

DESCRIPTION OF ACADEMIC PROGRAMME TAUGHT IN RUSSIAN AND ACCEPTING INTERNATIONAL STUDENTS FOR THE FOREIGN-LANGUAGE SUSU WEBSITE

Division: *Institute of Architecture and Construction*

Academic programme: *08.04.01 Construction Engineering*

Mode of study: *part-time, partially through distance learning*

Programme length: *2.5 years*

Programme level: *Master's degree*

Language of instruction: *Russian*

Programme description: *Access to clean water is an issue of vital importance in modern society, and specialists in this field play a key part in the distribution, storage and treatment of water. Master's degree students in the Water Resources Engineering programme will learn to use the advanced methods of measuring, modelling, and analysing of data for the sustainable development of water resources in artificial and natural environments. In addition, they will learn various modern methods of treatment of natural water and waste water.*

Why choose this programme? For people to live in a comfortable and safe environment, our society is in a big and permanent need of the distribution, storage and treatment of water. Specialists, such as water supply and disposal engineers, are required to ensure the functioning of these systems. For instance, they can determine the amount of the available water, calculate the flow in the main water supply network, and model the water runoff in residential areas. Production of potable water and waste water treatment require long-term solutions that need advanced technical know-hows in the field of data measurement, modelling and analysis (including machine learning and artificial intelligence).

Master's degree programme in Water Resources Engineering offered by South Ural State University pays much attention to digitalization, which is expected to gain more and more importance for the water sector. Therefore, students will learn to use very helpful methods of digital data collection and interpretation in the water economy.

The programme students will gain both theoretical and practical skills in the field of water treatment, storage and transportation.

Distance learning is also used within this programme, what helps expand the possibilities of training.

Main programme-specific classes:

Geoinformation Systems in Water Use

- *Modern Technologies in Water Conditioning*
- *Intensification of the Operation of Sewage Treatment Facilities*
- *Hydro-technical Facilities*
- *Resource-saving Technologies in Water Supply and Disposal*
- *Natural and Sustainable Systems of Waste Water Treatment*
- *BIM Modelling in Design of Water Supply and Disposal Systems*
- *Water Supply and Sewage System of Low-rise Settlements*
- *Technologies of Natural Water Sludge Treatment*

Programme manager: *Head of the Department of Town Planning, Engineering Networks and Systems, Doctor of Sciences (Engineering), Associate Professor Dmitriy V. Ulrikh*

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