





MASTER OF SCIENCE DEGREE PROGRAM
**“SUSTAINABLE THERMAL AND ENERGY
SYSTEMS”**

25/06/2020

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Institute of Energy Efficiency and
Hydrogen Technologies

Aim of the program



is to prepare qualified specialists with professional knowledge, skills and abilities to solve the following tasks in the field of industrial heat and power systems and social sphere:

- modern power engineering and heat installations development and maintenance;
- promising heat-and-power systems and equipment development and implementation;
- rational use of fuel and energy resources at industrial enterprises and utilities;
- to conduct a feasibility study with justification of the priority directions for solutions of resources saving problems with a combination of centralized and autonomous power supply including the renewable energy sources usage;
- advanced life support systems creation at enterprises and housing ;
- mathematical modeling of studied objects via modern computer programs.

Disciplines and curriculum



The program consists of 17 modules and teaching practice, predegree practice, production practice, the research work and the state exam.

Compulsory modules are:

- Fundamentals of Systems Analysis and Design
- Energy saving contemporary issues and sustainable development
- Impact Pathways Analysis
- Economy and business planning in industrial power engineering.
- Automated control systems for technological processes in heat power engineering, heat engineering and heat technologies
- Computer aided design engineering
- Heat and mass transfer equipment at enterprises
- Hydrogen and electrochemical power systems
- Statistical methods for scientific research
- Philosophy and Innovative Thinking in Engineering
- Russian Language



Disciplines and curriculum



Elective courses are:

- Energy audit and energy saving at industrial enterprises
- Indoor microclimate analysis and design
- Fuel supply systems
- Thermal engineering software
- Mathematical modeling of processes and equipment
- Mathematical modeling and optimization of energy systems



Key points



- studies in English
- scholarships and awards
- wide range of areas of expertise
- plenty of resources to do a profound research
- individual approach and on-going assistance
- scientific research activities, regular participation in seminars, conferences, and forums
- joint project and research activities with teachers' engagement
- communication with experts from leading energetic and engineering companies
- own dormitory for students.



Skills and career opportunities



Graduates of the program are involved in the decision making or policy planning that will deliver sustainable, energy efficient systems to the global market.

Our students are welcome to participate in research projects together with local and international companies: Gazprom, RusHydro, Siemens, Mosenergo, MIPC, LUKOIL, Power machines and others.



Essentials



General requirements	<ul style="list-style-type: none">- Degree of Bachelor / Specialist / Master in a related area of expertise;- English language proficiency at B+
Start of studies	September, 1
Duration of studies	2 years (4 semesters)
Total ECTS	120 ECTS
Degree	MSc



Contact information



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