

## **Course Annotation**

Course Title: **Fundamentals of Ecological Toxicology**

Credits: 4 (144 h.)

## **Course objective**

To provide insight into the key issues in the field of toxicological environment and methods of hazard identification and public risk assessment.

## **Course tasks**

To create awareness of methods employed for investigating the various adaptation forms of the biosphere elements to unfavourable toxic hazard; hazard evaluation and determination of permissible levels of contamination by toxic agents.

## **Course main chapters**

Introduction to general and ecological toxicology. Biomarkers and metric toxicology. Sanitary hygiene, ecological and biological control of environmental safety. Toxic agents in the environment. Transformation of xenobiotics in the environment. Effect of toxicants on populations and ecosystems. Risk assessment of anthropogenic factors impact on human health.

## **Learning outcomes**

After attending the course students will be able to:

- Identify, describe and measure qualities and quantities of the influences of toxicological agents for risk assessment purposes;
- Understand the mechanisms and routes by which toxicants reach and interact with the natural and human environments;
- Establish potential contamination criteria and exposure limits;
- Develop semi-quantitative models describing dose-response relationships, and refine the biologically relevant estimates in the risk assessment process;
- Be aware of the differences between hazard identification, risk assessment and risk management.

## **Teaching methods used:**

- lectures and laboratory training sessions.

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

**Head of the Ecology Department,  
Professor**

**A.I. Gorova**