

## COURSE DESCRIPTION

<b>Academic year:</b> 2022/2023	
<b>University:</b> Comenius University Bratislava	
<b>Faculty:</b> Faculty of Pharmacy	
<b>Course ID:</b> FaF.KFT/16-Mgr/22	<b>Course title:</b> Toxicology
<b>Educational activities:</b> <b>Type of activities:</b> lecture / seminar <b>Number of hours:</b> <b>per week:</b> 1 / 1 <b>per level/semester:</b> 14 / 14 <b>Form of the course:</b> on-site learning	
<b>Number of credits:</b> 3	
<b>Recommended semester:</b> 7.	
<b>Educational level:</b> I.II.	
<b>Prerequisites:</b>	
<b>Course requirements:</b> Intermediate and final evaluation: Compulsory attendance at lectures - at least 80%. During the semester, students take 2 tests with a required minimum success rate 60%. Upon successful completion of the interim tests, the student can register for the final (exam) test, which will take place by computer or in writing form. Final test evaluation: A 91-100%, B 81-90%, C 71-80%, D 66-70%, E 60-65%, FX <60%	
<b>Learning outcomes:</b> Toxicology is the study of the toxic effects of xenobiotics on a living organism. Knowledge of toxicology is essential for the preparation of pharmacists for clinical practice, whether for work in a pharmacy, at the department of clinical pharmacology and pharmacy, toxicology center, or in national or supranational regulatory authority agencies. The graduate of the course will be acquainted with the safety of the most common xenobiotics, including drugs, and the management of their possible toxic effects, as well as with the methodology and requirements for preclinical and clinical safety of drugs and assessment of their environmental risks.	
<b>Class syllabus:</b> After the general introduction, the course will address the basic toxicological principles, including toxicokinetics and toxicodynamics, teratogenicity, genotoxicity and carcinogenicity of xenobiotics. Subsequently, systemic and organ toxicity will be discussed, especially at the level of the liver, kidneys, respiratory system, nervous system and immune system. Within clinical toxicology, the student will get acquainted with the most common noxa, the way and manner of exposure to them, as well as the management of intoxication. Another important point of the study will be the regulatory aspects of drug safety assessment, including rules of good laboratory practice, clinical trial directives, safety with respect to selected population groups and specific products, as well as post-marketing drug safety assessment or environmental risk assessment. The study focuses on theoretical knowledge as well as practical experience in the analysis of the toxic effect of xenobiotics and in the assessment of drug safety.	
<b>Recommended literature:</b>	

PATOČKA, J.: Úvod do obecné toxikologie. Praha: Manus, 2003. ISBN 80-86571-04-1.  
 PROKEŠ, J. et al.: Základy toxikologie. Obecná toxikologie a ekotoxikologie. Praha: Karolinum, 2005. ISBN 80-7262-301-X.  
 HORÁK, J., LINHART, I., KLUSOŇ, P.: Úvod do toxikologie a ekologie pro chemiky. Praha: VŠCHT, 2010. ISBN 978-80-7080-548-0.  
 PAVLOV SKÝ, J.: Toxikologie. 1.vyd. Ostrava: Vysoká škola báňská. Technická Univerzita Ostrava, 2014. ISBN 978-80-7385-109-5.  
 TUMOVÁ I. a kol.: Toxikológia pre farmaceutov. Herba, Bratislava, 2016. ISBN 978-80-89631-56-8  
 MULDER G.J. Pharmaceutical toxicology. Pharmaceutical Press 2006  
 FRIEDMAN L.M. et al.: Fundamentals of Clinical Trials, Springer 2015

**Languages necessary to complete the course:**

Slovak

**Notes:**

**Past grade distribution**

Total number of evaluated students: 0

A	ABS	B	C	D	E	FX
0,0	0,0	0,0	0,0	0,0	0,0	0,0

**Lecturers:** Mgr. Ondrej Sprušanský, PhD., Mgr. Lenka Bies Piváčková, PhD., doc. PharmDr. Marek Máťuš, PhD., PharmDr. Dominika Dingová, PhD., Mgr. Peter Vavrínek, PhD., PharmDr. Zuzana Kiliánová, PhD., doc. PharmDr. Anna Paul Hrabovská, PhD.

**Last change:** 29.03.2022

**Approved by:** prof. PharmDr. Ján Klimas, PhD., MPH