

# **KPI**

The National Technical University of Kyiv (Kyiv Polytechnic Institute) is one of the oldest and biggest higher educational institutions in Ukraine. It was a leading technical school in Eastern Europe.

Was founded on August 31, 1898. First rector was Professor I.Kirpichev.

Four faculties (mechanical, chemical, agricultural, civil engineering) with 360 students enrolled. The Polytechnic graduated its first 84 engineers in 1903. The head of the examination board was Dmitry Mendeleev, a chemist who invented classification of chemical elements.

The rapid economic growth required a new-type of technical school for training engineers and for being a technological and scientific research center. The state did not allocate any money from the budget and the funds raising campaign was launched. The money was donated by wealthy businessmen and public organizations.

The prominent architect I. Kitner was commissioned to design the buildings of the new school.

About 30 thousand student. 2 thousand full and associate professors provide a high-quality tuition.

A lot of young people from different countries get their education at the Technical University in Kyiv. The University has close economic relations with foreign partners. The most active international scientific and technological cooperation is carried out by the University departments with partners from China, Germany, Turkey, Vietnam, Jordan and others.

In recent years a number of new faculties have been setup: aviation and space systems, management and industrial marketing, linguistics, law, sociology. The introduction of liberal arts faculties makes it possible for students to receive two degrees within the period of studies.

The State Polytechnic Museum of Ukraine was opened in one of the oldest buildings of KPI and some pieces of KPI old-time equipment used for teaching purposes were placed there as museum exhibits.

## **Ukraine**

Ukraine is one of the largest countries of Europe.

On December, 1, 1991 Ukraine became an independent sovereign state and the president was elected by direct vote. Now Ukraine has its own territory the

highest and local bodies of state power and the government, its own national emblem, state flag and anthem. The population of the Ukraine is more than 46 million people. Most of its territory consists of plains. Mountains are situated at the West and South of the country.

President is the head of the state. He is also Commander-in-Chief of Armed Forces of Ukraine. The Supreme Council is the highest legislative body in the state. The Cabinet of Ministers of Ukraine is the highest executive and administrative organ of the state. The highest organ of Judicial power of Ukraine is the Supreme Court.

The Hero-city of Kiev is a capital of the Independent Ukraine. It is a great political, administrative, scientific, cultural and educational center with a population of approximately three million inhabitants. Kiev was founded more than 1500 years ago. Ukrainian Supreme Council, president and the Cabinet of Ministers are located in Kiev.

It is situated on the banks of the Dnipro River. About universities.

Kiev's monuments of the past attract a lot of visitors. They are impressed by Kiev-Pechersky Monastery which stands on the green hill above the Dnieper. In the park of Immortal Glory there is a Tomb of Unknown Soldier, over which an eternal fire burns.

There are a lot of museums in Kiev: the Historical Museum, the Museum of Ukrainian Art, the Museum of Russian Art, the Museum of Western and Oriental Art, Shevchenko Museum, Lesya Ukrainka Memorial Museum and others. Kiev is a center of Ukrainian culture. Many research institutes and higher educational establishments are to be found here. It is famous for its theatres and concert halls. Khreschatyk is the main street in Kiev. It is not very long, but it is wide and straight. A lot of people go to Khreschatyk every day.

## **USA and Washington**

The United States is one of the largest countries in the world. The whole name of the United States is United States of America. For short, the country is often called the USA. There are fifty states and district of Columbia.

The United States of America lies in the central part of the North American continent between the two oceans: the Atlantic Ocean to the east and the Pacific Ocean to the west.

The USA consists of three separate parts. They are the Hawaiian Islands, situated in central part of the Pacific Ocean, Alaska separated by the Canadian territory and the rest major part of the USA.

The Great Rocky Mountains run north and south. There are two of the world's longest rivers in the USA. One is the famous Mississippi. The Missouri, one of the Mississippi's many long branches, is about that long too.

There are many big cities and towns in the USA. New York, San Francisco, Washington, Chicago, Los Angeles are the biggest of them.

The USA is a highly, developed industrialized country. It has very powerful industries, advanced technologies and science. Electronic and electric engineering, transport, communication and machine-tool industries can be found almost in all large cities of the USA. The USA is a federal republic.

The Government of the US is composed of three branches — executive, legislative and judicial. (The executive branch sees that laws are carried out. The legislative branch makes new laws. And the judicial branch makes sure that the laws and actions of the other branches agree with the Constitution.)

The beautiful city of Washington, District of Columbia is the capital of the United States and the center of its government. In white stone and marble buildings surrounded by green parks, thousands of people are working for national government.

The city was founded in 1790 and named after the first US president. The city industry is not well developed because its main output are laws and government decisions. Washington is the residence of the President and the Congress of the United States, all government departments and other institutions.

Washington is a large scientific and cultural center where there are many research institutes, five universities, the National Academy of Science and the Library of Congress. There are also two very important buildings here — the Capitol (the seat of Congress) and the White House (the President's residence).

