



## Pomorski Uniwersytet Medyczny w Szczecinie

### MODULE SYLLABUS - PHARMACOLOGY

#### General information

MODULE NAME: PHARMACOLOGY	
Module type	Obligatory
PMU Faculty	Faculty of Medicine and Dentistry
Field of study	Medicine
Speciality	Not applicable
Study level	Uniform master
Type of study	stationary, non-stationary
Year of study	III, semester VI
ECTS	3
Forms of instruction (hours)	Lectures/seminars/classes 45h (25 h seminars; 20 h classes) Σ:45 godz
Knowledge verification/grading system	<input checked="" type="checkbox"/> credit: <ul style="list-style-type: none"> <li><input type="checkbox"/> written, descriptive</li> <li><input checked="" type="checkbox"/> test</li> <li><input type="checkbox"/> practical</li> <li><input type="checkbox"/> oral</li> </ul> <input type="checkbox"/> credit, no grade  <input type="checkbox"/> final exam: <ul style="list-style-type: none"> <li><input type="checkbox"/> written, descriptive</li> <li><input type="checkbox"/> test</li> <li><input type="checkbox"/> practical</li> <li><input type="checkbox"/> oral</li> </ul>
Head of department	Prof. dr hab. n. med. Marek Drożdżik
Responsible person	Dr n. med. Anna Czerkawska anna.czerkawska@wp.pl tel. 91-4661589
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Web page	www.farmakol.pum.edu.pl
Instruction language	Polish/English

### Detailed information

Module tasks		<p>1. Detailed information about particular drug classes, drug names, actions</p> <p>2. Principles for clinical drug applications.</p> <p>3. Discussion of principal drug side effects, including drug-drug interaction consequences.</p> <p>4. Drug prescription standards and practice of prescription.</p>
Prerequisite knowledge	Knowledge	Principles of anatomy, biochemistry, physiology and pathophysiology
	Skills	Understanding of pharmacology principles, mechanisms of drug actions in terms of indications and contraindications, dosage, side effects and toxicity, as well as drug-drug interactions.
	Social competences	Self-education and teamwork skills

DESCRIPTION OF TEACHING EFFECTS FOR THE MODULE (SUBJECT)			
Numer of teaching effects	Student, who completed the module (subject) knows/can/is able:	SYMBOL (reference) to learning outcomes	Assessment of learning outcomes
W01	is able to characterize individual groups of therapeutic agents	C.W35	W, DU, ZaT
W02	is able to explain the mechanisms of drugs actions and their changes in the system depending on age	C.W36	W, DU, ZaT
W03	discusses the impact of disease states on drug metabolism and elimination	C.W37	W, DU, ZaT
W04	knows the basic principles of pharmacotherapy	C.W38	W, K, ET, SP
W05	knows the most important side effects of drugs, including drug-drug interactions	C.W39	W, DU, ZaT
W06	understands aspects of drug resistance, including multidrug resistance	C.W40	W, DU, ZaT
W07	knows the indications for pharmacogenetics to individualize pharmacotherapy	C.W41	W, DU, ZaT
W07	indicates the basic directions of the development of therapy, in particular possibilities of cell, gene and targeted therapies in specific diseases	C.W42	W, DU, ZaT
U01	calculates basic pharmacokinetic parameters	C.U13	O

U02	adjusts drug dosing to adopt medication to systemin and specific organ pathological states	C.U14	O, SP, PS, Ka
U03	is able to design rational chemotherapy of infections uses pharmaceutical guides and databases of medicinal products	C.U15	O, SP, PS, Ka
U04	uses pharmaceutical sources and databases on medicinal products	C.U17	O, PS, Ka
K01	notices and recognizes own limitations, performs self-assessment of educational deficits and needs	K.5	O
K02	promotes health behavior	K.6	O
K03	uses objective sources of information	K.7	O

Traching effects matrix for the module (subject) referred to type of didactic forms								
Numer of teaching effects	Teaching effects	Type of didactic activity						
		Lecture	Seminar	Laboratory	Clinical classes	Simulation	E-learning	Others
W01	C.W35	X					X	
W02	C.W36	X					X	
W03	C.W37	X					X	
W04	C.W38	X					X	
W05	C.W39	X					X	
W06	C.W40	X					X	
W07	C.W41	X					X	
W08	C.W42	X					X	
U01	C.W13			X				
U02	C.U14			X				
U03	C.U15	X		X				
U04	C.U17			X				
K01	K.5			X				
K02	K.6			X				
K03	K.7			X				

