



**FACULTY
OF ECOLOGY**



NATURE MANAGEMENT

MASTER'S PROGRAMME DEGREE



PROGRAM ADVANTAGES

- ✔ The program is based on the experience of environmental specialists from different countries of the world, not only the USCO-members, and covers foreign experience in many areas of modern environmental management.
- ✔ Practical teachers from different countries are involved in creating the program and conducting the classes.
- ✔ The program integrates massive open online English courses on key issues of environmental safety and the efficient use of resources, which, in addition to professional knowledge, can improve language training.
- ✔ Lectures and master classes by leading experts in the field of industrial and agricultural nature management, environmental safety, joint creative projects and conferences are regularly held.
- ✔ The opportunity to participate in the student exchange program with partner universities from USCO countries and to get acquainted with life and culture of foreign countries.



STUDYING PROCESS

120 credits.

Lectures, practical classes and independent work, industrial and research practices.



ENVIRONMENTAL RISK MANAGEMENT

- The concept of risk and environmental risk.
- The main types of risks and general principles for their assessment.
- Theoretical foundations of risk analysis.
- Methods of analysis and risk assessment.
- Environmental risks in the design of facilities.
- Environmental design.
- Project risks, their minimization and the need to consider in the analysis of the sustainability of investment projects.
- The concept of environmental safety in industry and the legal framework for its maintenance.
- The role of environmental risk analysis in investment design.
- The concept of environmental and economic risk.
- Risk factors.
- Methods for assessing environmental and economic risks.
- Man-made risks and their assessment.



ENVIRONMENTAL NORMS AND REGULATIONS

- Environmental norms and standards as tools for environmental management in housing and communal services.
- The role of regulation in ensuring the sustainable development of environmental and economic systems.
- The combination of management tools and the effectiveness of their use.
- Stability of natural and natural-technogenic systems.
- Influencing factors.
- The reactions of organisms and ecosystems to impact.
- System of regulation in the field of quality assessment and use of atmospheric resources, water bodies, land use, waste management: basic principles and approaches.
- Current documents and prospects for modernization.
- Rationing based on the concept of risks.
- Rationing in connection with the implementing of BAT.



MONITORING OF NATURAL-TECHNOGENIC SYSTEMS

- Methods and instruments of monitoring.
- Bioindication.
- Marker substances.
- Standards and regulations of the environmental monitoring.
- Use of the monitoring information.
- Models and forecasts.
- International networking.



ENVIRONMENTAL IMPACT ASSESSMENT

- Tasks and procedures of the Environmental impact assessment.
- State regulation.
- Strategic Environmental Assessment System (SEA).
- Initiation and development of a Strategic Environmental Assessment.
- SEA - an introduction by international organizations.
- EIA Strategic plans and programs, plans and programs without a strategic nature.
- Parties involved in SEA.
- The content of the report on SEA.
- Description of the content of various sections of SEA.
- Involvement of the public and NGOs - determination of public participation in the report.
- Environmental Baseline Assessment (EBA).
- Environmental Impact Assessment (EIA) or Environmental Health and Safety Assessment (ESHIA).



ENERGY RESOURCES MANAGEMENT

- Energy resources as a base of national economy.
- Modern energy policy and energy strategy in housing and communal services.
- Energy and resource management.
- Energy and environmental audit of enterprises.
- Energy intensity of production processes and its regulation.
- International cooperation in the field of energy and resource efficiency.



WASTE MANAGEMENT TECHNOLOGIES

- The problem of waste generation.
- Waste in the environment.
- Stability and resilience of ecosystems to pollution.
- Ensuring environmental safety when handling waste.
- Processing, utilization and neutralization of industrial waste.
- Additional sources of solid waste.
- Wastewater.
- Gas emissions.
- Sources of generation and methods for processing waste with a high content of organic substances.
- Technologies for sorting and processing household waste.
- Landfills for the disposal of industrial waste.
- Recycling as recycling.



STUDENTS FEEDBACK



“ The program starts 10 years ago. However, we continue to contact our partners and to follow all the important changes in the areas of nature management, sustainability, environmental protection. And we are grateful our graduates contacting us and sharing their professional experience!

Cuy Wenqiang (PRC)

2019 I presented my master thesis on the intraspecific genetic differentiation among *Rosa rugosa* cultivars of different provenance revealed by SSR markers. For me, this is my first masters' diploma! Thanks to this joint program I can study not only in China, in my home university. I've got a great chance to get acquainted also a science and a culture of Russia. I met new friends and new teachers, saw the world from the other side! ”



HEAD OF THE PROGRAMME

ALEKSANDR PETROVICH KHAUSTOV



Doctor of Geology and Mineralogy, Professor;
Professor of the Department of Applied Ecology,
Faculty of Ecology.

Thesis: “Multivariate models for the formation
of groundwater flow folded areas”.

- Fields of scientific interests: environmental geochemistry and hydrogeology, environmental safety in the oil and gas sector, modeling of environmental pollution, innovative technologies in education for sustainable development.
- Author of scientific articles in peer-reviewed Russian and foreign scientific journals (Higher Attestation Commission, SCOPUS, Web of Science).
- Regularly gives presentations at Russian and international conferences on environmental sciences, hydrogeology, environmental safety, sustainable development of universities, environmental education. Co-author of the textbooks “Rationing and Reducing Environmental Pollution”, “Environmental Monitoring”, “Environmental Management”, used in more than 100 universities in Russia. Co-author of massive open online courses “Environmental norms and regulations for the sustainability”, “Management of Energy Resources”. Editorial board member of the journal “Bulletin of the Peoples’ Friendship University of Russia. Ecology and life safety”.
- Expert of the Russian Academy of sciences. Expert of the Russian Scientific foundation. Member of the scientific council on issues of geoenvironmental sciences.
- Head of the projects on the assessment the environmental impacts of oil and gas companies, remediation of oil-contaminated territories, environmental education, assessing the effectiveness of the work of environmental specialists of enterprises.