

**Annotation**  
**Bachelor's program**  
**14.03.01 Nuclear Power Engineering and Thermal Physics**  
**Research nuclear reactors: Physics and Technologies**

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**1. Brief program description: purpose, duration, supervisor**

**Purpose** - the program was established to contribute to research and education for the application of nuclear science and engineering. This program is an education program with various applications including homeland security, radiation transport methods, nondestructive imaging and detection, advanced nuclear materials, research nuclear reactors thermal hydraulics, as well as nuclear safeguards and nonproliferation focused on research nuclear reactors.

**Duration** – 4 years

**Program mode** – on campus

**Program's supervisor** – Oleg Kochnov, PhD, Doctor of Sciences, Associate professor of Nuclear Physics and Engineering Dept.

**2. Curriculum features, majors and practical training. Attractions.**

The curriculum covers a variety of subjects including radiation interactions, particle diffusion and transport, reactor physics, thermal hydraulics, research and waste management, risk assessment, and radiation protection and dosimetry.

Practice in Resource Centers of the University (Volgodonsk, Novovoronezh, Obninsk). Acquaintance with the equipment of two nuclear power plants, the enterprise for the production of large-scale equipment, as well as the practice of research reactor.

To advance the use of nuclear science and engineering, students will be involved in cutting edge research in many different areas including high performance computing, code benchmarking, advanced research nuclear reactors design, neutron transport methods and their application for simulation of real-life nuclear systems, reactor physics, advanced nuclear fuel design, and nondestructive testing and detection. This program at the University MEPHI strives to attract and develop an outstanding and diverse faculty, student body and staff as well as to provide the best graduate education in nuclear engineering.

**3. Career opportunities**

Many diverse opportunities await graduates of the program as nuclear science and engineering continue to make major contributions to radioisotope production, non-destructive testing as well as radiation detection and measurement and nuclear non-proliferation. These opportunities will continue to grow as we face more challenges in radioisotope production and the expanded use of nuclear technology.