Toxicology
(Bojan Sedmak, Ph.D., Associate Prof.)

Subjects code: TOX
Year of Study: 1. or 2.
Lectures: 20
Exercises: 30
ECTS: 6

Contents subjects

- introduction:
  - history,
  - types of toxic substances and their classification
  - fields of toxicology
- Distribution of toxic substances:
  - absorption
  - distribution,
  - metabolism.
- Spectrum of unwanted effects:
  - Allergic reactions,
  - Various poisonous effects,
  - Types of exposures and answers to such exposures.
- Metabolism of toxic substances:
  - Types of metabolic changes,
  - Reactions of the first phase,
  - Reactions of the second phase
  - Control over metabolism
  - Poisoning against detoxication.
- Toxicity of medicines:

- Additives and contaminants:
  - pollutants in food,
  - tartrazine,
  - syndrome of Spanish oil,
  - saccharin,
- Industrial toxicology:
  - chemicals,
  - vinyl chloride
  - cadmium
  - asbestos
- pesticides:
  - DDT,

    - Organophosphates.
- Toxic chemicals in households
- Industry-related natural products:
    - plant-origin toxins
    - animal-origin toxins
    - toxins of fungi
    - toxins of microorganisms
- biochemical mechanisms of toxicity – cases:
    - chemical carcinogenesis,
    - necrosis
    - kidney damages,
    - lung damages,
    - neurotoxicity
    - teratogenesis
    - immune toxicity,
    - toxicity
    - simultaneous toxicity of various organs.