

Higher education institution: <i>Slovak Medical University in Bratislava</i>	
Faculty: <i>Faculty of Medicine "General Medicine"</i>	
Course code: <i>GM 023A</i>	Course title: <i>Pharmacology (1)</i>
Type, extent and method of educational activity: <i>Hours per semester:</i> <i>Lectures: 42; 3/ week</i> <i>Practice: 28; 2/ week</i>	
Number of credits: <i>4 credits</i>	
Recommended semester/trimester study: <i>6th semester</i>	
Level of higher education study: <i>1. + 2. level (MD)</i>	
Prerequisite courses:	
Requirements for completion of the course: <i>Criteria for a successful course completion: 100% seminar attendance, accepted semester thesis (min grade earned E), passing grade on a final test of min 55% [A: 95% - 100%, B: 85% - 94%, C: 75% - 84 %, D: 65 % - 74%, E: 55% - 64%].</i> <i>Student workload 30 hours</i>	
Learning outcomes: <i>The student will gain knowledge of general and specialized pharmacology and clinical pharmacology, with the goal of gaining an understanding of key principles pertaining to rational pharmacotherapy and the application of these principles to the direct patient care, as applied in various clinical settings. The student will gain knowledge of drug therapy; selection of the right medication for the right patient, monitoring for efficacy and side effects while maintaining focus on the individual patient and his welfare.</i>	
Brief content of the course (syllabus): General pharmacology: Definition and the role of pharmacology and clinical pharmacology , medication /medicine classification, naming of medicines Drug development, approval of registration, principles of categorization Clinical drug trials and Good Clinical Practice Adverse drug effects – classification, reporting Pharmacovigilance, drug safety Principles and basic definitions of pharmacokinetics, absorption, distribution, metabolism, elimination, Bioavailability, half life Therapeutic drug monitoring; drug concentration after a single vs. repeated doses First pass effect Area under the curve , concentration at equilibrium, transport mechanisms Pharmacodynamics – definition, application in pharmacotherapy Mechanism of action of drugs, accumulation Tachyphylaxis Tolerance Drug receptors Genetics, pharmacogenomics, definition, challenges in drug therapy Nanopharmacology and drugs manufactured with newest technology Biological drugs, biotherapeutics Drug administration, drug formulations Chronopharmacology Rational pharmacotherapy Drug interactions, application in drug therapy Drug information for health care professionals, patient drug leaflets State drug policies Pharmacoeconomics, principles of pharmacoeconomic drug evaluation Prescription of medicines, European Pharmacopoeia Principles of pharmacotherapy in geriatrics, pediatrics, pregnancy and lactation Teratogenicity of drugs and the effect on the fetus Intoxication, drug abuse, illicit drug use	

Irrational pharmacotherapy (homeopathy)
Ethical problems in pharmacology

Recommended literature:

Brenner, G.M., Stevens, C.W.: Pharmacology, 4th Edition, Elsevier Saunders, 2013, 520p.

Harvey, R.A., Clark, M.A., Finkel, R., Rey, J.A., Whalen, K.: Lippincott's Illustrated Reviews, International Edition, 5th Edition, Wolters Kluwer/Lippincott Williams & Wilkins, 2012, 612p.

Katzung, B.G., Masters, S.B., Trevor, A.J.: Basic a Clinical Pharmacology, 12th Edition. The McGraw-Hill Companies, Inc., Lange, 2012, 1229p.

Kielhorn, A., Graf von der Schulenburg, J.-M: The health economics handbook, Adis International Limited, Second edition 2000, 214p.

Luellmann, H., Mohr, K., Lutz H.: Pocket Atlas of Pharmacology (Flexibook) Paperback, 4th edition, Thieme, 2010, 408 p.

Rang, H.P., Dale, M.M., Ritter, J.M., Flower, R.J., Henderson, G.: Rang & Dale's Pharmacology, 7th edition, Elsevier Churchil Livingstone, 2012, 777p.

Language requirements: *English*

Notes:

The course is taught in English

Course assessment

Assessed students in total: 0

A	B	C	D	E	FX
0%	0%	0%	0%	0%	0%

Lecturers:

prof. MUDr. Jozef Holomáň, CSc.

MUDr. Helena Glasová, PhD.

