

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: *2.1.4 Water Supply, Sewerage, Construction Systems of Water Resource Protection*

Mode of study: *full-time*

Programme length: *4 years*

Programme level: *postgraduate studies*

Language of instruction: *Russian*

Programme description: *Graduates of this programme for training researchers and teaching staff become specialists conducting studies in the following fields:*

- 1. Creation of the scientific foundation and mathematical modelling of the systems of water supply and disposal for settlements, regions, industrial enterprises, power supply facilities, agricultural facilities, and territorial industrial complexes, while also developing and implementing the methods of optimizing the systems in terms of their economic, technological and environmental aspects.*
- 2. Quality of natural water and waste water; methods of determining the certain components of pollution; patterns of the processes of their interaction in water bodies and in the water economy systems; predicting the changes in the water quality in natural and artificial water bodies.*
- 3. Methods of natural water and waste water treatment; process flow diagrams and designs of the operated facilities, plants, apparatus, and mechanisms.*
- 4. Methods of treatment of the natural water and waste water sludge; designs of the operated facilities, plants, apparatus, and mechanisms.*
- 5. Use of coagulation agent, flocculants, sorbents and other agents for natural water and waste water treatment, and for treatment of mud and sludge.*
- 6. Resource- and energy-saving processes in the water economy systems.*
- 7. Economic, technological and environmental efficiency of the water economy systems in cities, at industrial complexes and production enterprises, and optimization of design solutions of the construction of new and reconstruction of the existing systems.*
- 8. Use of new structural materials for the systems of supply, distribution, disposal and treatment of natural water and waste water.*
- 9. Stability of the water economy systems in the context of emergency situations and negative effects from natural and technogenic phenomena.*
- 10. Methods of analyzing, calculating, and optimizing the indicators of stability, reliability and safety of operation of the systems of water supply, water disposal and water resource protection.*

Main programme-specific classes:

- *History and Philosophy of Science*
- *Foreign Language*
- *Major-specific discipline*

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

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