PHARMACY
INTEGRATED ACADEMIC STUDIES

SECOND YEAR OF STUDY

PHARMACOLOGY 1

2024/2025

Title of the course:

PHARMACOLOGY 1

This course is assigned 6 ECTS credits.
It consists of 4 active teaching hours per week: 2 hours of lectures and 2 hours of practical classes.

TEACHERS:

	Name and surname	E-mail	Title
1.	Natasa Djordjevic	natashadj2002@yahoo.com	Full professor
2.	Tamara Nikolic Turnic	tamara.nikolic@medf.kg.ac.rs	Assistant professor
3.	Radisa Pavlovic	r.pavlovic2407@gmail.com	Assistant professor

COURSE STRUCTURE:

Module No	Title	No of weeks	Hours of lectures per week	Hours of practical classes per week	Responsible teacher
1.	**Basic Principles of Pharmacology**	4	2	2	Natasa Djordjevic
2.	**Pharmacology of Autonomic and Central Nervous System**	6	2	2	Natasa Djordjevic
3.	**Pharmacology of Cardiovascular and Respiratory System**	5	2	2	Natasa Djordjevic
					Σ 30+30=60

GRADING:

Students should master the course by modules. The grade will be equivalent to the number of points achieved (see the tables). The points will be awarded according to the following scheme:

Module No	Title	Maximal No of points			
		Pre-exam	Exam		Σ
		Activities	Written exam	Oral exam	
1.	**Basic Principles of Pharmacology**	8	12	8	**28**
2.	**Pharmacology of Autonomic and Central Nervous System**	12	14	12	**38**
3.	**Pharmacology of Cardiovascular and Respiratory System**	10	14	10	**34**
Σ		**30**	**40**	**30**	**100**

FINAL EXAM:

To pass this course, student must pass all modules.
To pass the module, the student must achieve more than 50% of the maximal number of points for the module, i.e. at least 15, 20, and 18 points for module 1, 2, and 3, respectively.
The final grade will be formed according to the following table:

Grading system		
Grade	**Total No of points**	**Description**
10	91-100	Excellent
9	81-90	Exceptionally good
8	71-80	Very good
7	61-70	Good
6	51-60	Passing
5	< 51	Failing

Literature

Atkinson AJ, et al. Principles of Clinical Pharmacology. 2nd ed. Burlington: Elsevier; 2007.
Katzung B. Basic and Clinical Pharmacology. 10th ed. New York: McGraw-Hill; 2004.
Brunton LL, editor. Goodman & Gilman's The Pharmacological Basis of Therapeutics. 11th ed. New York: McGraw-Hill; 2006.
DiPiro JT, et al. Pharmacotherapy: a pathophysiologic approach. 7th ed. New York: McGraw-Hill; 2008.
Baxter K, editor. Stockley’s drug interactions. 8th ed. London, UK; Pharmaceutical Press; 2008.

Schedule

Module 1:
BASIC PRINCIPLES OF PHARMACOLOGY

COURSE UNIT 1 (WEEK 1):

Lectures: 2 hours	Practical classes: 2 hours
Introduction to pharmacology. Drug discovery and development. Drug application Transport through the cell membrane.	Drug formulations. Prescriptions.

COURSE UNIT 2 (WEEK 2):

Lectures: 2 hours	Practical classes: 2 hours
Mechanism of drug action. Receptor theory. Drug dosage. Dose-effect relationship.	Narrow therapeutic index drugs.

COURSE UNIT 3 (WEEK 3):

Lectures: 2 hours	Practical classes: 2 hours
Pharmacokinetics: absorption, distribution , metabolism, and excretion of drugs. Pharmacogenetics.	Pharmacokinetic calculations.

COURSE UNIT 4 (WEEK 4):

Lectures: 2 hours	Practical classes: 2 hours
Adverse drug reactions. Drug allergies. Drug therapy in pregnant and nursing women, children, and the elderly.	Adverse drug reactions causality assessment and reporting.

Module 2:
PHARMACOLOGY OF
AUTONOMIC AND CENTRAL NERVOUS SYSTEM

COURSE UNIT 5 (WEEK 5):

Lectures: 2 hours	Practical classes: 2 hours
Pharmacology of the autonomic nervous system. Cholinergic and anticholinergic drugs. Adrenergic and antiadrenergic drugs.	Ocular pharmacology. Histamine, serotonin, and nicotine.

COURSE UNIT 6 (WEEK 6):

Lectures: 2 hours	Practical classes: 2 hours
Introduction to psychopharmacology and neuropharmacology. Pharmacotherapy of psychosis.	Clinical case.

COURSE UNIT 7 (WEEK 7):

Lectures: 2 hours	Practical classes: 2 hours
Pharmacotherapy of depression. Pharmacotherapy of mania.	Clinical case.

COURSE UNIT 8 (WEEK 8):

Lectures: 2 hours	Practical classes: 2 hours
Pharmacotherapy of epilepsy. Pharmacotherapy of Parkinson’s disease.	Clinical case.