The third well-known building — Pentagon, the residence of the US Military department, is situated in the suburbs, to the south of the Potomac.

## Science in Ukraine

The Academy of Science of Ukraine includes many outstanding scientists and research workers famous for their important discoveries and inventions in nuclear physics, chemistry, biology, etc. They have made a great contribution to the world science for the benefit of our country. Among them are Sergiy Korolyov, Mykola Skliphosovsky, Volodymyr Vernadsky, Yevhen Paton and a lot of others whose names are familiar to us.

**Serhiy Pavlovich Korolyov** (1907-1966) is the famous scientist and designer of space-rocket systems. He was born in the city of Zhytomir in the family of a teacher. Many people regard him as a representative of the Russian people. However, S. Korolyov is Ukrainian.

He is known to be an outstanding creator of the practical space engineering. From 1927 he worked in the aircraft industry. In 1930, without giving up his job, he graduated from the Moscow Bauman Higher Technical School. After he had met Tsiolkovsky and studied his ideas, Korolyov became a rocket enthusiast. He was one of the founders of modern space-rocketry engineering. Korolyov trained many scientists and engineers who are now leading the work in research institutes and designing bureaus which specialize in the sphere of space-rocketry engineering.

In 1933 the first experimental rockets were made and tested. Korolyov took part in this work. Beginning with 1957 the first Earth satellites in the world were put into orbit with the help of the systems he had designed. The spaceship in which man first flew into space, was made under his guidance.

The prominent surgeon and scientist **Mykola Skliphosovsky** (1836-1904) was born in Moldova and was brought up in a charity-school in Odesa. After successful graduating from the University he wrote his thesis and became a professor of the Medical Academy in Petersburg. He was one of the organizers of the surgical school in Russia.

M. Skliphosovsky liked Ukraine and often visited Odesa and other Ukrainian towns. In 1871 he bought an estate in the outskirt of Poltava and rested there in summer. Then he removed to Poltava and worked as a physician at the regional hospital. It should be noted that he took care about poor people. He treated them free of charge and tried to create favourable conditions in the hospital. A new school was built for poor children on his initiative and his daughter was a teacher there.

**Volodymyr Vernadsky** (1863-1945) was the first President of Ukrainian Academy of Sciences. He graduated from Saint Petersburg State University. V. Vernadsky was a Ukrainian and Soviet mineralogist and geochemist who is considered one of the founders of geochemistry, biogeochemistry and of radiogeology. He was the first in our country to introduce the spectral method for the solution of geochemical problems.

**Yevhen Paton** (1870-1953) is another great scientist whose name is known all over the world. He was the first to apply electric welding in bridge construction. He carried out research on fundamentals of welding, how to calculate the strength of welded structures, and the mechanization of welding processes. During World War II Paton supervised the design and production of equipment and technology for automated welding of special steels for tanks, bombs and other military hardware. In 1934 Paton organized the Research Institute of Electro-welding at the Academy of Sciences.

So, as we see, Ukraine has a lot of outstanding people whose contribution to Ukrainian science was great and whose names will forever go down in history of the world civilization.

## **Constitution of Ukraine**

Governed by the Act of Ukraine's Independence of August 24, 1991, the Verkhovna Rada of Ukraine on behalf of the Ukrainian people adopted the Constitution — the Fundamental Law on June 28, 1996.

It asserts that Ukraine is a sovereign and independent, democratic, social, legal state. It is a Unitarian state with single citizenship.

Ukraine is a republic. The people are the only source of power.

The land, mineral raw materials, air space, water and other natural resources which are on the territory of Ukraine are objects of the property right of Ukrainian people.

The capital of Ukraine is Kyiv.

The Constitution states that every person has the right to the free development of his/her personality. Citizens have equal Constitutional rights and freedoms and are equal before the law. There are no privileges or restrictions based upon race, color of skin, political and other beliefs, gender, ethnic and social origin, property, ownership, position, place of residence, language, and religion.

The articles of the Constitution guarantee the rights of life, free choice of residence, work, rest, education, social security, housing, health protection, medical care and medical insurance, legal assistance, a safe and healthy environment.

The Constitution outlines the structure of the national government and specifies its powers and duties. Under the Constitution the powers of the government are divided into three branches — the legislative which consists of the Verkhovna Rada, the executive, headed by the President, and the judicial, which is led by the Supreme Court.

The parliament - the Verkhovna Rada - is the only body of the legislative power in Ukraine.

There are 450 people's deputies who are elected for a term of four years on the basis of universal, equal and direct suffrage by secret ballot.

The Verkhovna Rada's main function is making laws.

The Verkhovna Rada adopts the State Budget for the period from January, 1 to December, 31 and controls the execution of it. The monetary unit of Ukraine is the Hryvnia.

The President of Ukraine is the head of the state and speaks on behalf of it. He is elected directly by the voters for a term of five years with no more than two full terms.

The highest body of the executive power is the Cabinet of Ministers. It is responsible to the President and is accountable to the Verkhovna Rada. It carries out domestic and foreign policy of the State, the fulfilment of the Constitution, as well as the acts of the President, develops and fulfils national programme on the economic, scientific and technological, social and cultural development of Ukraine.

