**Abstract of the programme**

**15.03.02 Chemical engineering and apparatus building**

**Area of training:** 15.03.02 Manufacturing machinery.

**Objective of the programme, general characteristic**: training of bachelors possessing a number of means and methods of creating and efficient operating competitive chemical machines and apparatus in nuclear industry; a number of up-to-date methods of modeling and design of chemical production technological processes for nuclear enterprises.

**Training course duration**: 5 years (full-time and correspondence education and correspondence education).

**Basic department:** the department of mechanical engineering and machines and apparatus for chemical industry of OTI NRNU MEPhI.

**Professional activity field**: the main field of the graduates’ activity is at the nuclear enterprises of Ozersk, mainly FSUE “Mayak” Production Association (Rosatom State Corporation). They can also work at other enterprises and organizations of the town and region with chemical technologies (including housing and communal services). Main types of graduates’ professional activity are research, design, production and technological, organizational and managerial.

**Professional activity objects** are manufacturing machinery, tooling, mechanization and automation facilities for technological processes in chemical engineering, development of manufacturing technological processes and getting on to new technologies, work site arranging and equipping, manufacturing machinery fitting, setting and testing, organization of routine maintenance and complete overhaul.

**Curriculum characteristics**: the curriculum provides for a profound design and technological training, extended computer education from primary skills of machine drawing to modern computer-aided design of CAD/CAM/CAE types, profound studying of all main types of technological processes in chemical engineering, carrying out laboratory practical work in the conditions of the operating production, learning chemical engineering enterprises specifics in nuclear industry, economic education and management and organization skills.

Main basic disciplines:

- mathematics;

- physics;

- chemistry;

- engineering graphics;

- theoretical mechanics;

- fluid mechanics;

- materials science;

- constructional material technology;

- strength of materials;

- theory of mechanisms and machines;

- design basis.

Main special disciplines:

- processes and apparatus of chemical technology;

- machines and apparatus for chemical industry;

- pieces of equipment design and estimation;

- chemical resistance and corrosion protection;

- engineering thermodynamics and thermal fluids science;

- design automation in CAD/CAM systems;

- welding engineering technology;

- chemical engineering processes control systems;

- accuracy rating;

**The basic enterprises for practical training and employment** are FSUE “Mayak” Production Association (Rosatom State Corporation); CJSC “Heat-exchange technologies” Industrial company; USDI "VNIPIET" (Rosatom State Corporation).