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MEDICAL UNIVERSITY PLOVDIV, FACULTY OF PHARMACY
DEPARTMENT OF PHARMACOLOGY, TOXICOLOGY AND PHARMACOTHERAPY,
15A "V. Aprilov" Blvd.; HEAD OF DEPARTMENT: ASSOCIATE PROFESSOR E. APOSTOLOVA, PharmD, PhD

PROGRAMME FOR TOXICOLOGY PHARMACY STUDENTS IV course – LECTURES,
FOR ACADEMIC YEAR 2024/2025 WINTER SEMESTER

№	DATE	TOPIC	HOURS
1.	17.09.2024	Introduction to Toxicology – a brief history. Basic definitions – poison, poisoning. Types of intoxications – classifications. Current epidemiology of intoxications.	2
2.	24.09.2024	Basic processes in toxicology. Interactions between xenobiotics and organism – toxic aggression and physiological antitoxic defense. Methods for evaluation of the toxicity of chemical substances.	2
3.	01.10.2024	Toxicokinetics - „gates of entrance”, absorption and distribution of toxicants. The fate of the xenobiotics in the human body. Factors, influencing the toxicity of the xenobiotics during the phases of absorption and distribution.	2
4.	08.10.2024	Toxicokinetics - biotransformation of xenobiotics – routes and enzymes engaged in the metabolism. Metabolic detoxification and bioactivation. Interactions between xenobiotics and enzyme inductors or inhibitors. Excretion of xenobiotics. Factors, influencing the toxicity of the xenobiotics during the phases of metabolism, and excretion.	2
5.	15.10.2024	Toxicodynamics - mechanisms of the toxic action and target biomolecules, cells, and organs. Cytotoxicity related to free-radical processes, sulfhydryl (-SH) groups, and specific receptor proteins. Changes in the biochemical mechanisms, augmentation of the toxic effect	2
6.	22.10.2024	Immune toxicity - immune suppression, and immune-mediated hypersensitivity. Xenobiotics and allergens. Genotoxicity and genotoxic substances. Carcinogenesis and chemical carcinogens.	2
7.	29.10.2024	Management of the toxicological medical treatment - basic principles and approaches for treatment of acute and chronic poisonings. Basic detoxification methods – general and specific. The role of a pharmacist in case of poisoning or suspected poisoning. Intoxications with heavy metals - cadmium, arsenic, mercury, lead.	2
8.	05.11.2024	Drugs used in intoxication treatment – solutions for infusion, organ protective drugs, symptomatic agents. Antidotes – types, mechanism of action, application.	2
9.	12.11.2024	Gastrointestinal toxicity – types and manifestations. Xenobiotics with potential gastrointestinal toxicity. Hepatotoxicity – hepatotoxic compounds. Micotoxins.	2
10.	19.11.2024	Neurotoxicity – pharmacological and toxicological characteristics, treatment strategy, pharmacological prevention. Nephrotoxicity – types of impairment and nephrotoxicants (metal ions, drugs).	2
11.	26.11.2024	Respiratory and pulmonary toxicity – types, mechanisms, acute respiratory toxicity. Intoxications with carbon monoxide, chlorine, nitric and sulfuric gases.	2
12.	03.12.2024	Cardiovascular toxicity – types, mechanisms, changes in the vascular homeostasis. Hematological toxicity – toxic effects on hematopoiesis Hemostasis disruption and safety profile of anticoagulants.	2
13.	10.12.2024	Reproductive toxicity and teratogenesis, intoxicants with high teratogenic potential. Pregnancy risk drug category (PRC).	2
14.	17.12.2024	Intoxications with addictive substances and drug addiction - opiates, psychostimulants and hallucinogens. Manifestations, treatment and prevention. Drug abuse.	2
15.	24.12.2024	Intoxication with poisons of biologic origin. Anaphylaxis – manifestations, treatment, prevention and support. Intoxications caused by reptiles and insects local and general toxic effects.	2

Prepared by:
/Assis. Prof. M. Shishmanova, PhD/

Head of Department:
/Assoc. Prof. E. Apostolova, PharmD, PhD/

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