

Educational Activities

Samara Polytech is one of the leading universities in the region that provides training for technical environmental specialists. Educational activities in the field of environmental management, ecology and sustainable development are carried out at such departments as "Chemical Technology and Industrial Ecology", "Water Supply and Sanitation", "Environmental Protection and Hydraulic Engineering Construction", "Technosphere Safety and Certification of Production".

In 2021 students were trained in the areas of ecology and environmental management in 4 undergraduate programs, 4 master's programs and 28 retraining and advanced training programs, including:

- "Energy and Resource Saving Processes in Chemical Technology", "Petrochemistry and Biotechnology", majoring in Environmental Protection and Rational Use of Natural Resources. The term of study is 4 years. Bachelor is their graduate qualification. This educational program is included in the list of priority areas for modernization and technological development of the Russian economy. Since 2014, it has been included in the annual directory "The Best Educational Programs of Innovative Russia".

- "Technosphere safety", programme "Engineering Environmental Protection". The term of study is 4 years. Bachelor is their graduate qualification.

- "Construction", programme "Water supply and sanitation". The term of study is 4 years. Bachelor is their graduate qualification.

- "Construction", programme "Environmental protection and hydrotechnical construction". The term of study is 4 years. Bachelor is their graduate qualification.

- "Energy and Resource Saving Processes in Chemical Technology, Petrochemistry and Biotechnology", master's program "Industrial Ecology and Rational Use of Natural Resources". The term of study is 2 years. Master is their graduate qualification. The program was developed within the framework of the international project TEMPUS "Advanced M.Sc. Program in Ecology for Volga-Caspian Basin" in close contact with the universities of Stuttgart, Warsaw, Parma and Barcelona.

- "Technosphere Safety", master's programs "Monitoring of Territories with High Anthropogenic Load" and "Technosphere safety in the oil and gas industry". The term of study is 2 years. Master is their graduate qualification.

- "Construction", programme "Water supply and sanitation". The term of study is 2 years. Master is their graduate qualification.

- "Construction", programme "Environmental Protection and Hydrotechnical Construction". The term of study is 2 years. Master is their graduate qualification.

In 2021 more than 600 people studied at these higher education programs (bachelor's and master's) including 16 students as part of targeted training for enterprises in the region.

In 2021 educational Bachelor and Master programs "Energy and Resource Saving Processes in Chemical Technology" were internationally accredited by the Agency for

Quality Control in Education and Career Development (AKKORK) (2021-2025) and the European Chemistry Thematic Network Association (ECTN) (2021 - 2026)

Postgraduate programs are presented in scientific specialties "Ecology", "Geoecology", "Water Supply, Sewerage, Building Systems for Water Protection Resources".

The Institute of Additional Education of Samara Polytech has developed and is implementing the following educational programs jointly with industrial partners:

- Ensuring environmental safety by managers (specialists) of general business management systems;
- Ensuring environmental safety by managers (specialists) of environmental services and environmental control systems;
- Ensuring environmental safety during work in the field of waste management, etc.

In 2021 in order to train and improve the industrial safety skills of employees of oil enterprises, a VR simulator was developed to work out the procedure for performing operations for launching and receiving cleaning and diagnostic tools (VR simulator "Checkpoint SOD") jointly with the partner Transneft PJSC. The task of constructing a virtual simulator was solved taking into account professional requirements in the field of industrial safety.

Combining the intellectual resources of Samara Polytech with industrial enterprises and organizations is focused on the forming a network system for advanced training of personnel at the intersection of ecology and engineering. Network interaction is organized mainly in the format of scientific and educational consortiums consolidating the resources of their members for the implementation of joint environmental projects, namely: REC "Engineering of the Future", "Nedra", "International Association for Professional Additional Education", and also created on the initiative of Samara Polytech in 2021 of the consortium "Ecology of the Volga River Basin".

The educational process is provided by 81 faculty members, including 12 Doctors of Sciences and 35 Candidates of Sciences. A feature of educational activities in the field of environmental management, ecology and sustainable development is its intersectoral nature. Acquiring 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 authorities from the municipal to the federal level. Therefore, in 2021, about 80% of theses of undergraduates and graduates were focused on solving specific practical problems of the real sector of the economy.