Justice in Ukraine is exercised entirely by courts.

The Constitution defines the territorial structure of Ukraine. It is composed of the Autonomous Republic of Crimea, 24 regions, districts, cities, and districts in cities, settlements and villages. Cities of Kyiv and Sevastopol possess a special status determined by law.

The Constitution of Ukraine consists of 15 chapters, 161 articles.

The day of its adoption is a state holiday — the Day of the Constitution of Ukraine.

## **Science in Great Britain**

Science in Great Britain has a long history, producing many important figures and developments in the field. Major theorists from the UK include Isaac

Newton whose laws of motion and illumination of gravity have been seen as a keystone of modern science and Charles Darwin whose theory of evolution by natural selection was fundamental to the development of modern biology. Major scientific discoveries include hydrogen by Henry Cavendish, penicillin by Alexander Fleming, and the structure of DNA, by Francis Crick and others. Major engineering projects and applications pursued by people from the UK include the steam locomotive developed by Richard Trevithick and Andrew Vivian, the jet engine by Frank Whittle and

the World Wide Web by Tim Berners-Lee. Scientists from the UK continue to play a major role in the development of science and technology and major technological sectors include the aerospace, motor and pharmaceutical industries.

England and Scotland were leading centers of the Scientific Revolution from the 17th century and the United Kingdom led the Industrial Revolution from the 18<sup>th</sup> century, and has continued to produce scientists and engineers credited with important advances.

The UK plays a leading part in the aerospace industry, with companies including Rolls-Royce playing a leading role in the aero-engine market; BAE

Systems acting as Britain's largest and the Pentagon's sixth largest defence supplier, and large companies including GKN acting as major suppliers to the Airbus project. Two British-based companies, GlaxoSmithKline and AstraZeneca, ranked in the top five pharmaceutical companies in the world by sales in 2009 and UK companies have discovered and developed more leading medicines than any other country apart from the US. The UK remains a leading center of automotive design and production, particularly of engines, and has around 2,600 component manufacturers.

Scientific research and development remains important in British universities, with many establishing science parks to facilitate production and co-operation with industry. Between 2004 and 2008 the UK produced 7% of the world's scientific research papers and had an 8% share of scientific citations, the third- and second-highest in the world (after the United States and China and the United States



respectively). Scientific journals produced in the UK include Nature, the British Medical Journal and The Lancet.

## **Higher education in Great Britain**

After finishing secondary school or college you can apply to a university, polytechnic, college of education or you can continue to study in a college of further education. The academic year in Britain's universities, Polytechnics, Colleges of education is divided into 3 terms, which usually run from the beginning of October to the middle of December, the middle of January to the end of March, from the middle of April to the end of June or the beginning of July.

There are 46 universities in Britain. The oldest and best-known universities are located in Oxford, Cambridge, London, Leeds, Manchester, Liverpool, Edinburgh, Southampton, Cardiff, Bristol and Birmingham. Good A-level results in at least 2 subjects are necessary to get a place at a university. However, good exam passes alone are not enough. Universities choose their students after interviews. For all British citizens a place at a university brings with it a grant from their local education authority.

English universities greatly differ from each other. They differ in date of foundation, size, history, tradition, general organization, methods of instruction and way of student life. After three years of study a university graduate will leave with the Degree of Bachelor of Arts, Science, Engineering, Medicine, etc. Some courses, such as languages and medicine, may be one or two years longer. The degrees are awarded at public degree ceremonies. Later he/she may continue to take Master's Degree and then a Doctor's Degree.

The 2 intellectual eyes of Britain – Oxford & Cambridge Universities – date from the 12 & 13 centuries. They are known for all over the world and are the oldest and most prestigious universities in Britain.

In the nineteenth and the early part of the twentieth centuries the so-called Redbrick universities were founded. These include London, Manchester, Leeds, Liverpool, Sheffield, and Birmingham. During the late sixties and early seventies some 20 'new' universities were set up. Sometimes they are called 'concrete and glass' universities. Among them are the universities of Sussex, York, East Anglia and some others.

During these years the government set up 30 Polytechnics. The Polytechnics, like the universities, offer first and higher degrees. Some of them offer full-time and sandwich courses (for working students). Colleges of Education provide two-year courses in teacher education or sometimes three years if the graduate specializes in some Particular subjects. Some of them who decide to leave school at the age of 16 may go to a further education college where they can follow a course in typing, engineering, town planning, cooking, or hairdressing, full-time or part-time. Further education colleges have strong ties with commerce and industry.

There's an interesting form of studies which is called the Open University. It's intended for people who study in their own free time and who 'attend' lectures by watching TV and listening to the radio. They keep in touch by phone and letter with their tutors and attend summer schools. The Open University students have no formal qualifications and would be unable to enter ordinary universities.

Some 80,000 overseas students study at British universities or further education colleges or train in nursing, law, banking or in industry.

**My department**

**My future speciality**