

<b>Study program:</b> Integrated academic studies in medicine
<b>Type and level of the study program:</b> integrated academic studies
<b>Course title: Internal medicine (M4-INTM)</b>
<b>Teacher:</b> Ilić A. Tatjana, Knežević V. Violeta, Mitić M. Igor, Popović S. Milica, Stražmešter Majstorović B. Gordana, Čelić M. Dejan, Bajkin A. Ivana, Ičin S. Tijana, Medić Stojanoska K. Milica, Pejin D. Radoslav, Popović S. Đorđe, Stokić J. Edita, Tomić Naglić D. Dragana, Savić S. Željka, Perčić Z. Ivanka, Savić D. Aleksandar, Sekulić R. Borivoj, Urošević M. Ivana, Bursać Daliborka, Vukoja N. Marija, Zarić M. Bojan, Zvezdin S. Biljana, Ilić P. Miroslav, Kašiković Lečić B. Svetlana, Kolarov P. Violeta, Kopitović Š. Ivan, Obradović S. Dušanka, Sečen G. Nevena, Šarčev V. Tatjana, Bjelobrk Marija, Dejanović V. Jadranka, Ilić M. Aleksandra, Ivanov Đ. Igor, Kovačević V. Dragan, Miljković R. Tatjana, Petrović S. Milovan, Sakač B. Dejan, Stojšić Milosavljević Đ. Anastazija, Tadić J. Snežana, Čanković Z. Milenko, Čemerlić Adić B. Nada, Kolarov Bjelobrk N. Ivana, Nikolić V. Ivan, Budakov Obradović P. Zorana, Vojvodić I. Svetlana
<b>Course status:</b> compulsory
<b>ECTS Credits: 26</b>
<b>Condition:</b> Pathologic anatomy; Pathophysiology; Clinical Propedeutics; General Radiology; Clinical Radiology; General Pharmacology; Special Pharmacology
<b>Course aim</b> Students of medicine are acquainted with etiopathogenesis, diagnostics and therapy of internal diseases with special emphasis on most common diseases and emergency situations. They will also develop critical thinking, and use their knowledge and skills to establish diagnosis and conduct appropriate therapy.
<b>Expected outcome of the course:</b> Students will acquire the necessary knowledge in: nephrology, immunology, endocrinology, gastroenterology, pulmonology, haematology, cardiology and oncology. They will be able to identify diseases, to apply appropriate therapy procedure and to treat severely ill patients. Students will be able to establish the diagnosis, to plan diagnostic procedures and to recommend appropriate therapy. Students are trained for individual and teamwork, to identify cardiovascular, pulmonary, nephrological, endocrine, gastroenterological, hematological and oncologic disorders, to implement diagnostic and therapeutic procedures.
<b>Course description</b> <i>Theoretical education</i> 1. PULMONOLOGY. Clinical signs and symptoms of lung diseases; diagnostic procedures. Pathophysiology of breathing. Diagnostic algorithms in lung diseases. Chronic obstructive lung diseases. Pulmonary insufficiency, hypertension. Lung tumors – etiopathogenesis, symptoms, classification, therapy. Classification of chronic obstructive lung diseases. Definition and diagnosis of chronic bronchitis. Definition and classification of emphysema. Definition and classification of bronchial asthma, etiopathogenesis, clinical forms and symptoms. Pathophysiological mechanisms and causes of respiratory failure. Pulmonary heart disease. Pulmonary thromboemboly, etiology, clinical features, diagnostics and therapy, complications of pneumonia. Bronchiectasis and lung abscess. Pneumoconiosis. Exogenous allergic alveolitis - acute and chronic forms, morphological changes, diagnosis and treatment. Granulomatous lung diseases. Sarcoidosis and Wegener's granulomatosis. Pulmonary manifestations of systemic diseases. Primary lung tumors. Bronchial cancer. Mediastinal diseases: acute and chronic mediastinitis, mediastinal tumors. Tuberculosis. Respiratory intoxications. Pleural effusions. Sleep apnea syndrome. Adult respiratory distress syndrome. Lung transplantation. Respiratory diseases in immunocompromised patients, AIDS and non-AIDS patients. Rehabilitation of patients with lung diseases. Emergency pulmonology. Occupational lung diseases. 2. GASTROENTEROLOGY AND HEPATOLOGY: Functional and organic diseases of the esophagus. Chronic gastritis, gastric ptosis and atony. Ulcer disease - stomach and duodenum. Diagnostics of intestinal disorders and constipation. Diarrhea syndrome. Malabsorption syndromes and gluten enteropathy. Ulcerative colitis, Crohn's disease and intestinal tuberculosis. Bowel tumors. Functional disorders and diseases of gastrointestinal system. Acute pancreatitis and pancreatic disease diagnosis. Chronic pancreatitis. Pancreas tumors. Chronic hepatitis. Cirrhosis. Hepatic tumors, liver echinococcosis. Gall bladder and bile duct diagnostics. Cholelithiasis. Cholecystitis. Differential diagnosis in jaundice. Post-cholecystic syndrome. Acute intermittent hepatic porphyria. Acute chemical poisoning. Diverticulum of the gastrointestinal system. Tumors (esophagus, stomach, duodenum, small and large intestine, GIST, pancreas, liver). Liver echinococcosis. 3. CARDIOLOGY. Heart anomalies. Congenital heart defects. Rheumatic fever. Endocarditis. Acute pulmonary heart disease. Chronic pulmonary heart disease. Syncopal episodes: Arterial hypertension. Coronary diseases and acute myocardial infarction. Shock episodes. Heart rhythm disorders. Vascular diseases. Heart failure and treatment. Cardiopulmonary revival. Invasive diagnosis in cardiology. Interventional treatment methods in cardiology. Prevention of cardiovascular disease. Rehabilitation of cardiovascular patients. Ultrasound in cardiological diagnostics. Thrombolytic treatments in cardiology: indications. Clinical aspects of immune system disorders. Rheumatic fever. Imaging techniques in cardiology. Arterial and venous diseases. Primary and secondary cardiomyopathy. Thrombolytic therapy in cardiology. Heart neoplasms. Diseases of the aorta. 4. ENDOCRINOLOGY. Disorders of the hypothalamus pituitary adrenal axis (hypo and hyper). Disorders of neurohypophysis. Thyroid gland diseases (hyperthyroidism, hypothyroidism, thyroiditis, thyroid cancer). Parathyroid diseases (hyperparathyroidism, hypoparathyroidism). Adrenal gland diseases (Cushing syndrome, hyperaldosteronism, KAH, feochromocytoma, MEH, hypocorticism). Primary ovarian insufficiency. Menopause. Polycystic ovary syndrome. Male gonade diseases. Primary and secondary osteoporosis. Paget disease. Metabolic disorders. Pathological overfeeding, obesity and malnutrition. Fat metabolism disorders. Etiopathogenesis, development stages and clinical manifestations of diabetes. Complications of diabetes. Treatment of diabetes - diet, medication and / or insulin. Endocrine diseases of the hypothalamus. Diseases of the pituitary gland. Diagnostics of thyroid gland diseases and hyperthyroidism. Thyreoiditis. Euthyreotic struma and thyroid cancer. 5. NEPHROLOGY AND CLINICAL IMMUNOLOGY. Clinical syndromes in nephrology. Kidney diseases – diagnosis and functional tests.

