

## Education

SSTU annually confirms its status as one of the leading universities in the region, training specialists in technical ecology. Implementation and development of the environmental management system (EMS) is one of the most important tasks for environmental protection.

In 2023, during the inspection control, SSTU confirmed the compliance of the implemented EMS with the requirements of GOST R ISO 14001-2016 regarding secondary general, secondary vocational, higher and additional vocational education, research and development.

For the first time in 2023, the medical activities carried out by Samara Polytech's sanatorium were certified.

Academic programs aiming at Environmental preservation and ecology problems include 4 bachelor's degree programs and 7 master's degree programs:

08.03.01 — "Construction", specialization "Water supply and sanitation". Duration of study is 4 years. Graduate qualification is a bachelor.

08.03.01 — "Construction", specialization "Hydraulic engineering". Duration of study is 4 years. Graduate qualification is a bachelor.

18.03.02 — "Energy and resource-saving processes in chemical engineering, petrochemistry and biotechnology" in specialization "Environmental protection and rational use of natural resources". Duration of study is 4 years. Graduate qualification is a bachelor. This educational program is included in the list of priority areas for the modernization and technological development of the Russian economy and is accredited by the International Agency for Quality Control in Education and Career Development (AKKORK) (2021-2025) and the European Chemistry Thematic Network Association (ECTN) (2021-2026).

20.03.01 — "Technosphere Safety", specialization "Environmental Engineering Protection". Duration of study, full-time — 4 years. Graduate qualification — Bachelor's degree.

08.04.01 — "Construction", specialization "Water Supply of Cities and Industrial Enterprises". Duration of study — 2 years. Graduate qualification — Master's degree.

08.04.01 — "Construction", specialization "Improvement of Water Purification and Sludge Treatment Technologies". Duration of study — 2 years. Graduate qualification — Master's degree.

08.04.01 — "Construction", specialization "Water Disposal and Wastewater Treatment". Duration of study — 2 years. Graduate qualification — Master's degree.

08.04.01 — “Construction”, specialization “Hydraulic Engineering Construction”. Duration of study — 2 years. Graduate qualification — Master’s degree.

08.04.01 “Heating, ventilation and air protection systems”. Duration of study is 2 years. Graduate qualification is a master's degree.

18.04.02 — “Energy and resource-saving processes in chemical engineering, petrochemistry and biotechnology”, master's program “Industrial ecology and rational use of natural resources”. Duration of study is 2 years. Graduate qualification is a master's degree. The program was developed within the framework of the international TEMPUS project “Advanced M.Sc. Program in Ecology for the Volga-Caspian Basin” in close cooperation with the universities of Stuttgart, Warsaw, Parma and Barcelona. The program is accredited by the international agency for quality assurance in education and career development (AKKORK) (2021-2025) and the European Chemistry Thematic Network Association (ECTN) (2021 - 2026).  
20.04.01 — «Technosphere Safety», master's programs «Monitoring of territories with high anthropogenic load», «Technosphere Safety in the Oil and Gas Industry» and «Engineering Environmental Protection and Rational Use of Natural Resources». Duration of study full-time — 2 years. Graduate qualification — master's degree.

In 2023, the number of students in specified bachelor's and master's degree programs reached 607 people (28 employer-sponsored students).

SSTU received a license for educational activities in the direction 33.05.01 "Pharmacy" together with the company "Ozon Pharmaceuticals", for which a pharmaceutical research and production center was opened for R&D in the field of pharmaceuticals, medicine, medical devices and cosmetics and documentary support of all aspects of the activities of pharmaceutical production and the pharmaceutical quality system control department. In 2023, 40 retraining and advanced training programs were implemented by order of JSC RCC Progress, KuibyshevVodokanalProekt LLC, JSC Transneft-Privolga, JSC Transneft-Druzhba, NNK-Samaraneftegaz LLC, JSC Neftegorsk Gas Processing Plant, Interregional Office of the Federal Service for Supervision of Natural Resource Management (Rosprirodnadzor) for the Samara and Ulyanovsk Regions, JSC Chisty Gorod, JSC Ecology, GC Promutilizatsiya, JSC Samaraneftgaz, PJSC T Plus and individuals. 18 people are studying under the programs for training highly qualified scientific personnel (4 of them on a contractual basis) in the following scientific specialties: 1.5.15 - Ecology; 1.6.21 - Geoecology; 2.1.4 - Water supply, sewerage, construction systems for water resources protection.

In 2023, Samara Polytech University strengthened its position in the social, scientific and educational areas of training highly qualified personnel in the field of environmental safety.

