**ANNOTATION**

ofeducational programs

**14.03.02 Nuclear physics and technologies**

**Training profile: Physical radiation materials sciences**

**Program name**: 14.03.02 Nuclear physics and technologies, educational program “Physical radiation materials sciences”.

**Program objectives**: the aim of the educational program “Physical radiation materials sciences” is to prepare engineers for professional activities related to the use of physical foundations of materials sciences at enterprises and research centers working in the field of nuclear energy.

**Term of training** in full-time education 4 years (bachelor).

**Producing Department**: Department of Nuclearreactor materials and radiation safety.

**The area of professional activity**: the scope of professional activity of graduators are the research, development and technologies aimed at creating and testing new structural and fuel materials for nuclear energy and electrical installations, design of experimental facilities, and obtain information about the interaction of radiation with matter improving fuel cycle nuclear power plants.

The program which is planned for training is “Nuclear power technologies of new generation for the period 2010-2020”.

**The objects of professional activity**: the objects of professional activity are materials of energy and physical installations, substances in the condensed state, equipment and installations for research and analysis of materials when carrying out the individual steps of complex high-tech inside and out of reactor experiments using the most modern techniques, processing of research results.

**Features of the curriculum**: the curriculum of the educational program of the bachelor “Nuclear physics and technologies” consists of humanitarian disciplines of the module, natural science module (mathematical analysis, differential equations, integral equations and variational calculus, general physics), general module (safety, material sciences, machine parts and design), training module (materials of nuclear reactors, methods of mechanical testing, the basics of strength calculations, nuclear and radiation safety, basics of the nuclear fuel cycle, fundamentals of continuum mechanics).

Graduators will be able to competently use modern methods of studying physics mechanical properties of materials in remote conditions and research facilities, will know the modern methods of organizing and conducting physical experiments, to apply them in practice. Graduators will receive basic training in the use of computer methods in the experiments and processing the results.

**The list of companies for internship and graduate employment**:

Research work of students: to be held in 6-7 semesters.

Teaching practice is conducted after the second year. Industrial practice is held after the third year. Pre-diploma practice is carried out in the fourth year.

All kind of practices are held at the base department at Research Institute of Atomic Reactor (Dimitrovgrad).

Employment is able mainly in enterprises and research centers of Rosatom State Corporation.

It is possible to work as a teacher of science subjects in schools and colleges.