



SATBAYEV UNIVERSITY

History, educational and scientific activities

The History of the Kazakh National Technical University after K.I. Satpaev is inextricably connected with the history of our country, its culture and system of higher education.

In 30-ies of XX century there was an urgent need of developing higher technical education in the country in order to eliminate the technical and economic backwardness of the national economy.

October 20, 1933, Kazakh Mining and Metallurgical Institute (KazMMI) with two departments was organized by the Resolution of the Council of People's Commissars of the USSR "On the training of personnel for Kazakhstan" in Almaty, the capital of Kazakhstan.

Six main stages can be distinguished in the development of one of the oldest educational institutions of the Republic of Kazakhstan:

- 1934-1960 years – Kazakh Mining and Metallurgical Institute (KazMMI);
- 1960-1994 years – Kazakh Polytechnical Institute (KazPTI);
- From 1994 – Kazakh National Technical University (KazNTU).
- KazNTU was named after the outstanding scientist, *Academician Kanysh Imantaevich Satpaev* in 1999 with the governmental order of the Republic of Kazakhstan due to its special merits in the preparation of engineering and technical professionals of the country;
- July 5, 2001, the University was assigned a special status by the Decree of the President of the Republic of Kazakhstan;
- October 5, 2017 Kazakh National Research Technical University was named Satbayev University.



Academician Kanysh Imantaevich Satpaev

At Satbayev University the educational activity is delivered in ten schools:

- School of Geology and Petroleum Engineering after K. Turysov;
- Mining and Metallurgical School after O. Baykonurova;
- School of Industrial Engineering after A. Burkitbaev;
- School of Information and Telecommunication Technologies;
- School of Chemical and Biological Technologies;
- School of Architecture and Construction;
- School of Project Management after E. A. Turkebayev;
- The Engineering School of High Technologies;
- School of Base Education after A. Mashani;
- School of Distance Education.

Satbayev University research is supported by government research projects, commercial contracts and international organizations. Our scholars conduct research on the main and priority areas of science and technology, which are included in six clusters listed below.

Materials science cluster:

- Nanomaterials and nanotechnologies;
- Chemical engineering (oilfield chemistry, oil and gas chemistry);
- Materials science (programmable properties of materials);
- Metallurgy.

IT cluster:

- Big data & Machine Learning;
- Artificial intelligence, neurointerfaces and semantic systems;
- Smart-systems;
- 3D printing;
- Robotics.

Renewable energy cluster:

- Renewable sources of energy and resources;
- Solar panels;
- Hydrogen energy;
- Wind generators;
- Solar collectors;
- Cogeneration.

Biotechnology cluster:

- Biomaterials;
- Biomedicine (drug delivery systems).

Earth science cluster:

- Water resources;
- Geoecology;
- Geology;
- Ecology.

Extraction cluster:

- Uranium industry;
- Extraction and processing;
- Oil and gas business.

Satbayev University is realizing Program of International Accreditation and have 21 accredited academic programs in engineering education. The university cooperates with ABET, Accreditation Agency of US (www.abet.org), ASIIN, Accreditation Agency of Germany (www.asiin.de), Accreditation Center of Association of Higher Engineering Education of Russia ([http:// www.ac-raee.ru](http://www.ac-raee.ru)) and other international agencies.

At national level the university has successfully passed institutional accreditation at National Accreditation Center of Kazakhstan (www.nac.edu.kz), at international level – institutional evaluation at European Universities Association (EUA – www.eua.be).



SCHOOL OF CHEMICAL AND BIOLOGICAL TECHNOLOGIES

This school is one of the leading schools of Satbayev University, founded in January, 2016, as School of Chemical Engineering. Soon after joining the Department of Biotechnology, it was re-named to the Institute of Chemical and Biological Technologies.

The structure of the Institute includes 3 departments:

- Chemical Technology;
- Applied Chemistry;
- Biotechnology.

Department of Chemical Technology

In 1994 on the basis of the Department of Physical and Analytical Chemistry (Kazakh Polytechnic Institute after V. Lenin) it was organized the new Department of Macromolecular Compounds (Polymers science), later transformed into the Department of Chemical Technology of Oil Refining, Gas and Polymers, which became part of the School of Geology and Oil and Gas Business named after K. Turysov, with the aim to prepare the scientific, technical and engineering staff of wide profile in the field of chemical technology.

The Department was organized on the initiative and with direct participation of academician NAS RK E.M. Shaikhutdinov, in cooperation with leading Russian, UK and Italy universities with the aim to prepare the scientific-technical and engineering staff of wide profile in the field of chemical engineering. The creation of this department and the new specialties were dictated by the accelerated development of oil and chemical industry of Kazakhstan, the intensive development of new oil fields and the wide use of petrochemical products in various sectors of national economy. Over the years the Department has released more than one generation of graduates who successfully are working in the chemical and oil and gas industries of the Republic of Kazakhstan.

Since January, 2016, when the K.I. Satpayev Kazakh National Research Technical University and Kazakh-British Technical University have joined, the department was reorganized into the Department of Chemical Technology.

At present the Department of Chemical Technology provides a three-level training of students in specialty “Chemical Technology of Organic Substances”, “Chemical Technology of Inorganic Sub-

stances” (bachelors, masters and Ph.D. educational programs) and two-level training in specialty “Petrochemicals” (masters and Ph.D. studies).

The Department of Chemical Technology is the leader in training of specialists in the field of petrochemical and oil and gas refining sector in Kazakhstan. It has also extensive international links with universities in EU, USA and Asia, as well as partnerships with leading representatives of industry in the field of oil, gas and chemical sectors: “Atyrau oil refinery plant” LLP, “Pavlodar petrochemical plant” LLP, “Kazakh gas refining plant” LLP, “Amangeldi gas refining plant” LLP, the “Fluor Corporation” company, “Tengizchevroil” LLP, “Intergas Central Asia” JSC, “Independent center of oil products expertise (ORGANIC)” LLP.

Department of Applied Chemistry

The Department of Applied Chemistry is one of the leading educational and scientific units in Satbayev University.

The Department has been established in 1934 as a division of Kazakh Mining and Metallurgical Institute. Its creators were outstanding USSR and Kazakhstan scientists who have led the Department over the years.

In 1964 it has been decided to organize two separate departments based on the Department of Chemistry: the Department of General Chemistry and the Department of Physical and Analytical Chemistry.

From 2000 the Department existed as a structural division of Al-Mashani Natural Science and Humanities Institute, in 2010 it became a Department of Institute of High Technologies and Sustainable Development and from 2016 the Department is a part of the Institute of Chemical Engineering.

Department of Applied Chemistry provides fundamental training in chemical subjects for the students and also in a distant learning. Courses are held in Kazakh, Russian as well as in English. Under the guidance of staff of the Department, university students and pupils of Almaty and Almaty region are actively involved in annual National and International olympiads in chemistry.

Department of Biotechnology

The Department of Biotechnology, recently created department in Satbayev University, has joined the School of Chemical and Biological Technologies in 2017.