SSTU House of Scientific Collaboration named after N.N. Semenov offers a wide range of additional general educational and developmental programs:

- Burn to create;

- Chemistry of the elements;
- Young physiologist's laboratory;
- Energy of the future;
- Green chemistry;
- Reverse engineering in industry;
- Bioengineering. The cell as a universal structural and functional unit of all living things;
- Geoecology;
- Cognitive chemistry and basics of nanochemistry;
- Basics of chemical monitoring of agricultural landscapes;
- Food chemistry;
- Chemistry of the elements;
- Chemical experimentarium;
- General ecology;
- School of bioengineering: a plant organism as an object of bioengineering;
- Ecological and geographical practical training;
- Energy of the future;
- Green chemistry;
- See NANO;
- Basics of veterinary science and biotechnology;
- Basics of agricultural chemistry;
- School of the cheerful milkman;
- Modeling of energy saving systems for residential buildings;
- Industrial ecology.

In total, 375 school students have been trained in general education programs aimed at developing environmental awareness, acquiring environmental knowledge,

skills, and developing environmental culture with the grant support of the Ministry of Education of the Samara Region.

As part of career guidance work with future applicants, additional education classes in the direction of "General and Industrial Ecology" for students of grades 5-8 of schools in Samara Region have been opened and are successfully operating at the "Boiling Point" of SSTU of Samara Region.

The educational process is provided by 85 academic staff, including 12 doctors of science and 37 candidates of science. The teaching staff of SSTU consists of experienced specialists who have deep knowledge and practical experience in their field. This academic potential contributes to the formation of an interdisciplinary approach to learning, which is important in the conditions of the modern world, where the interaction of science, technology and ecology is becoming increasingly relevant. Thus, 106 courses in the bachelor's, specialist's and master's degree programs are devoted to solving interdisciplinary problems within the framework of sustainable development goals. Having acquired the relevant competencies, graduates have a broad theoretical and practical base, high adaptive potential, which allows them to successfully engage in scientific research, engineering, design, management and organizational work in almost all sectors of the economy, in the field of education and science, in all structures of environmental services and administrative bodies from the municipal to the federal level. As part of the educational process, students are trained not only in theoretical aspects, but also in the practical application of knowledge in real projects aimed at preserving nature and sustainable development. These skills provide them with the opportunity not only to implement innovative solutions, but also to actively participate in the development of sustainable development strategies, ensuring harmonious interaction between economic, environmental and social aspects. In a rapidly changing labor market, where specialists who can effectively adapt to new challenges and use modern technologies are in demand, graduates become important experts with critical thinking and the ability to interact interdisciplinary. They are able to analyze complex systems and offer comprehensive solutions, which is especially important in the context of globalization and environmental changes that pose serious challenges to society. In view of this, in 2023, more than 71% of final qualifying work were completed on the basis of existing industrial enterprises and man-made facilities. The graduation in 2023 amounted to more than 150 bachelors and masters. Graduates were successfully employed as specialized specialists, heads of services and state inspectors, confirming the high competitiveness of training at the OP SSTU. All graduates were employed as specialized specialists, heads of departments, and government inspectors at the following enterprises: JSC Kuibyshev Oil Refinery, JSC Novokuibyshev Oil Refinery, PJSC KuibyshevAzot, OOO SIBUR PoliLab, JSC Samaraneftegaz, Novokuibyshevsk Oil and Additives Plant, JSC Otradnensky Gas Processing Plant, JSC Novokuibyshevsk Petrochemical Company, and leading ecologists and chemists at enterprises such as PJSC Samaraneftekhimproekt, JSC Giprovostokneft, JSC Transneft, and Rosneft. The inter-industry nature of graduate training determines the wide geography of employment: the Offices of Rosprirodnadzor and Rostekhnadzor for the Samara Region, the Ministry of Forestry, Environmental Protection and Nature Management of the Samara Region, divisions of PJSC Gazprom, OJSC "Privolzhskie Magistralnye Nefteprovody", PAO "Samaraneftekhimproekt", AO "Giprovostokneft", Kuibyshevsky, Novokuibyshevsky and Syzransky oil refineries, NGDU Buzulukneft, Sergievskneft,

OOO "SamaraNIPIneft", OOO "NPO Ekobezopasnost", administrations of cities and districts of the Samara region, etc. Students and teachers of Samara State Technical University actively participate in various events, forums and meetings, exchange knowledge with colleagues from other countries and regions, which enriches their understanding of global trends in the field of ecology and rational use of natural resources.