In addition, one of the students' projects dedicated to the development of a set of measures aimed at reducing the amount of waste and environmental education was included in the TOP-10 of the All-Russian competition of student environmental projects "My Green University" in 2021. The victory in the competition allowed the university to become the only representative of the Samara region in the association of green universities in Russia.

183 bachelors and masters graduated in 2021. Graduates were employed as ecologists, managers, government inspectors, leading specialists and heads of services at oil and gas processing and chemical enterprises, such as Kuibyshev Refinery, Novokuibyshev Refinery, KuibyshevAzot, SIBUR PolyLab, Samaraneftegaz, Novokuibyshevsk Plant of Oils and Additives, Otradnensky Gas Processing Plant, Novokuibyshev Petrochemical Company, and leading ecologists and chemists of

enterprises such as Samaraneftekhimproekt, Giprovostokneft, Transneft, Rosneft. The intersectoral nature of the training of graduates determines the wide geography of employment: Rosprirodnadzor and Rostekhnadzor Offices for the Samara Region, the Ministry of Forestry, Environmental Protection and Nature Management of the Samara Region, subdivisions of Gazprom, Privolzhskie Trunk Oil Pipelines, Samaraneftekhimproekt, Giprovostokneft, Kuibyshev, Novokuibyshev and Syzran refineries production plants, Buzulukneft, Sergievskneft, SamaraNIPIneft, Ekobezopasnost, administrations of cities and districts of the Samara region, etc.

Environmental Management Education

4 Bachelor Program

- 08.03.01** - "Civil Engineering", Specialization "Environmental Protection and Hydraulic Engineering" and "Water Supply and Sanitation", 4 years.
- 18.03.02** - "Energy and Resource Saving in Chemical Technology, Petrochemistry and Biotechnology", Specialization "Environmental Protection and Rational Use of Natural Resources.", 4 years.
- 20.03.01** - "Technospheric Safety", Specialization "Engineering Environmental Protection", 4 years.

4 Master Program

- 08.04.01** - "Civil Engineering", Specialization "Nature Preserving and Hydrotechnical Construction" and "Water Supply and Water Disposal", 2 years.
- 18.04.02** - «Energy and Resource Saving in Chemical Technology, Petrochemistry and Biotechnology», Specialization», Master Program «Industrial Ecology and Rational Use of Natural Resources», 2 years.
- 20.04.01** - «Technospheric Safety», Master Programs "Monitoring of High Anthropogenic Involvement Territories" и "Technospheric Safety in Oil and Gas", 2 years.

Since 2014 **18.03.02** Program has been included in Annual Catalogue «**Best Academic Programs for Innovative Russia**» **18.04.02** Program was developed within **TEMPUS «Advanced M.Sc. Program in Ecology for Volga-Caspian Basin»** together with partner universities of Stuttgart, Warsaw, Parma and Barcelona. The Programs are the high-priority fields for Russia's Technology and Economy Development.

Both programs are recognized by **International Accreditation Organizations**

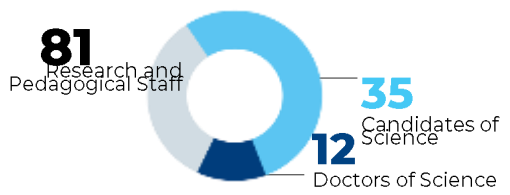


3 Post-Graduate Program

- 1.5.15** - Ecology
- 1.6.21** - Geo-Ecology
- 2.1.4** - Water Supply, Water Sanitation, Water Preservation Constructions

28 Retraining and Advanced Training Programs

Education Provided



600+ Students
16 Employer-Sponsored Education Students

80% Implemented Thesis Projects in Ecology
183 Bachelor and Master Graduates

Samara Polytech Student Project included in



Samara Region Leading University graduating experts in Ecology and Technologies



VR-Simulator of Chambers for Launching and Receiving Cleaning and Diagnostic tools

Specified VR-Simulator for Industrial Safety Purposes
«Transneft»

Combining Intellectual Resources of Samara Polytech and Industrial Enterprises is focused on creating Network System for advanced training in Ecology and Engineering.

Networking is organized mainly in consortium format



Samara Polytech initiated "Volga River Ecology" Consortium



Partners

