



**INTEGRATED ACADEMIC STUDIES OF
PHARMACY**

THIRD YEAR OF STUDIES

2024/2025.

CLINICAL PROPAEDEUTICS FOR PHARMACISTS

Subject:

CLINICAL PROPAEDEUTICS FOR PHARMACISTS

The course is evaluated with 4 ECTS. There are 5 classes of active learning per week (1 class of lectures, 2 classes of seminars and 2 classes of work in a small group)

TEACHERS AND ASSOCIATES:

No	Name and surname	E-mail address	Title
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19.	Tomislav Nikolić	nikolic.s.tomislav@gmail.com	Assistant Professor

COURSE STRUCTURE:

Module	Name of the module	Week	Lectures	Work in a small group	Module supervisor
1.	Selected chapters from pulmonology and cardiology	6	1	2	Associate Prof. Vojislav Ćupurdija
2.	Selected chapters from endocrinology, gastroenterology, hematology, rheumatology, allergology and nephrology	9	1	2	Associate Prof. Vojislav Ćupurdija

ASSESSMENT:

The student completes the subject in modules. The grade is equivalent to the number of points earned (see tables). Points are earned in two ways:

PRE-EXAM ACTIVITIES

In this way, the student can gain up to 30 points, by answering to 2 exam questions from scheduled lectures of that week in a special part of the exercise, and in accordance with the demonstrated knowledge, he receives 0-2 points.

FINAL EXAM: The final exam is taken as a test of 35 questions. In this way, a student can earn up to 70 points.

Module	Name of the module	MAXIMUM POINTS		
		Activity during class	Final exam	Σ
1.	Selected chapters from pulmonology and cardiology	12	70	
2.	Selected chapters from endocrinology, gastroenterology, hematology, rheumatology, allergology and nephrology	18		
Σ		30	70	100

The final grade is formed as follows:

In order to pass the course, the student must obtain a minimum of 55 points and pass all modules. To pass the module the student must:

1. obtain more than 50% points on that module
2. obtain more than 50% of the points provided for the final exam.

Number of points obtained	Grade
0-50	5
51-60	6
61-70	7
71-80	8
81-90	9
91-100	10

LITERATURE:

Module	Name of the textbook	Authors	Publisher	Library
Selected chapters from pulmonology and cardiology	Harrison's Principles of Internal Medicine, 20e	Jameson J, Fauci AS, Kasper DL, Hauser SL, Longo DL, Loscalzo J. Jameson J. et al.	McGraw-Hill Professional, 2022.	No
Selected chapters from endocrinology, gastroenterology, hematology, rheumatology, allergology and nephrology	Harrison's Principles of Internal Medicine, 20e	Jameson J, Fauci AS, Kasper DL, Hauser SL, Longo DL, Loscalzo J. Jameson J. et al.	McGraw-Hill Professional, 2022.	No

All lectures are available on the website of the Faculty of Medical Sciences: www.fmn.kg.ac.rs

PROGRAM:

FIRST MODULE:

TEACHING UNIT 1 (FIRST WEEK):

PULMONOLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
Differential diagnosis of cough, Bronchial asthma, Chronic obstructive pulmonary disease Differential diagnosis of cough, Definition of asthma and COPD, Risk factors for disease occurrence, Diagnostic procedures, Therapeutic approach	Presentation of patients with bronchial asthma and COPD. Getting to know the symptoms and signs of the diseases, diagnostic procedures and therapeutic approach in accordance with modern guidelines.

TEACHING UNIT 2 (SECOND WEEK):

PULMONOLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
Community-acquired pneumonia Definition of community-acquired pneumonia Most common causes of community-acquired pneumonias. Clinical presentation, diagnostic procedures in patients with pneumonia. Pneumonia treatment.	Presentation of a patient with pneumonia. Getting to know the clinical manifestations of the disease, diagnostic procedures and therapeutic approach.

TEACHING UNIT 3 (THIRD WEEK):

PULMONOLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
Differential diagnosis of non-cardiogenic chest pain, Pulmonary thromboembolism. Risk factors for the development of pulmonary thromboembolism, clinical manifestations of the disease and diagnostic algorithm. Pulmonary thromboembolism therapy and monitoring.	Presentation of a patient with pulmonary thromboembolism. Getting to know the clinical manifestations of the disease, diagnostic procedures and therapeutic approach.

TEACHING UNIT 4 (FOURTH WEEK):

CARDIOLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
Definition of acute coronary syndrome. Clinical division of acute coronary syndrome Clinical manifestations of acute coronary syndrome, Diagnostic procedures in acute coronary syndrome, Differential diagnosis Basic therapeutic principles	Work in small groups in the coronary unit. Presentation of a patient with acute coronary syndrome. Pointing out to early symptoms, clinical manifestations and diagnostic procedures. Therapeutic modalities of patients with acute coronary syndrome.

