



**EXPERTISE
IN THE FIELD
OF ENVIRONMENTAL PROTECTION
AND SUSTAINABLE DEVELOPMENT**

MASTER'S PROGRAMME DEGREE



PROGRAM ADVANTAGES

- ✔ Knowledge and practical skills in the field of expert assessment of environmental quality and sustainable development will allow you to successfully work in the field of environmental safety in any region of the world. Your professional activity will be aimed at minimization of anthropogenic impact on the environment, on preservation of human life and health.
- ✔ Training is carried out using elements of new educational technologies - interdisciplinarity, project approach, teamwork, building an individual trajectory and attracting enterprises - potential employers, which guarantee the graduate high competitiveness in the labor market, the development of cognitive activity, scientific creativity, independence and creativity in the field of professional activity.
- ✔ Thanks to the study of a foreign language and the international composition of study groups, you improve your level of language training and build your own network of professional international contacts already in the process of training.
- ✔ You have the opportunity to participate in student exchange programmes with partner universities abroad.
- ✔ Participation in forums, conferences, round tables and master classes by renowned Russian and foreign scientists and practitioners are mandatory elements of your study programme.
- ✔ Those who have completed the training program are highly qualified specialists who can work effectively at large industrial enterprises, research institutes and centers, in higher education institutions, in supervisory and controlling structures, to conduct work in the field of environmental protection and sustainable development.



STUDYING PROCCCESS

120 credits.

Lectures, workshops and self-study several practices



ASSESSMENT OF ENVIRONMENTAL DAMAGE AND METHODS FOR ITS ELIMINATION

- Methods of determining and calculating the amount of damage caused to the environment as a result of violation of environmental legislation.
- Recultivation of disturbed landscapes: scientific basis for development of a system of measures for reclamation of disturbed landscapes at various types of pollution, taking into account regional features.
- The course applies a project approach and develops teamwork experience.



FORENSIC EXPERTISE OF ENVIRONMENTAL OBJECTS

- The concept of legal liability for environmental offences.
- Types of liability.
- Basics of using special environmental knowledge in legal proceedings.
- Notion of forensic expertise, its types and difference from expertises in other spheres of human activity.
- Methodology of forensic expertise.
- Concept of expert methods, their types and eligibility criteria for use.
- Notion and types of expert methods.
- The course is based on a project approach involving representatives of supervising and controlling structures.



ENVIRONMENTAL AUDIT AND ENVIRONMENTAL INSURANCE

- Foreign and domestic experience in environmental auditing.
- Problems of environmental audit development in modern concepts of environmental protection activity.
- Insurance of environmental pollution risk and its methodological features.
- Russian and foreign methodology and practice of environmental pollution risk insurance.
- The main forms of course implementation: practical classes, cases, master classes.



REGIONAL AND MUNICIPAL WASTE MANAGEMENT SYSTEMS

- Indicators of sustainable development in waste management.
- Basic principles of waste management.
- Development stages of waste management system in developed countries.
- Experience of Sweden, France, Japan.
- Optimisation of the waste management system.
- Global trends in waste management.
- The course provides for a project approach to material development.



FOOD SECURITY

- Quality of food and its control.
- Types of contamination of food raw materials and food products.
- Contamination of food products by microorganisms and their metabolites.
- The concept of GMOs.
- Falsification of foodstuffs.
- Certification of an integrated quality management and food safety management system based on ISO 22000:2005 process approaches.
- Scientists from the N.I. Vavilov Institute of General Genetics RAS have been involved in the implementation of the course.



ADAPTATION OF A HUMAN BEING TO ENVIRONMENT CONDITIONS

- Development phases of the adaptation process.
- Criteria, mechanisms and levels of adaptation.
- Adaptation to anthropogenic environmental factors.
- Dependence of adaptation processes on the duration of living in changed environmental conditions and assessment of their effectiveness in different habitat conditions.
- Scientists from the Center for Strategic Planning and Management of Medical and Biological Risks to Health of the Ministry of Health of the Russian Federation were involved in the course implementation.

The students are trained at the Russian Presidential Academy of National Economy and Public Administration (RASHP); Institute of Geochemistry and Analytical Chemistry of RAS; Institute of Physicochemical and Biological Problems of Soil Science of RAS; Institute of Forestry of RAS; Institute of Geography of RAS; Federal Service for Supervision of Natural Resources Management (Rosprirodnadzor); Mosecomonitoring; Department of Natural Resources Management and Environmental Protection of Moscow, and others.



HEAD OF THE PROGRAMME

NATALIA ANATOLIEVNA CHERNYKH



Doctor of Biological Sciences, Professor, Head of the Department of Forensic Ecology with a course on human ecology, full member of the Russian Academy of Natural Sciences (RAEN), Russian Ecological Academy (REA), International Academy of Ecology and Life Safety (IANEB), winner of the All-Russian Exhibition Center for a cycle of works on heavy metals, Laureate of the All-Russian Exhibition Center for a cycle of works on heavy metals, laureate of the National Ecological V.I. Vernadsky Award, laureate of ERAECO-2014 for a cycle of works on forensic ecology, laureate of the National Award "Crystal Compass" for developments in the field of forensic ecology, member of the Russian Geographical Society, deputy editor-in-chief of the journal "Izvestia of Baikal State University".

The theme of doctoral dissertation: "Laws of behavior of heavy metals in the soil-plant system under different anthropogenic load".

THE FIELD OF SCIENTIFIC INTERESTS:

covers a wide range of issues related to ecology, soil science, environmental management, environmental chemistry (study of migration and transformation processes of heavy metal compounds, radionuclides, persistent organic pollutants, oil and petroleum products in the biosphere), soil microbiology and forensic ecology.

He is the author of about 300 works, including 14 monographs and 33 scientific and methodological works, articles in peer-reviewed Russian and foreign scientific journals (VAK, Scopus, WoS, etc.).

Under the guidance and scientific advice of N.A. Chernykh 18 candidates and 2 doctors of science from different countries were prepared.

She has certificates of advanced training in the field of environmental protection, landscape restoration, elimination of ecological damage, personnel management, forensic ecology.