Ecological Hazards (EKRI - WS)

1. Ecotoxicology introduction, definition, specification of terms and concepts. (allowance 4/0)

a. Basic methodological approaches.

b. Methodology of risk evaluation.

2. Interaction of toxic compounds with living organisms. (allowance 2/0)

a. Effects of concentration and doses of toxic compounds.

b. Kinds of their effects.

3. Fate of heterogeneous substances in the organism. (allowance 4/0)

a. Pathway routes, distribution and metabolic transformations of heterogeneous substances.

b. Excretion of heterogeneous substances and their metabolites from the organisms.

4. Important groups of toxic substances. (allowance 6/0)

a. Irritating and etching compounds, compounds showing a high acute toxicity.

b. Antioxidants, hepatotoxic compounds, immunotoxicological compounds, neurotoxic substances, mutagenic and carcinogenic substances.

c. Environmentally dangerous substances, addictive drugs, food additives.

5. Estimation of toxicity. (allowance 4/0)

a. In vitro and in vivo tests.

b. Evaluation of exposition level.

6. Practical chemical processes enabling to protect the environment. (allowance 4/0)

7. Laboratory practicals. (allowance 0/28)

a. Right laboratory practice, fundamentals of recording, preparation of samples, methods of their processing, recording, storage. Methods of homogenization and separation.

b. Tests and methods used when evaluating the ecotoxicity. Model organisms.

c. Follow-up of effects of selected heavy metals on the viability of tubificids.

d. Comparison of bound of some heavy metals in soil.

e. Methods of studies on toxicity of selected pollutants on the base of changes in enzymatic activity.

f. Monitoring of interactions between toxic compounds and DNA.