

Annotation
Bachelor's program
14.03.01 Nuclear Power Engineering and Thermal Physics
Nuclear Technologies

1. Brief program description: purpose, duration, supervisor

Purpose - the Nuclear Technologies (NT) program was established to contribute to research and education for the application of nuclear science and engineering. NT program is an education program with various applications including homeland security, power generation, radiation transport methods, nondestructive imaging and detection, advanced nuclear materials, nuclear reactor thermal hydraulics, as well as nuclear safeguards and nonproliferation.

Duration – 4 years

Program mode – on campus

Program's supervisor – Dmitrii Samokhin, PhD, 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, fuel cycle 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 reactor design and fuels, neutron transport methods and their application for simulation of real-life nuclear systems, reactor physics, advanced nuclear fuel design, and nondestructive testing and detection. The NT 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 NT program as nuclear science and engineering continue to make major contributions to electricity 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 energy production and the expanded use of nuclear technology.