- *development of methods and means of generation and distribution of electricity, as well as a system for managing the quality of electricity;*
- *principles and means of building electric drive and electrotechnological systems in the field of principles of building industrial information networks.*

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