TEACHING UNIT 5 (FIFTH WEEK):

CARDIOLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
<p>Arterial hypertension. Etiology and classification of arterial hypertension. Clinical picture and physical findings of arterial hypertension, Basic procedures in the diagnosis and treatment of arterial hypertension, Therapeutic procedures, approach to patients with arterial hypertension and possible combinations in individual approach</p>	<p>Presentation of a patient with arterial hypertension, getting to know symptoms and signs of arterial hypertension, therapeutic approach to the patient with arterial hypertension.</p>

TEACHING UNIT 6 (SIXTH WEEK):

CARDIOLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
<p>Heart failure. Definition, etiology and classification of heart failure, Clinical presentation and physical findings in heart failure, Basic procedures in diagnosis and treatment of heart failure, Therapeutic procedures and prognostic factors and approach to adult patients with heart failure</p>	<p>Presentation of a patient with heart failure. Getting to know symptoms and signs of heart failure. Diagnostic and therapeutic approach</p>

SECOND MODULE:**TEACHING UNIT 7 (SEVENTH WEEK):**

HEMATOLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
<p>Anemia Anemias: etiology, pathogenesis, classification and treatment. Etiological factors in the development of anemia. Division of anemia, diagnosis of anemia clinical and laboratory, Principles of anemia treatment</p>	<p>Presentation of a patient with anemia Getting to know basic symptoms and signs of anemia, diagnostic procedures and therapeutic modalities.</p>

TEACHING UNIT 8 (EIGHTH WEEK):

ENDOCRINOLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
<p>Thyroid gland disorders (hyperthyroidism, hypothyroidism) Clinical manifestations, diagnosis and therapy of hyperthyroidism, clinical manifestations, diagnosis and therapy of hypothyroidism</p>	<p>Presentation of patients with impaired thyroid function (hyperthyroidism and hypothyroidism). Getting to know symptoms and signs of impaired thyroid function, diagnostic procedures and therapeutic principles.</p>

TEACHING UNIT 9 (NINTH WEEK):

ENDOCRINOLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
Diabetes mellitus Definition and diagnostic criteria of glucose tolerance disorders and diabetes, Epidemiology of diabetes, Division of diabetes and etiopathogenesis of the most common diabetes syndrome, Therapeutic principles	Presentation of patients with type 1 and type 2 diabetes. Analysis of laboratory tests used in the diagnosis of diabetes. Therapeutic modalities in patients with diabetes mellitus. Principles of insulin therapy.

TEACHING UNIT 10 (TENTH WEEK):

GASTROENTEROLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
Differential diagnosis of abdominal pain. Ulcer disease Regulation of gastric secretion. Stomach ulcer, duodenal ulcer, Pharmacotherapy of ulcer Diseases	Presentation of a patient with ulcer disease Getting to know symptoms and signs of ulcer disease, Radiological and endoscopic findings in ulcer disease, Therapeutic approach in patients with ulcer disease

TEACHING UNIT 11 (ELEVENTH WEEK):

RHEUMATOLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
Osteoporosis, Bone structure and mineral turnover. Hormones involved in bone metabolism and remodeling process Risk factors for osteoporosis. Clinical manifestations and treatment of osteoporosis.	Presentation of a patient with osteoporosis. Getting to know clinical manifestations, diagnostic procedures (osteodensitometry) and therapeutic principles.

TEACHING UNIT 12 (TWELFTH WEEK):

RHEUMATOLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
Symptoms and signs of rheumatic diseases. Rheumatoid arthritis. Classification of rheumatoid diseases. Etiopathogenesis, clinical presentation, systemic manifestations, radiographic findings, method of diagnosis, classification criteria and therapy of rheumatoid arthritis.	Presentation of a patient with rheumatoid arthritis. Osteoporosis. Getting to know clinical manifestations, diagnostic procedures and therapeutic principles.

TEACHING UNIT 13 (THIRTEENTH WEEK):

ALLERGOLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
Systemic anaphylaxis. Definition of systemic anaphylaxis. Classification of systemic anaphylaxis according to mechanism of occurrence. Clinical picture, differential diagnosis, therapy and prevention of systemic anaphylaxis.	Presentation of a patient with systemic anaphylaxis. Recognition of clinical manifestations, risk factors and therapeutic approach.

TEACHING UNIT 14 (FOURTEENTH WEEK):

ALLERGOLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
Allergic manifestations to food and medicines. Classification of allergic reactions to drugs according to immune mechanism. Sensitization factors that are related to the patient and related to the drug. Diagnosis and tests used to diagnose allergic reactions to drugs. Therapeutic measures and prevention of allergic reactions to drugs. Aspirin intolerance: pathogenesis, clinical presentation, prevention.	Presentation of patients with allergic manifestations to food and drugs. Recognition of clinical and therapeutic manifestations. Therapeutic approach.

