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MEDICAL UNIVERSITY PLOVDIV, FACULTY OF PHARMACY
DEPARTMENT OF PHARMACOLOGY, TOXICOLOGY AND PHARMACOTHERAPY, Phone:032/602 498,
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PROGRAMME FOR TOXICOLOGY PHARMACY STUDENTS IV course – PRACTICALS,
FOR ACADEMIC YEAR 2021/2022 WINTER SEMESTER

№	DATE	TOPIC	HOURS
1.	21.09.2021	Basic terms and processes in toxicology. Classifications of the toxic agents. The relation between the chemical structure of substances, the chemical and physical properties, and their toxicity. Toxicity. Criteria for toxicity. Toxic effect and interactions. Methods for evaluation of the toxic effects of chemical substances. Quantitative characteristics (LD50, ED50, TD50, TI). Risk assessment. The population at risk of toxic influences. Pre-clinical toxicological characterization of biologically active substances and drugs.	4
2.	28.09.2021	Toxicokinetics: entrance route and absorption of toxicants. Distribution. Biotransformation of xenobiotics – routes and enzymes engaged in the metabolism. Interactions between xenobiotics and enzyme inductors or inhibitors. Excretion of xenobiotics. Natural antitoxic (physiological) defense.	4
3.	05.10.2021	Toxicodynamics: mechanisms of toxic action and target biomolecules, cells, and organs. Cytotoxicity, related to the free-radical processes. Factors influencing the toxic effect. Adverse drug reactions.	4
4.	12.10.2021	“Outward” manifestation of poisoning. A practical guide to diagnosis in case of suspected poisoning. “The 10 steps algorithm” and the role of a pharmacist. Xenobiotics and immune suppression, allergy, and genotoxicity. Carcinogenesis related to chemical substances.	4
5.	19.10.2021	Colloquium – general toxicology.	4
6.	26.10.2021	Types of poisoning , methods and techniques for treatment of acute and chronic poisonings – observation and analysis. Role of the pharmacist.	4
7.	02.11.2021	Gastrointestinal toxicity – types and manifestations. Representative toxicants – corrosive poisons, NSAIDs, ethyl alcohol, etc. Hepatotoxicity – types, etiology and potentially hepatotoxic drugs and chemicals. Methods of evaluation.	4
8.	09.11.2021	Neurotoxicity – basic principles, mechanisms, types, manifestation. Neurotoxicants. A model of the most common intoxications accompanied by impaired consciousness. Methods for evaluation of neurotoxicity. Toxic effects of alcohol and psychotropic drugs. Pharmacological prevention.	4
9.	16.11.2021	Cardiovascular toxicity – cardiotoxicity (cobalt, tricyclic antidepressants, anthracyclines). Changes in the vascular homeostasis. Adverse drug reactions of COX-2 inhibitors and non-sedative antihistamine drugs. Methods for pre-clinical evaluation of cardiovascular toxicity. Pharmacological prevention. Respiratory and pulmonary toxicity – types of impairment, acute respiratory toxicity, occupational pulmonary diseases and risk factors for carcinogenesis.	4
10.	23.11.2021	Hematotoxicology – types of impairment of hemopoiesis and blood cells. Xenobiotics, affecting the blood. Homeostasis disruption and safety profile of anticoagulants. Evaluation of hemotoxicity. Nephrotoxicity – types of impairment and nephrotoxicants (metal ions, drugs). Methods for evaluation of kidney function impairment.	4
11.	30.11.2021	Reproductive toxicity and teratogenesis, intoxicants with high teratogenic potential. Methods for evaluation of the teratogenic effect of chemical compounds and drugs. Potential harmful drugs during gestation and lactation. Role of the pharmacist.	4
12.	07.12.2021	Types of antidotes and their application. Representation of application, clinical cases. Delivery of antidotes – problems and current tendencies.	4
13.	14.12.2021	Colloquium – organ toxicity.	4
14.	21.12.2021	Adverse drug reactions and toxic drug reaction. Comparative characteristic.	4

*Note: The practicals include theory – 2 hours; discussion – 1 hour and test examination – 1 hour.

23.07.2021

Prepared by: Prof. Y. Iliev, MD, PhD.....

Approved by: Prof. L. Peychev, MD, PhD.....