Autoimmunity. Autoimmune diseases, connective tissue diseases. Immunodeficiency states. Medicamentous and nutrition allergies. Anaphylaxis. Prevention and treatment of allergy. Transplant immunology -clinical aspects. Diagnostic methods in immunology. Therapy methods in immunology. Glomerulopathies - clinical syndromes and classification. Etiopathogenesis of acute glomerulonephritis. Acute, progressive, persistent and chronic glomerulonephritis. Acute pyelonephritis. Chronic pyelonephritis. Nephrotic syndrome. Acute and chronic renal failure. Nephrolythiasis and vascular nephropathy. Vasculitis. Kidney transplantation. Water - salt metabolism impairment. 6. HEMATOLOGY. Anemia syndrome. Classification of anemias. Sideropenic complex and anemia. Aplastic anemia Paroxysmal nocturnal hemoglobinuria. Megaloblastic anemia. Myeloaplasia and myelodysplasia. Hemolytic anemia (congenital corpuscular, extracorpuseular, microangiopathic).Anemias with complex genesis and anemias in the elderly. Leukocytosis, leukopenia and agranulocytosis. Eosinophilia, basophilia, monocytosis. Malignant hematologic diseases – etiopathogenesis, classification and therapy. Acute leukemia (lymphoblastic and nonlymphoblastic). Myelofibrosis and essential thrombocytemia. Chronic lymphocytic leukemia. Myeloproliferative syndrome, and agranulocytosis. Main features of leukemia, acute leukemia. Chronic leukemia. Lymphomas. Hodgkin disease. Non-Hodgkin lymphoma and multiple myeloma. Hemorrhagic syndrome, vasculopathy and thrombocytopathy. Coagulopathy. Hemophilia A and B. Von Willebrand disease (congenital and acquired). Hyperprothrombinemia, pathologic fibrinolysis and DIK. Arterial and venous thrombosis. Stem cell transplantation. Mollecular diagnosis and therapy of hematologic diseases.

*Practical education: exercises, other forms of education, research related activities*

1. Medical history taking and physical examination of pulmonary patients, diagnostic and therapeutic procedures in pulmology. Role of general practitioners in diagnosis and therapy of pulmonary diseases, emergency states in pulmology. 2. Medical history taking and physical examination of patients with gastroenterology and hepatology diseases, diagnosis and therapy in gastroenterology and hepatology. Role of general practitioners in diagnosis and therapy of gastroenterology and hepatology diseases, emergency states in gastroenterology and hepatology. 3. Medical history taking and physical examination of cardiology patients, diagnostic and therapeutic procedures in cardiology. Role of general practitioners in diagnosis and therapy of cardiology diseases, emergency states in cardiology. 4. Medical history taking and physical examination of endocrine patients, patients with diabetes mellitus and other metabolic disorders, diagnostic and therapeutic procedures in endocrinology. Role of general practitioners in diagnosis and therapy of endocrine diseases, diabetes mellitus and metabolic disorders. 5. Medical history taking and physical examination of patients with immunologic and nephrologic diseases; diagnosis and therapy in clinical immunology and nephrology. Role of general practitioners in diagnosis and therapy of immunologic and nephrology diseases and emergency states in clinical immunology and nephrology. 6. Medical history taking and physical examination of patients with hematologic diseases; diagnosis and therapy in hematology. Role of general practitioners in diagnosis and therapy of hematologic diseases and emergency states in hematology. 7. Medical history taking and physical examination of patients with oncologic diseases in the scope of internal oncology; diagnosis and therapy in internal oncology. Role of general practitioners in diagnosis and therapy of oncologic diseases and emergency states in internal oncology.

**Literature**

*Compulsory*

1. Harrison's Principles of Internal Medicine, 19th Edition;
2. Lecture handouts and notes

<b>Number of active classes</b>				Other:
Lectures: 195	Practice: 180	Other types of teaching:	Research related activities:	

**Teaching methods:** Lectures and practical work

**Student activity assessment (maximally 100 points)**

Pre-exam activities	points	Final exam	points
Lectures	10	Written	10
Practices	20	Oral	60
Colloquium			
Essay			