TEACHING UNIT 15 (FIFTEENTH WEEK):

NEPHROLOGY	
LECTURES 1 CLASS; SEMINAR 2 CLASSES	EXERCISES 2 CLASSES
Urinary tract infections. Risk factors, etiological factors, clinical manifestations, diagnostic procedures and therapy of urinary tract infection.	Presentation of patients with urinary infection, getting to know with clinical symptoms and signs of urinary infection. Therapeutic approach in patients with urinary tract infection.

SCHEDULE OF LECTURES & PRACTICE

FRIDAY

11.00-15.00

Hall 2 - Dentistry

LESSON SCHEDULE - CLINICAL PROPAEDEUTICS FOR PHARMACISTS

Module	Week	Type	Name of methodical unit	Teacher
1	1	L/S	Differential diagnosis of cough. Bronchial asthma. Chronic obstructive pulmonary disease	Assist. Prof. Rada Vučić
	1	E	Presentation of a patient with bronchial asthma and chronic obstructive pulmonary disease	Assist. Prof. Rada Vučić
	2	L/S	Community-acquired pneumonia	Associate. Prof. Vojislav Čupurdija
	2	E	Presentation of a patient with community-acquired pneumonia	Associate. Prof. Vojislav Čupurdija
	3	L/S	Differential diagnosis of non-cardiogenic chest pain. Pulmonary thromboembolism	Assist. Prof. Miodrag Srećković
	3	E	Presentation of a patient with pulmonary thromboembolism	Assist. Prof. Miodrag Srećković
	4	L/S	Acute coronary syndrome	Full Prof. Vladimir Miloradović
	4	E	Presentation of a patient with acute coronary syndrome	Teaching Assistant Stefan Simović

LESSON SCHEDULE - CLINICAL PROPAEDEUTICS FOR PHARMACISTS

Module	Week	Type	Name of methodical unit	Teacher
1	5	L/S	Arterial hypertension	Associate Prof. Ivan Simić
	5	E	Presentation of a patient with arterial hypertension	Associate Prof. Ivan Simić
	6	L/S	Heart failure	Full Prof. Goran Davidović
	6	E	Presentation of a patient with heart failure	Teaching Assistant Stefan Simović
2	7	L/S	Anemia	Full Prof. Svetlana Djukić
	7	E	Presentation of a patient with anemia	Assist. Prof. Danijela Jovanović
2	8	L/S	Thyroid gland diseases (hypothyroidism and hyperthyroidism)	Assist. Prof. Violeta Mladenović

LESSON SCHEDULE - CLINICAL PROPAEDEUTICS FOR PHARMACISTS

Module	Week	Type	Name of methodical unit	Teacher
	8	E	Presentation of a patient with thyroid disease	Teaching Assistant with PhD Dragana Bubanja
	9	L/S	Diabetes mellitus	Assist. Prof. Violeta Mladenović
	9	E	Presentation of a patient with diabetes mellitus	Assist. Prof. Violeta Mladenović
	10	L/S	Differential diagnosis of abdominal pain. Ulcer disease	Full Prof. Nataša Zdravković
	10	E	Presentation of a patient with ulcer disease	Teaching Assistant Jelena Živić
	11	L/S	Osteoporosis	Full Prof. Mirjana Veselinović

LESSON SCHEDULE - CLINICAL PROPAEDEUTICS FOR PHARMACISTS

Module	Week	Type	Name of methodical unit	Teacher
	11	E	Presentation of a patient with osteoporosis	Assist. Prof. Željko Todorović
	12	L/S	Symptoms and signs of rheumatic diseases. Rheumatoid arthritis	Full Prof. Mirjana Veselinović
2	12	E	Presentation of a patient with rheumatoid arthritis	Assist. Prof. Željko Todorović
	13	L/S	Systemic anaphylaxis	Full Prof. Aleksandra Lučić Tomić
	13	E	Presentation of a patient with systemic anaphylaxis	Teaching Assistant Anita Sarić
	14	L/S	Allergic manifestations to food and drugs	Full Prof. Aleksandra Lučić Tomić
	14	E	Poisoning by corrosive substances in children, most common drug poisoning (paracetamol, neuroleptics, salicylates)	Teaching Assistant Anita Sarić

LESSON SCHEDULE - CLINICAL PROPAEDEUTICS FOR PHARMACISTS

Module	Week	Type	Name of methodical unit	Teacher
2	15	L/S	Urinary tract infections	Assoc. Prof. Tatjana Lazarevic
2	15	E	Presentation of a patient with urinary system infection	Assist. Prof. Tomislav Nikolić
		EX	EXAM	