



HSE-MANAGEMENT

**(MANAGEMENT OF OCCUPATIONAL,
INDUSTRIAL AND ENVIRONMENTAL SAFETY)**

MASTER'S PROGRAMME DEGREE



PROGRAM ADVANTAGES

- ✓ The program is based on the developers' own experience in participating in projects to ensure industrial and environmental safety, occupational safety, as well as the experience of leading world universities in creating similar programs. This makes the program as close as possible to the modern practice of enterprises.
- ✓ Practical teachers are involved in creating the program and conducting the classes.
- ✓ The program uses modern training technologies with immersion in a professional environment - a virtual simulator for environmental safety, which allows you to simulate an accident and eliminate it yourself.
- ✓ The program integrates massive open online courses held in English 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 domestic experts in the field of industrial and environmental safety, labor protection, joint creative projects and conferences are regularly held.
- ✓ The opportunity to participate in the student exchange program with partner universities.



STUDYING PROCCCESS

120 credits.

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



ECOLOGICAL AND ANALYTICAL METHODS IN OCCUPATIONAL SAFETY, SAFETY RULES AND ENVIRONMENTAL PROTECTION

- Methodological aspects and practical methods of laboratory environmental and analytical studies. Sampling and sample preparation.
- Complexes of ecological and chemical methods for studying environmental and industrial environments: chemical and physico-chemical, bioassays and bioindications.
- An idea of the quality of measurements.
- Analysis quality indicators.
- Repeatability Interlaboratory comparative tests.
- Laboratory certification.



STRATEGIC ENVIRONMENTAL ASSESSMENT

- 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).



ENVIRONMENTAL NORMS AND REGULATIONS

- Environmental norms and standards as tools for environmental management.
- 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 introduction of BAT.



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.



OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEMS

- Professional risks and their management methods: sources of risks, their implementation, approaches to identification and accounting.
- Management systems as a risk management tool.
- Regulation of identification, accounting, analysis and risk management in the field of occupational safety.
- The Russian system of labor safety standards: the main areas of regulation, application practice, development prospects.
- Principles of organization of occupational safety and labor protection management systems.
- International standard OHSAS 18001.
- NEBOSH guidelines.

Integrated Management Systems.



ENERGY AND RESOURCE SAVING OF INDUSTRIAL FACILITIES

- Modern energy policy and energy strategy.
- 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.



INDUSTRIAL SAFETY

- Russian legislation in the field of industrial safety.
- Hazardous production facilities (HEP), their identification, features of functioning and regulation of activities.
- Representations of accidents, emergencies and catastrophic events of natural and man-made origin.
- Statistics of emergency situations and industrial safety in economic sectors.



- Industrial accidents in various industries, their features.
- State regulation of industrial safety.
- Methods for identifying and managing risks.
- Industrial safety insurance.
- Emergency events and procedures for their investigation.
- Software for risk analysis at hazardous production facilities.



INDUSTRIAL ENVIRONMENTAL CONTROL AND REPORTING OF ENTERPRISES

- Industrial environmental control and industrial environmental monitoring in the environmental management system.
- Purpose, structure, objects of industrial environmental control.
- BAT in industry.
- Environmental impact of enterprises: classifications and indicator substances.
- The subject and object of industrial environmental control.
- Tasks of industrial environmental control.
- Directions of industrial environmental control.
- Industrial environmental monitoring in the structure of the environmental control system.
- The legislative and regulatory framework for the organization of the industrial environmental monitoring.
- Environmental reporting.



STUDENTS FEEDBACK



The program starts in 2020. However, when developing it, we were guided by the opinion of our graduates, who became leading experts in the field of industrial and environmental safety. Many of our graduates declare the need for training specialists in this area.



HEAD OF THE PROGRAMME

MARGARITA MIKHAILOVNA REDINA



Doctor of Economics, Associate Professor; Head of the Department of Applied Ecology, Faculty of Ecology.

Thesis: “Environmental and economic analysis of the activities of enterprises in the oil and gas industry.”

FIELDS OF SCIENTIFIC INTERESTS:

environmental management, 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 safety, sustainable development of universities, geoecology, 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”. Editor-in-chief of the journal “Bulletin of the Peoples’ Friendship University of Russia. Ecology and life safety”.

Head of the RUDN University participation as the national coordinator of the global university network UI Green Metric World University Rankings Network.

A participant in projects to assess 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.