PharmDr. Ľubica Slobodová

PharmDr. Dominik Tomek, PhD., MPH

prof. MUDr. Jozef Glasa, CSc., PhD.

MUDr. Martin Černák, PhD.

PharmDr. Lucia Černušková, CSc.

Date of last modification: 10.6.2016

Supervised by: *prof. MUDr. Peter Šimko, CSc.*

Higher education institution: <i>Slovak Medical University in Bratislava</i>	
Faculty: <i>Faculty of Medicine "General Medicine"</i>	
Course code: <i>GM 023B</i>	Course title: <i>Pharmacology (2)</i>
Type, extent and method of educational activity: <i>Hours per semester:</i> <i>Lectures: 42; 3 hours/week</i> <i>Practices: 28; 2 hours/ week</i>	
Number of credits: <i>4 credits</i>	
Recommended semester/trimester study: <i>7th semester</i>	
Level of higher education study: <i>1. + 2. level (MD)</i>	
Prerequisite courses: <i>GM 023A Pharmacology (1)</i>	
Requirements for completion of the course: <i>Criteria for a successful course completion is the successful passing of Pharmacology 1; 100% seminar attendance, accepted semester thesis (min grade earned E), passing grade on a final written test of min 55% and a passing grade on oral examination. [Grading of the final written test A: 95% - 100%, B: 85% - 94%, C: 75% - 84 %, D: 65 % - 74%, E: 55% - 64%]. Course final grade: A, B, C, D, E, Fx.</i> <i>Student workload 30 hours</i>	
Learning outcomes: <i>The student gains knowledge of general and specialized pharmacology and clinical pharmacology, with the goal of gaining an understanding of key principles pertaining to rational pharmacotherapy and the application of these principles to the direct patient cares. The student gains knowledge of drug therapy, justifies selection of medications for patients based on their disease states and patient specific requirements and needs with focus on improving their quality of care and attaining positive outcomes.</i>	
Brief content of the course (syllabus): <i>Specialized pharmacotherapy:</i> Pharmacology of the autonomic nervous system, sympathetic, parasympathetic nervous system; sympathomimetics, sympatholytics, adrenergic agonist/antagonists, cholinergics, anticholinergics Peripheral myorelaxants Anesthetic agents, local, systemic, combinations Neuroleptics Psychopharmacology, anxiolytics Drugs for sleep disorders Antidepressants, neuroleptics, psychostimulants, hallucinogens, centrally acting myorelaxants Antiparkinson agents, anti-epileptics Centrally acting analgesics, NSAIDS Rheumatoid arthritis drugs, DMARD, biologic response modifiers Cardiovascular drug therapy Cholesterol lowering agents Antihypertensive agents, diuretics, vasodilators, Anticoagulation therapy, fibrinolytics, antiplatelet medications Drugs for anemia and blood diseases Drugs for management of pulmonary disease Glucocorticoids/mineralcorticoids Drugs in Gastrointestinal system diseases and disorders Drugs in hepatology, chronic viral hepatitis infections Endocrine dysfunctions: thyroid disease, diabetes, adrenals Hormonal contraception Antimicrobials, bacterial, viral, mycotic infections Antiparasitic drugs Drugs in oncologic disease Vitamins, minerals, supplementation Clinical pharmacology:	

Pharmacotherapy in heart failure
 Pharmacotherapy in hypertension
 Pharmacotherapy in ischemic heart disease
 Pharmacotherapy in myocardial infarct
 Pharmacotherapy in diabetes mellitus
 Pharmacotherapy in nephrotic disease/disorders
 Pharmacotherapy in peptic ulcer disease, eradication of H. pylori infections
 Pharmacotherapy of inflammatory bowel diseases
 Pharmacotherapy of COPD
 Pharmacotherapy of osteoporosis
 Pharmacotherapy of anemia
 Thrombolytic and anticoagulation drug therapy
 Pharmacotherapy of gout
 Pharmacotherapy of systemic shock, anaphylaxis
 Pharmacotherapy of acute/chronic pain management

Recommended literature:

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 PharmDr. Dominik Tomek, PhD., MPH
 prof. MUDr. Jozef Glasa, CSc., PhD.
 MUDr. Martin Černák, PhD.
 PharmDr. Lucia Černušková, CSc.

Date of last modification: 10.06.2016

Supervised by: *prof. MUDr. Peter Šimko, CSc.*