

The first online International Polytechnic Winter School

Despite the coronavirus pandemic, the fifth International Polytechnic Winter School has begun. All programs of one of the largest international projects of Polytechnic University will take place entirely online. This year more than 150 international students from more than 20 countries will take part in the school.

Until the end of January, SPbPU will run 21 programs in six areas. Participants will begin studying engineering and natural sciences, information and digital technologies, civil engineering, energy, business and management, the Russian language and culture. The successful completion of the courses will result in certificates of international standard with ECTS credits, which participants will be able to use in their home universities.

“The International Polytechnic Winter School is taking place online for the first time. The programs presented in the project are a concentrate of this year’s most successful and sought-after courses, in particular the International Polytechnic Summer School. Despite the new format, foreign audiences show considerable interest in SPbPU programs. It is very important for us that students not only get new knowledge but also that the International Polytechnic Winter School becomes a place of communication for participants from different countries, a platform for cooperation and exchange of new ideas,” commented Dmitry ARSENEV, SPbPU Vice Rector for International Affairs.



The [“Space Technologies: fundamentals”](#) module was specially adapted for the International Polytechnic Winter School. Course leader, director of the Higher School of Applied Physics and Space Technologies Elena Velichko emphasized that the program was created so that students of all levels of training could take part in it.

“The summer school module, which traditionally takes place in July, focuses on more complex issues of space technology. However, we received so many requests from students with no basic knowledge of the field that we decided to create a special module as part of the International Polytechnic Winter School. Despite the lack of entry knowledge requirements, we managed to maintain the practical focus of the winter school and the implementation of student projects on nanosatellite development. Thus, the participants will get practical skills of operating real small spacecrafts and knowledge of various physical fundamentals and technical principles of the equipment in space,” noted Elena Velichko.

In 2021, the International Polytechnic Winter School prepared several modules devoted to the study of [artificial intelligence](#), [big data](#), and [machine learning](#).

“Gone are the days when analysts used to collect and sort data manually; now it’s done with computers. Besides, computers are used for all kinds of statistical analysis - describing and analyzing data and predicting future trends. The two programs, Industry 4.0 and Education 4.0, jointly propose to apply theoretical knowledge and use human thinking to explore patterns and predict the development of situations. Our courses on big data, machine learning, and artificial intelligence are devoted to obtaining skills in developing predictive models,” commented Vyacheslav POTEKHIN, module leader, associate professor at the Higher School of Cyberphysical Systems and Control, director of the SPbPU-FESTO MSC.

Traditionally, the programs on business and management remain in demand among foreign audiences. The [“Technology Entrepreneurship”](#) module is held within the framework of the International Polytechnic Summer and Winter School for the ninth time and for the second time - in the online format. Remarkably, the interest of students from all over the world in this area is only growing.

“Technological entrepreneurship is an actively developing field in Russia and the world. It is at the heart of global changes in society, which is now all permeated with new technologies. SPbPU NTI Center “New Production Technologies” and the Graduate School of Technological Entrepreneurship, which is part of it, actively form and support a unique ecological environment for the development of technological entrepreneurship in an international context. We follow the needs of the market and the needs of production, building competencies, and all necessary resources to prepare globally competitive specialists of a new generation (“engineering special forces” and technological entrepreneurs).

During two weeks of online school students will be able to form ideas that are not just interesting in terms of technology development, but also quite realistic for today's market, as it already happened at the previous school. If interested in developing their real projects, students from all over the world will be able to come to the Graduate School of Technological Entrepreneurship and bring their projects to life. There are already students from Russia, Finland, Latvia, Mexico, and other countries studying at the Graduate School of Technological Entrepreneurship," said Vladimir SCHEGOLEV, module leader, associate professor, Vladimir SHCHEGOLEV, Director of the GSTE, IAMT.

In 2021, as part of the International Polytechnic Winter School two courses will be held jointly with foreign partners: together with SOKENDAI University Polytechnic will hold the program of ["Plasma physics and controlled fusion"](#), and together with the University of Lorraine and the International Network in Sport and Health Sciencethe module of ["Sports Management and Marketing."](#)

And, of course, the organizers of the International Polytechnic Winter School have prepared a rich cultural program, which will also be held online. Participants will enjoy an interactive tour of the SPbPU campus, an online quiz on Russian history, and a virtual tour of the Hermitage.

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