



KEY FACTS

▶ Admission requirements	Candidates are required to hold a Bachelor's degree in Energy Technology, Power Machines, Power Engineering or an equivalent degree according to the educational system of the country they represent, all applicants must demonstrate English language proficiency at B+ level.
▶ Admission tests	Examination in the field of energy technology and interview in English language with programme coordinator (option - via Skype).
▶ Admission procedure	Written online application. Application deadline – June, 30. International applicants may find additional information concerning admission at the official website of the Department coordinating the program: www.nnhpe.spbstu.ru/en/category/foreign-student/ .
▶ Program starts	Autumn semester — September, 1st
▶ 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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Read more: www.nnhpe.spbstu.ru/en/

MASTER OF SCIENCE IN TECHNOLOGY

ENERGY TECHNOLOGY

International Master's Degree program in English
with Double degree option

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



www.eng.spbstu.ru

- Master's Degree program "Energy Technology" is fully delivered in English.
- World class professors from SPbPU and leading Russian and other leading Russian and foreign universities.
- Unique opportunities for international mobility. Taking semester abroad at academic partners of SPbPU.
- Double Degree option.



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.

The Institute of Energy and Transport Systems comprises the following two study areas: the Electromechanical Branch and Power Machinery Construction Branch.

Power Machinery Construction Branch was organized on the basis of The Faculty of Power Engineering founded in 1934. Scientists and graduates from the Faculty made an enormous contribution to the development of power engineering and national defense capacity. Presently the branch is one of the leading training centers for specialists in sphere of heat-and-power engineering, power and transport engineering industry.

Curriculum

1st SEMESTER (30 ECTS)

► Compulsory Courses

- English for Technical Communication (2 ECTS)
- Modeling of Process Engineering (4 ECTS)
- Innovation Management in Industry (4.5 ECTS)
- Theory of Hydrostatic Machines (3.5 ECTS)
- Power Machines (6 ECTS)
- Waste Heat Recovery Techniques (4 ECTS)
- **Group A (6 ECTS):** Numerical Methods in Heat and Mass Transfer or Heat and Mass Transfer Theory

2nd SEMESTER (30 ECTS)

► Compulsory Courses

- English for Technical Communication (2.5 ECTS)
- History and Philosophy of Science (2.5 ECTS)
- Modern Problems of Science and Industry in Power Engineering (5 ECTS)
- Energy Systems Engineering (6.5 ECTS)
- Computer Technologies in Science and Industry (2.5 ECTS)
- Modelling of Vaporization Processes (5 ECTS)
- Renewable Energy: Resources and Technologies (6 ECTS)

3rd SEMESTER (30 ECTS)

► Compulsory Courses

- Steam Boilers (6 ECTS)
- Maintenance Management (4 ECTS)
- Energy Efficiency and Energy Saving in Industry (5 ECTS)
- Combined Cycle Power Plants (5 ECTS)
- Thermal Power Plants (6 ECTS)
- Bioenergy Technology Solutions (4 ECTS)

4th SEMESTER (30 ECTS)

► Compulsory Courses

- Scientific and Research Practice (12 ECTS)
- Pedagogic Practice (3 ECTS)
- Scientific and Research Work. Master Thesis Completion (15 ECTS)

The Final Certifying Examination 3 ECTS.

Master thesis has to be defended in front of committee consisting of professors and corporate representatives.

MSc in Energy Technology

The Master's Degree Program in Energy Technology includes a wide array of energy studies aimed to fundamental preparation and practical training.

The program is conducted with the participation of key professors of Peter the Great St. Petersburg Polytechnic University and other leading Russian and foreign universities. All lectures and seminars are conducted in English.

Objective of the program

The master degree program has been developed to train highly qualified professionals capable to solve complex engineering and management tasks in the world energy industry. Upon graduation participants will have acquired the knowledge about modern energy systems, innovation technologies, modern energy equipment and its operation. Fundamental understanding of the sciences and technology related to energy production, conversion, utilization and conservation will be in demand in the future professional career.

KEY ADVANTAGES

1. The program provides our students with:
 - extensive interaction between lecturers and students during scientific and research work;
 - the profound knowledge and wide network of international contacts for further careers in top positions in energy companies;
 - tours to industrial facilities.
2. The program gives foreign students the opportunity to study in international and multinational academic environment, be involved in extracurricular activities at the University.
3. Unique opportunities for international academic mobility. One semester abroad in one of the partner universities.

Duration and format

2 years, classes are held 3–4 times a week

Total workload

120 ECTS credits

TEACHING METHODS

The program aims to develop practical skills and professional competences in the field of:

- advanced knowledge of thermodynamics;
- basics of design of thermal power plants;
- development of energy efficient technologies and solutions in energy industry;
- modeling of processes in power machines;
- preparing of scientific research work.

Best students will be offered Double Degree options with Lappeenranta University of Technology (Finland).

PARTNERS AND ORGANIZATIONAL PRACTICE



1. Lappeenranta University of Technology, Finland. Strategic focus areas of this university are green energy, technology and the sustainable value creation, and the international role as a hub of Russian relations.



2. University of Hannover, Germany. This university is a member of nine leading Institutes of Technology in Germany.



3. TGC-1 is the leading producer of electricity and heat in the North-West region of Russia and the second largest territorial generating company in Russia in terms of installed capacity.



4. South-West Power Plant is the energy facility of a new generation equipped with the state-of-the-art equipment, modern energy systems and process automation.