

## 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:** *1.6.21 Geoecology*

**Mode of study:** *full-time*

**Programme length:** *3 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. Study of the composition, structure, properties, processes, physical and geochemical fields of the Earth's geospheres as the habitat of human beings and other organisms.*
- 2. Natural environment and indicators of changes in it caused by unforced natural and human economic activities (chemical and radioactive contamination of biota, soil, rocks, surface and ground water).*
- 3. Development of the scientific foundation of rational use and protection of water, atmospheric, land, biological, recreational, mineral, and energy resources of the Earth.*
- 4. Geoecology aspects of sustainable development of regions, of functioning of natural-and-technical systems. Optimization of the interaction between the natural and technogenic subsystems.*
- 5. Development of the theory, methodology, and methods of integrated engineering survey for geoecological characteristics of the natural-manmade environment.*
- 6. Dynamics, mechanisms, factors, and patterns of development of hazardous natural, technogenic and natural-technogenic processes; evaluation of their activity, hazards and risks of manifestation. Development of the methods and technologies of prompt detection and prediction of occurrence of catastrophic natural-technogenic processes, their aftermath, and preventive measures to reduce it; engineering protection of territories, buildings and facilities.*

7. *Geoecological analysis of the impact from the regulation of stream runoff on aquatic, nearshore, and terrestrial ecosystems, and substantiation of the ways of preservation and rehabilitation of aquatic and terrestrial ecosystems.*

8. *Geoecological aspects of water-system design. Studying the impact from hydraulic engineering construction on the changes in the condition of aquatic and terrestrial ecosystems. Development of scientific-and-methodological foundation of the ecological substantiation of choosing spots for construction of water reservoirs and reducing their negative effects on aquatic ecosystems.*

9. *Scientific foundation of organizing the geoecological monitoring of natural and technogenic systems and ensuring their environmental safety. Modelling of geoecological processes and the consequences of economic activity for natural complexes and their certain components. GIS technologies and information systems in geoecology.*

10. *Resource-saving, sanation and remediation of lands; disposal of production and consumption wastes, including those generated by mining, minerals dressing and processing, construction, economic activity, and housing and communal services implementation.*

**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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