



Study program: Integrated Academic Studies in Medicine			
Course title: Pharmacology and Toxicology 1			
Teacher: Aleksandar L. Rašković, Zdenko S. Tomić, Velibor M. Vasović, Isidora N. Samojlik, Olga J. Horvat, Saša N. Vukmirović, Boris Ž. Milijašević, Vesna M. Mijatović, Nebojša P. Stilinović, Maja P. Đanić, Ana D. Tomas Petrović			
Course status: compulsory			
ECTS Credits: 7			
Condition: Medical Biochemistry; Physiology (exam)			
Course aim Medical students are acquainted with basic biologic mechanisms of drugs and their effects on organ systems			
Expected outcome of the course Student should know why, how and when to apply particular drugs, general information on drug metabolism in the body, site and mechanism of their actions, interactions and side effects of drugs. Student must be able to describe effects, therapeutic indications and application of drugs used in the treatment of microbial diseases. Practical classes deal with practical pharmacotherapeutical problems. Student must know how to properly fill a prescription (magistral drugs, officinal drugs, ready-made drugs) and to explain it; to use drugs registry books; to fill out forms to report side effects of drugs.			
Course description <i>Theoretical education:</i> History of pharmacology. Classification. Drugs and poisons. Mode of application. Dosage. Therapeutic index and therapeutic scope of drugs. Movement of drugs in the body. Biomembrane penetration. Reabsorption and distribution of drugs. Excretion of drugs. Drug metabolism. Induction and enzyme inhibition. Factors affecting the metabolism of drugs. Pharmacokinetic models. Pharmacokinetic parameters. Drug action. Sites of action. Mechanisms of action. Receptors. G-protein. Drug interactions. Synergism and antagonism. Applying drugs used in particular circumstances (children, elderly, pathological condition, pregnancy, breastfeeding). Pharmacogenetics. Adverse effects of Drugs. Addiction. Autonomic nervous system. Respiratory, gastrointestinal and cardiovascular system diseases. Toxicology. Poisons. Drug poisoning. Disinfection and antiseptics. Antimicrobial agents. Antimycotic, antiviral and antiparasitic drugs. <i>Practical education:</i> Drug classification. Putting drugs on the market. Names of drugs. Pharmacopeia. Drug prescription forms. Magistral and generic formulas. Ready-made drugs. Solid drugs. Liquid drugs. Semi-solid drugs. Inhalation. Bandages. Antimicrobial drug prescription.			
Literature <i>Compulsory</i> 1. Brenner GM, Stevens C. Pharmacology, 6 th edition. Elsevier, 2022. 2. BNF. British Medical Association and Royal Pharmaceutical Society of Great Britain (any edition newer than 2015) <i>Additional</i> 1. Ritter J, Flower R, Henderson G, Loke Y.K, MacEwan D, Rang H. Rang and Dale's Pharmacology. 9th Edition, Elsevier; 2019.			
Number of active classes		Theoretical classes: 75	Practical classes: 45
Teaching methods Theoretical and practical			
Student activity assessment (maximally 100 points)			
Pre-exam activities	points	Final exam	points
Lectures	5	Written*	80
Practices	15	Oral	
Colloquium*	2x40	
*if the student does not pass both colloquiums, he/she should take the exam in written form			