MODULE (SUBJECT) TEACHING CONTENT			
Symbol of teaching content	Description of teaching content	Hours	Reference to teaching effects for the module
<b>Summer semester</b>			
	<b>Lectures/Seminars</b>	$\Sigma$ 25 godz.	
TK01	Principles of pharmacology	2	C.W35, C.W36, C.W37, C.W38, C.W39

TK02	Introduction to autonomic nervous system Drugs of parasympathetic autonomic system (e-learning)	2	C.W35, C.W36, C.W37, C.W38, C.W39
TK03	Agonists and antagonists of sympathetic autonomic nervous system	2	C.W35., C.W36, C.W37, C.W38, C.W39
TK04	Introduction to infection pharmacotherapy Antimicrobial chemotherapeutics	2	C.W35, C.W36, C.W37, C.W38, C.W39
TK05	Antiviral drugs Antihelminthic, antiprotozoal, antiparasitic drugs	2	C.W35, C.W36, C.W37, C.W38, C.W39
TK06	Introduction to pain pharmacotherapy Opioid analgesic drugs	2	C.W35, C.W36, C.W37, C.W38, C.W39
TK07	Non-opioid analgesic drugs Glucocorticoids	2	C.W35, C.W36, C.W37, C.W38, C.W39
TK08	Cannabinoids in pain therapy. Treatment of cancer pain Principles of neuropathic pain treatment	2	C.W35, C.W36, C.W37, C.W38, C.W39
TK09	General anesthesia and local anesthesia drugs Central and peripheral muscle relaxants	2	C.W35, C.W36, C.W37, C.W38, C.W39
TK010	Biological drugs (e-learning) Autacoids (e-learning)	2	C.W35, C.W36, C.W37, C.W38, C.W39
TK011	Immunosuppressive drugs (e-learning) Anticancer drugs (e-learning)	2	C.W35, C.W36, C.W37, C.W38, C.W39
TK012	Vitamins	2	C.W35, C.W36, C.W37, C.W38
TK013	Principles of pharmacotherapy in geriatrics	1	C.W35, C.W36, C.W38, C.W39
<b>Practicals</b>		<b>20</b>	
TK01	Principles of pharmacokinetics and pharmacodynamics	2	C.U14, K7
TK02	Drug prescription - introduction	2	C.U14, C.U17, K.7
TK03	Parasympathetic drugs and sympathetic nervous system stimulants	2	C.U14, C.U17, K.7
TK04	Antagonists of sympathetic system	2	C.U14, C.U17, K.7
TK05	Antibacterial drugs part 1	2	C.U14, C.U17, K.7
TK06	Antibacterial drugs part 2	2	C.U14, C.U17, K.7
TK07	Antifungal drugs	2	C.U14, C.U17, K5, K6, K7
TK08	Opioid analgesics	2	C.U14, C.U17, K.7
TK09	Non-opioid analgesics	2	C.U14, C.U17, K5, K6, K7
TK10	Summary	2	C.U17, K5, K7

### Books

Basic

Pharmacology, 7th Edition, Lippincott Illustrated Reviews Series by Richard A. Harvey, Michelle A Clark, Richard Finkel, Jose A. Rey, Karen Whalen
Pharmacology, 5th Edition, Elsevier By George M. Brenner, Craig Stevens
Rang & Dale's Pharmacology, 9th Edition, Elsevier by James M. Ritter, Rod J. Flower, Graeme Henderson, Humphrey P. Rang
Auxiliary
Goodman and Gilman's The Pharmacological Basis of Therapeutics, 13th Edition, McGraw-Hill Education by Laurence Brunton, Bjorn Knollman, Randa Hilal-Dandan

<b>Student workload</b>	
Form of student workload (participation in classes/seminars, activity, report writing, etc.)	Student workload [h]
	Teacher's evaluation
Direct teaching	45
Classes/seminar preparation	10
Self-reading of the specified literature	15
Laboratory reports writing/project preparation	-
Section testing preparation	20
Exam preparation	-
Others	-
Summary of students workload	90
ECTS points	3
<b>Comments</b>	