

COURSE DESCRIPTION

Academic year: 2026/2027	
University: Comenius University Bratislava	
Faculty: Faculty of Pharmacy	
Course ID: FaF.KFCh/08-Mgr-A/22	Course title: Molecular Basis of Drug Development
Educational activities: Type of activities: practicals / lecture / seminar Number of hours: per week: 1 / 1 / 1 per level/semester: 14 / 14 / 14 Form of the course: on-site learning	
Number of credits: 3	
Recommended semester: 6.	
Educational level: I.II.	
Prerequisites:	
Course requirements: Final Assessment: written final examination. The evaluation of exam: 100 – 92 % (evaluation level A), 91 – 84 % (B), 83 – 76 % (C), 75 – 68 % (D), 67 – 60 % (E), less than 60 % (FX, not passed). Scale of assessment (preliminary/final): 0 / 100	
Learning outcomes: Basic knowledge of modern methods and principles used in the design, research and development of drugs in the rational drug design.	
Class syllabus: The main objective of the subject is to provide new knowledge to students in the field of molecular basics of drug development, focusing mainly on methods of drug design (classical procedures, rational methods, chemical and biological information systems in the field of drug design, structure-activity relationships, methods of molecular modeling and molecular graphics), drug targets (proteins, enzymes, receptors, nucleic acids, lipids), drug-receptor interaction (thermodynamic, kinetic and structural analysis of drug-receptor interaction) and drug development(development of drugs from natural sources, synthetic analogs, receptor theories, 3D structure aided drug development, computer-aided drug development (CADD)). This subject is a part of pharmaceutical chemistry - its general part, whose methods and principles are generally applicable in drug development in any therapeutic group.	
Recommended literature: Text Books (latest edition): An Introduction to Medicinal Chemistry, Graham L. Patrick. Principles of Medicinal Chemistry, W.O. Foye, T. L. Lemke, David A. Williams. The Practice of Medicinal Chemistry, Camille G. Wermuth. Medicinal Chemistry. Principles and Practice., F. D. King.	
Languages necessary to complete the course: English.	

Notes:						
Past grade distribution Total number of evaluated students: 31						
A	ABS	B	C	D	E	FX
29,03	0,0	35,48	12,9	12,9	3,23	6,45
Lecturers: PharmDr. Vladimír Garaj, PhD., Ing. Stanislava Šoralová, PhD.						
Last change: 28.03.2022						
Approved by: PharmDr. Vladimír Garaj, PhD.						