COURSE UNIT 9 (WEEK 9):

Lectures: 2 hours	Practical classes: 2 hours
Opioids. Analgesic-antipyretic and anti-inflammatory drugs. Drug addiction.	Clinical case.

COURSE UNIT 10 (WEEK 10):

Lectures: 2 hours	Practical classes: 2 hours
Sedatives and hypnotics. Pharmacotherapy of anxiety disorder. Anesthetics and myorelaxant drugs.	Clinical case.

Module 3:
PHARMACOLOGY OF
CARDIOVASCULAR AND RESPIRATORY SYSTEM

COURSE UNIT 11 (WEEK 11):

Lectures: 2 hours	Practical classes: 2 hours
Pharmacotherapy of congestive heart failure. Diuretics.	Clinical case.

COURSE UNIT 12 (WEEK 12):

Lectures: 2 hours	Practical classes: 2 hours
Pharmacotherapy of arterial hypertension. Pharmacotherapy of myocardial ischemia.	Clinical case.

COURSE UNIT 13 (WEEK 13):

Lectures: 2 hours	Practical classes: 2 hours
Pharmacotherapy of hypercholesterolemia and dyslipidemia. Antiarrhythmic drugs.	Clinical case.

COURSE UNIT 14 (WEEK 14):

Lectures: 2 hours	Practical classes: 2 hours
Pharmacotherapy of asthma and chronic obstructive pulmonary disease.	Clinical case.

COURSE UNIT 15 (WEEK 15):

Lectures: 2 hours	Practical classes: 2 hours
Antitussive drugs, expectorants and mucolytics. Oxygen therapy.	Clinical case.

SCHEDULE OF LECTURES & PRACTICE

MONDAY
14.30-17.30
Hall at the pediatric clinic

PHARMACOLOGY 1: COURSE SCHEDULE

Module	Week	Type	Title	Teacher
1	1	**L**	Introduction to pharmacology. Drug discovery and development. Drug application Transport through the cell membrane.	Natasa Djordjevic
		P	Drug formulations. Prescriptions.	
	2	**L**	Mechanism of drug action. Receptor theory. Drug dosage. Dose-effect relationship.	Radisa Pavlovic
		P	Narrow therapeutic index drugs	
	3	**L**	Pharmacokinetics: absorption, distribution, metabolism, and excretion of drugs. Pharmacogenetics.	Natasa Djordjevic
		P	Pharmacokinetic calculations.	
	4	**L**	Adverse drug reactions. Drug allergies. Drug therapy in pregnant and nursing women, children, and the elderly.	Tamara Nikolic Turnic
		P	Adverse drug reactions causality assessment and reporting.	
2	5	**L**	Pharmacology of the autonomic nervous system. Cholinergic and anticholinergic drugs. Adrenergic and antiadrenergic drugs.	Natasa Djordjevic
		P	Ocular pharmacology. Histamine, serotonin, and nicotine.	
		E	**WRITTEN EXAM 1**	

PHARMACOLOGY 1: COURSE SCHEDULE

Module	Week	Type	Title	Teacher
2	6	**L**	Introduction to psychopharmacology and neuropharmacology. Pharmacotherapy of psychosis.	Natasa Djordjevic
		P	Clinical case.	
	7	**L**	Pharmacotherapy of depression. Pharmacotherapy of mania.	Natasa Djordjevic
		P	Clinical case.	
	8	**L**	Pharmacotherapy of epilepsy. Pharmacotherapy of Parkinson's disease.	Tamara Nikolic Turnic
		P	Clinical case.	
	9	**L**	Opioids. Analgesic-antipyretic and anti-inflammatory drugs. Drug addiction.	Natasa Djordjevic
		P	Clinical case.	
	10	**L**	Sedatives and hypnotics. Pharmacotherapy of anxiety disorder. Anesthetics and myorelaxant drugs.	Radisa Pavlovic
		P	Clinical case.	
3	11	**L**	Pharmacotherapy of congestive heart failure. Diuretics.	Natasa Djordjevic
		P	Clinical case.	

PHARMACOLOGY 1: COURSE SCHEDULE

Module	Week	Type	Title	Teacher
		E	**WRITTEN EXAM 2**	
3	12	**L**	Pharmacotherapy of arterial hypertension. Pharmacotherapy of myocardial ischemia.	Natasa Djordjevic
		P	Clinical case.	
	13	**L**	Pharmacotherapy of hypercholesterolemia and dyslipidemia. Antiarrhythmic drugs.	Tamara Nikolic Turnic
		P	Clinical case.	
	14	**L**	Pharmacotherapy of asthma and chronic obstructive pulmonary disease.	Radisa Pavlovic
		P	Clinical case.	
	15	**L**	Antitussive drugs, expectorants and mucolytics. Oxygen therapy.	Natasa Djordjevic
		P	Clinical case.	
		E	**WRITTEN EXAM 3**	
		E	**ORAL EXAM**	

L-lectures; P – Practical classes, E-exam