



Field of Study: **Chemical Technology**

Major: **Technology and design of protective and decorative polymer coatings**

Ivanovo State University of Chemistry and Technology, Russia
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Awarded degree or qualification:	Bachelor
Language of instruction:	Russian (Preparatory Department for studying Russian language is available)
Form of training:	Full-time
Duration:	4 years
Possibility of free training:	Yes (see more)
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1. Programme description

From ancient times to the present day, colour has been closely associated with human life. It is hard to imagine how sad the world painted in gray tones would have been. In everything - from cars, huge ocean and air liners to a variety of everyday goods - you can see the search for colour combinations and contrasts that emphasize the shape and functionality of objects.

Most products manufactured at enterprises need to protect products from corrosion and other types of damage, give a beautiful modern look, create coatings with special properties (smart coatings).

The educational program allows to train highly qualified specialists not only in the field of synthesis of film-forming polymers, pigments of various colours and paints and lacquers based on them, but also it is devoted to studying and developing modern technologies for applying these materials to protected surfaces. The training programme provides knowledge in various fields, in particular, in the field of chemistry and technology of higher molecular compounds, the creation of composite paints and polymer coatings, industrial design and nanotechnology.

2. Programme objectives

The graduate will be able to:

- manage effectively the technological processes of industrial synthesis of film-forming polymers, pigments and creation of composite paint and lacquer materials (PLM) based on them;
- develop/master new technologies for the production of paint and lacquer coatings and polymer coatings;
- carry out the organization of work locations, technical equipment, layout planning;
- perform incoming raw materials control, monitor production discipline;



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- conduct mathematical modeling of processes and objects based on application software packages for scientific research;
- participate in international projects to promote new technologies.

3. The field of professional activity of graduates

The professional activity of a graduate is aimed at the implementation of modern technologies, including nanotechnology, in the production of film-forming polymers, pigments, composite paints and lacquers, as well as polymer coatings based on them. A graduate can carry out professional activities in industrial enterprises of various forms of ownership and in research organizations involved in the research, development and production of film-forming polymers, composite paints and lacquers, as well as polymer coatings.

4. The educational programme prepares:

- bachelors for work, both in the production of paints and lacquers, and their application on painted surfaces, for work in QC (quality control) department laboratories;
- researchers in the laboratory for the creation of advanced materials and new technologies in the field of paint and lacquer coatings .

Students enrolled in this programme will become elite graduates who are able to work and conduct research in the field of polymer chemistry and related industries that implement new high-tech technologies, including nanotechnology, which is currently the basis of technical progress.

5. Major disciplines:

- "Chemistry of monomers and raw materials for coatings"
- "Chemistry and physical chemistry of polymers"
- "Physics of polymers"
- "Technology of film-forming substances"
- "Chemistry and technology of pigments"
- "Equipment and fundamentals of polymer production design"
- "The technology of polymeric coatings"
- "Colour science and colouristics"
- "Design and restoration of polymer coatings"
- "Fundamentals/Basics of film formation of polymer coatings"
- "Physical and chemical bases for producing pigmented paint and lacquer coatings"
- "Computer modeling of surfaces"
- "Modeling of chemical and technological processes"