**Abstract of the programme**

**15.03.05 Mechanical engineering**

**Area of training:** 15.03.05 Design and technological support of engineering industry.

**Objective of the programme, general characteristic**: training of bachelors possessing the methods of:

- ensuring high-performance operation of technological engineering processes in nuclear industry;

- developing competitive engineering production;

- developing new technological processes and improvement of the operating ones;

- creating new ones and applying modern production processes automation facilities, methods of design and modeling of the equipment and technological engineering processes for nuclear enterprises.

**Training course duration**: 4 years.

**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 Mayak Production Association (PA Mayak), FSUE (Rosatom State Corporation). They can also work at other enterprises and organizations of the town and region with engineering cycle. The main types of the graduates’ professional activity are production and technological, service and operational.

**Professional activity objects** are engineering enterprises and departments, their capital and service equipment, complexes, tool equipment, industrial equipment, design, mechanization, automation and management tools, production and technological engineering processes, means of their technological, tool, metrological, diagnostic, information and management support.

**The 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 engineering processes, carrying out laboratory practical work in the conditions of the operating production, getting the understanding of engineering enterprises specifics in nuclear industry, economic education and management and organization skills.

Main basic disciplines:

- mathematics;

- physics;

- descriptive geometry and engineering graphics;

- theoretical mechanics;

- strength of materials;

- theory of mechanisms and machines;

- machine parts and principle of design;

- materials science;

- hydraulics.

Main special disciplines:

- technological processes in engineering;

- engineering enterprise equipment;

- processes and operations of shaping;

- metal-cutting machine tools;

- mechanical engineering principles;

- mechanical engineering;

- work piece design and production;

- welding engineering;

- chemical engineering;

- tooling;

- cutting tools;

- accuracy rating;

- engineering production processes automation;

- automated design systems of technological processes;

- engineering enterprises economy;

- processes, machines and apparatus for chemical industry.

**The basic enterprises for practical training and employment** are FSUE “Mayak” Production Association (Rosatom State Corporation); JSC GSPI - "UPII OF "VNIPIET"; JSC “Mashproyekt” scientific production enterprise; CJSC “Heat-Exchange and Non-Standard Equipment Plant”; PJSC Radio plant; JSC [Kyshtym Electrolytic Copper Plant](http://www.kmez.ru/eng/about/index.shtml).