**Annotation of the programme**

**18.03.02 Power- and resource-saving processes in chemical technology, petrochemistry and biotechnology (Bachelor programme)**

**Title of the programme:** Machines and devices of chemical productions.

**Objectives of the programme:** providing basic humanitarian, social, economic, mathematical, natural-science and professional knowledge; bachelors' training for successful work in the chosen field of the activity having the universal, subject and specialized competences promoting their professional activity and stability in the labour market.

**Terms of education**: at the full-time department – 4 years, external – 5 years.

**Speciality chair:** Chair of machines and devices of chemical and nuclear productions (3).

**Professional spheres:** making, application and operation power- and resource-saving, ecologically safe nuclear and chemical technologies at the enterprises of the nuclear and weapon complex (NWC) and general engineering, in productions of inorganic substances, main and thin organic synthesis products, polymeric materials, processing of oil, gas and solid fuel products, development of handling methods of radioactive, industrial, household waste and secondary raw material resources.

**Objects of the professional activity:** plants including automated management systems, automated design systems, constructions of sewage treatment and gas emissions, methods and means of environment and its protection evaluation, intelligence systems in chemical technology, petrochemistry and biotechnology.

**Curriculum features:** intense graduates' training for the following types of professional activity: production and technological, organizational and administrative, scientific and research, design.

Main basic and special subjects of the programme are a foreign language; mathematics; physics; informatics; bases of economics and production management; general, organic and inorganic chemistry; engineering and computer graphics; mechanics; thermodynamics and heating engineer; materials science; materials of nuclear power; processes and devices of chemical technology; machines and devices of chemical productions; technology of mechanical engineering; computer-aided design (CAD); technology and equipment of radioactive waste neutralization; designing and calculation of branch equipment elements.

Professionals of such an activity are demanded and have competitive appeal.

**The list of enterprises for the practical training and graduates’ employment:** nuclear and chemical industry enterprises: JSC "Engineering Plant", Electrostal; JSC "Novosibirsk Plant of Chemical Concentrates", Novosibirsk; JSC "Spetsteplokhimmontazh", Seversk; JSC "Sverdniikhimmash", Yekaterinburg; JSC "Siberian Chemical Plant", Seversk; JSC "Tomsk Petrochemical Plant", Tomsk; JSC "Mining and Chemical Combine", Zheleznogorsk; Seversk and Tomsk enterprises.