

Course Annotation

Course Title: **Environmental Monitoring**

Credits: 7.5 (270 h.)

Course objective

To provide insight into theoretical knowledge and practical skills on organizing, planning, and carrying out the environmental monitoring of various environmental objects.

Course tasks

To create awareness of the specifics of planning, creating, management and implementation of monitoring systems in reference to different objects of nature.

Course main chapters

Monitoring: basic concepts and definitions, types of environmental monitoring, organization and operation of monitoring systems. Atmospheric air: sources of pollution, quality standards, protection measures. Sources and types of surface waters contamination: the specificity of the monitoring management, evaluation, forecasting of the quality and use of fresh water, regulation of water pollution, the main ways of problem solution. The main ways and objectives of comprehensive ocean monitoring. Management of the World Ocean monitoring, the sources and types of its contamination. General idea of the soil monitoring: methodology, types, objectives and functions of monitoring systems.

Learning outcomes

After attending the course students will be able to:

- Analyze and systematize the necessary information for monitoring;
- Determine the state of the environment and its components;
- Organize the monitoring system of various types and levels;
- Assess the sources of air pollution, classify them, create the programs for observation, estimate the state of air, determine a safe level of contamination and develop measures for normalization;
- Manage a monitoring system of surface waters to determine the specificity of organization of observation posts, focus on required list of indicators and the factor of their safety, assess water quality and to forecast its state, to employ an adequate method or a way to protect water bodies from pollution;
- Supervise (theoretical and / or practical) observations about the state of World Ocean, determine the sources of pollution, recommend water purification methods;
- Control the monitoring of soils considering their various types and features;
- Be familiar with the specifics of soil monitoring under conditions of anthropogenic impact on the environment.

Teaching methods used:

- lectures and practical training sessions.

Final **assessment** of student's knowledge and practical skills is **examination**.

**Head of the Ecology Department,
Professor**

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