

EDUCATION PROGRAMM ANNOTATION
14.04.02 NUCLEAR PHYSICS AND TECHNOLOGY

1. Program title

Radioecology and Radiation Protection

2. Brief description of the program

The program goal: The Master's Program 'Radioecology and Radiation Protection' is aimed at the training graduates in radiation ecology and radiation protection who will be able to work successfully in the fields of nuclear engineering and non-power applications of nuclear and radiation technologies

Duration of training - 2 years

Supervisor of the program – Udalova Alla Alexandrovna, Dr Biology Sci

Department – Department of Nuclear Physics and Engineering

3. Brief description of the curriculum

The Master's Program is an education program for master degree in nuclear physics and technologies. It includes an academic and practical training to form knowledge, skills and expertise in basic nuclear engineering with an emphasis on radiation protection of human and the environment.

The main disciplines that provide student training specific for the educational program are: Radioecology; Dosimetry and radiation protection; Instrumental methods in radioecology and radiation protection; Transportation of nuclear materials; Radiation monitoring; Radiation hygiene; Management of radioactive waste and spent nuclear fuel; Radiation biology; Radiation Chemistry; Environmental safety; Contemporary and prospective nuclear fuel cycles; Non-proliferation of nuclear materials; Nuclear power engineering and the environment; Fundamentals of nuclear fuel cycle technology; Nonelectric application of nuclear technologies.

The graduates have a basic knowledge in nuclear physics and engineering as well as professional knowledge and expertise in the field of radiation ecology and radiation protection. It covers a number of interconnected topics, including radiation dosimetry and protection, environmental safety of nuclear fuel cycle, instrumentation for radiation measurements, radiobiological effect in living matter, radiation chemistry, geochemistry of radioisotopes, radiation monitoring, radioactive waste management, emergency preparedness, etc.

4. Competitive strengths

A unique advantage of the program is a balanced integration of the fundamental technical education with training modules. Training practice is based on Resource Center of the University (the Obninsk branch). To advance and masterize the knowledge and skills, students are involved in up-to-date research activities being realized under the supervision of highly qualified university staff as well as experienced.

5. Career opportunities

Future career can be associated with

- nuclear industry and nuclear fuel cycle
- radiological control in nuclear power plants and other enterprises
- supervising administrative bodies in radiation and environmental safety
- agencies / departments of radiation protection and safety
- radiation and environmental safety in non-nuclear industry (oil and gas, mining, construction industry, etc.)
- decommissioning of nuclear and radiation facilities
- radioactive waste and spent nuclear fuel management