



INTELLIGENT SYSTEMS

International Master's Degree Program in English in Information Technology and Mechatronics with Double degree option

Key information about the study program in Saint-Petersburg , Russia



www.eng.spbstu.ru

Why Master's Degree Program in Information Technology and Mechatronics at Peter the Great St. Petersburg Polytechnic University?

- Graduates of this program have great opportunities to be employed in Russian and international engineering and automation companies as well as to continue their education in international PhD programs.
- In two years candidates may receive two diplomas: from SPbPU and from Leibniz Universität Hannover (Germany).
- Unique opportunities for international mobility.
- Master's degree program "Intelligent Systems" is fully delivered in English.
- World-class professors from SPbPU and Leibniz Universität Hannover (Germany).



Peter the Great St. Petersburg Polytechnic University

In 2010 SPbPU became a "National Research University", also known as Polytech — a recognized Russian leader in the field of higher engineering and economic education. Nobel Prize winners P. L. Kapitsa, N. N. Semenov, Zh. I. Alferov — are just a few names among hundreds of talented scientists whose activities are connected with Polytech.

Institute of Computer Science and Control Systems offers multilevel education in field of computer technologies development and control systems. Educational process is based on advanced fundamental training in fields of informatics and programming, microelectronics, information security, automatic control systems, system analysis and control, distributed computing and computer networks, information measuring systems, ecological monitoring systems, computational mathematics and modeling.

KEY FACTS

▶ Admission requirements	Candidates are required to hold a Bachelor's, Specialist's or Master's degree in related subject areas. Candidates' background in mechatronics, mechanical engineering, electrical engineering and information technologies would be an asset. All applicants must demonstrate English language proficiency at B+ level.
▶ Admission tests	Examination in the field of informatics and computer science and interview in English language with program coordinator.
▶ Admission procedure	Application deadline — June, 30. Application deadline for Double degree program — May, 31. Applicants may find additional information concerning admission at the official web-sites of SPbPU www.spbstu.ru and www.eng.spbstu.ru .
▶ Program starts	Autumn semester — September, 1
▶ Duration of program	2 years
▶ Degrees awarded	Master of science (MSc)
Tuition fee	for Russian students — 190 000 RUB / year for foreign students — 260 000 RUB / year



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Curriculum

COMPULSORY COURSES

- Intelligent Systems
- Methods of Optimization
- Knowledge Management and Knowledge Engineering
- Software Development Technology
- Modern Problems of Computers and Information Science
- Mathematical Modeling and Simulation
- Computing Systems
- History and Methodology of Informatics and Computer Science
- Neuroinformatics and Neurotechnologies
- Micro- and Nanosystems*
- Machine Dynamics*

SCIENTIFIC AND RESEARCH WORK

- Scientific and Research Work
- Project theses based on Scientific and Research Work
- Master's Theses Completion

ELECTIVE COURSES: ONE DISCIPLINE SHOULD BE CHOSEN FROM EACH GROUP:

- Group A
 - Intelligent Computing
 - Distributed Databases
- Group B
 - Cognitive Multiagent Systems
 - Intelligent Control Systems
- Group C
 - Softwaretools*
 - Computer Security Systems
- Group D
 - Production of Electronic Systems*
 - Speech Technologies
- Group E
 - Electrical Drives*
 - Image Processing

THE FINAL CERTIFYING EXAMINATION

All disciplines marked by * are necessary for obtaining the degree of Master of Science in Mechatronics (Leibniz Universität Hannover, Germany).

MSc in Information Science and Computer Engineering

The program is conducted with the participation of key professors of SPbPU and Leibniz Universität Hannover (Germany).

All lectures and examinations are conducted in English.

Objective of the program

The objective of the program is to prepare Master of Science that possess knowledge of state-of-art and new trends of automation and intelligent robotics and skills in developing control systems and technologies.

KEY ADVANTAGES

1. Upon successful completion of the course according to this program, students have opportunity to get two diplomas of a Master's degree:
 - Master's degree in Information Science and Computer Engineering (from the SPbPU) and
 - Master of Science in Mechatronics (from Leibniz Universität Hannover, Germany).
2. Practical training, laboratory works and research work are conducted in laboratories equipped with modern facilities provided by companies Siemens AG, Festo Didactic, Oracle and etc.
3. The Program is realized in cooperation with leading Russian and international companies (Siemens, SAP, General Motors, State Unitary Enterprise "Vodokanal of St. Petersburg", LLC "KINEF") and branches of the Russian Academy of Sciences in organizing internships, project activities and employment assistance.

Duration and format

Two years (4 semesters). This program allows realising the model "two diplomas in two years": First and second semesters take place in SPbPU, third and fourth semesters take place in Leibniz Universität Hannover (Germany).

In Leibniz Universität Hannover program's title is "International Mechatronics."

Total workload

120 credits at the minimum.

TEACHING METHODS

Lectures and seminars, case studies, practical studies connected with the subject of lectures, an applied research project.

PARTNERS AND ORGANIZATIONAL PRACTICE



1. Leibniz Universität Hannover (Germany), officially the Gottfried Wilhelm Leibniz Universität Hannover, is a public university located in Hannover, Germany. Founded in 1831, it is one of the largest and oldest science and technology universities in Germany.

SIEMENS

2. Siemens AG is a German multinational engineering and electronics conglomerate company headquartered in Munich, Germany. It is the largest Europe based electronics and electrical engineering company.



3. SAP AG is a German multinational software corporation that makes enterprise software to manage business operations and customer relations. Headquartered in Germany, with regional offices around the world, SAP is the market leader in enterprise applications in terms of software and software-related service.



4. General Motors Company is an American multinational automotive corporation headquartered in Detroit, Michigan, and among the world's largest automakers by vehicle unit sales, employing 202,000 people and doing business in some 157 countries.