

Division: *Institute of Natural Sciences and Mathematics, Department of Physics of Nanoscale Systems*

Academic programme: *11.03.04 Electronics and Nanoelectronics, Nanoelectronics: Design, Technology, and Application*

Mode of study: *full-time*

Programme length: *4 years*

Programme level: *Bachelor's degree*

Language of instruction: *Russian*

Programme description: *In the cycle of general professional disciplines, students gain knowledge in modern areas of development of electronics – micro- and nanoelectronics, as well as the use of computer and electronic technology in the automation of production and communications. Graduates acquire fundamental knowledge about modern materials and components of electronic technology, the physical principles of its operation. Particular attention is paid to training in digital and computer technology, mathematical simulation, programming, design and technology of the production of electronic equipment. Students gain skills in working with scientific and industrial equipment. The acquired knowledge and skills allow graduates to successfully engage in the development, production, maintenance and operation of electronic devices of any complexity – smart sensors, modern medical equipment, research equipment.*

Main programme-specific classes:

- *Circuitry Engineering of Digital Devices*
- *Materials of Electronic Engineering*
- *Theoretical Fundamentals of Electronics*
- *Fundamentals of Electronic Component Base Technology*
- *Fundamentals of Designing an Electronic Component Base*
- *Fundamentals of Electronic Instrumentation Technologies*
- *Introduction to Solid State Electronics*
- *Nanoelectronics*
- *Integrated Electronics*
- *Quantum and Optical Electronics*
- *Programming of Microcontrollers and Microprocessors*
- *Computational Electronics*
- *Computer Networks and Systems*
- *Liquid Crystal Devices in Electronics*
- *Digital Electronic Devices*
- *2D Electronics*

Programme manager: *Aleksandr G. Vorontsov, Doctor of Sciences (Physics and Mathematics), Associate Professor, Head of the Department of Physics of Nanoscale Systems*