Study program: Integrated Academic Studies in Medicine

Course title: Internal Medicine

Teacher: Ilić A. Tatjana, Knežević V. Violeta, Mitić M. Igor, Popović S. Milica, Stražmešter Majstorović B. Gordana, Ćelić 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 Ađić B. Nada, Kolarov Bjelobrk N. Ivana, Nikolić V. Ivan

Course status: compulsory

ECTS Credits: 24

Condition: Pathology; Pathophysiology (entrance); Clinical Propedeutics; Radiology, Pharmacology and Toxicology 1; Pharmacology and Toxicology 2 (for the test and exam)

Course aim

The main objective of education in the subject Internal Medicine in integrated medicine studies the adoption of the current theoretical and practical expertise in internal medicine, as well as training to apply their knowledge in a professional and in scientific research. Significant development of critical thinking, as well as the ability to take on the basis of the knowledge and skills of diagnosis of disease, the appropriate plan further diagnosis and prescribe treatment.

Expected outcome of the course:

Students will gain knowledge in all areas of Internal Medicine: nephrology and clinical immunology, endocrinology, gastroenterology and hepatology, hematology, pulmonology, cardiology and medical oncology, as well as the ability to recognize these diseases, the implementation of a rational diagnosis and treatment of these diseases in terms of general practitioners as well as urgent care for serious and critically ill patients. They will acquire the ability to use these skills define the diagnosis, plan diagnostic procedures and administer appropriate therapy.

Students will be trained for individual and team work in identifying cardiac, pulmonary, nephrologic, endocrine, gastrointestinal, hematological and oncological diseases, as well as the application of diagnostic and therapeutic algorithms..

Course description

Theoretical education

1. PULMONOLOGY: Clinical symptoms and signs of lung disease. Physical findings in pulmonary diseases. Pathophysiology of respiration. Diagnostic algorithm in lung diseases and diagnostic methods. Chronic obstructive pulmonary disease. Pulmonary failure, hypertension and chronic pulmonary heart. Lung tumors (etiopathogenesis, clinical, TNM classification, therapy). Diseases of the mediastinum. Pulmonary thromboembolism. Smoking, a risk factor in the development of lung disease. Bronchial asthma. Sleep apnea syndrome. Toxic lung injury and acute respiratory distress syndrome. Lung transplantation. Collagenosis and vasculitis. Side effects of drugs to the lungs. Idiopathic, immune and granulomatous lung disease. Sarcoidosis of the lungs. Tuberculosis (etiology, pathogenesis, clinical picture, diagnosis, therapy). Diseases of the pleura. Malignant pleural mesothelium. Pneumonia. Respiratory disease in immunocompromised patients, AIDS and non-AIDS diseases. Lung abscess, bronchiectasis and cystic fibrosis. Diaphragm (disease and its role in breathing). The rehabilitation of pulmonary patients. Interventional pulmonology. Occupational lung disease. 2. GASTROENTEROLOGY AND HEPATOLOGY: Diseases of the esophagus and hiatus hernia. Dyspepsia, acute and chronic gastritis. Atony and ptosis of the stomach. Ulcer disease of the stomach and duodenum. Bleeding from the gastrointestinal tract. Diagnosis of bowel disease, syndrome of constipation and diarrhea syndrome. Functional disorders of the gastrointestinal tract. Malabsorption syndrome. Gluten enteropathy. Ulcerative colitis. Crohn's disease and intestinal tuberculosis. Acute pancreatitis and diagnosis of pancreatic diseases. Chronic pancreatitis. Cirrhosis of the liver (Causes, division, symptoms, diagnosis, treatment). Chronic hepatitis. Diagnosis of diseases of the gall bladder and bile ducts. Cholelithiasis. Cholecystitis. Diferential diagnosis of jaundice. Postholecystectomic syndrome. Acute intermittent hepatic porphyria. Acute poisoning with chemical substances. Diverticules of the gastrointestinal tract. Tumors of gastrointestinal organs (esophagus, stomach, duodenum, small intestine and colon, GIST, pancreas, and liver). Liver echinococcosis. 3. CARDIOLOGY. Heart defects (congenital and acquired). Coronary heart disease and acute myocardial infarction. Pathophysiology of cardiogenic schock. Ultrasound diagnostics in cardiology. Acute and chronic pulmonary heart. Syncopal sheet in cardiology. Endocarditis. Heart rhythm disorders. Treatment of cardiac arrhythmias. Cardiopulmonary resuscitation. Electrophysiological diagnostics and electrotherapy of the heart. Pericarditis. Emergencies in Cardiology. Invasive diagnostics in cardiology. Emergency treatment methods in cardiology. Arterial hypertension. The rehabilitation of cardiovascular patients. Acute

and chronic heart failure and its treatment. Rheumatic fever. Imaging techniques in cardiology. Prevention of cardiovascular disease. Diseases of the arteries and veins. Primary and secondary cardiomyopathy. Thrombolytic treatment in cardiology. Tumors of the heart. Aortic disease.

4. ENDOCRYNOLOGY. Disorders of hypothalamic-pituitary axis (hipofunkciona and hiperfunkciona sheet). Disorders neurohypophysis. Thyroid disease (hyperthyroidism, hypothyroidism, thyroiditis, thyroid carcinoma). Diseases of the parathyroid glands (hyperparathyroidism, hypoparathyroidism). Diseases of the adrenal glands (Cushing's syndrome, hyperaldosteronism, DLV, pheochromocytoma, MEN hipokorticizam). Primary ovarian insufficiency. Menopause. Polycystic ovarian syndrome. Diseases of male gonads. Primary and secondary osteoporosis. Paget's disease of bone. Diabetes mellitus (etiopathogenesis, classification, clinical features, diagnostic, treatment, acute and chronic complications). Disorders of fat metabolism (etiology, clinical presentation, diagnosis, treatment). Obesity and cardiometabolic syndrome. Importance of genetics and molecular biology, in the diagnosis and treatment of endocrine diseases. Diabetes and pregnancy. Endocrinological diseases and pregnancy.

5. NEPHROLOGY AND CLINICAL IMMUNOLOGY Clinical syndromes in nephrology. Diagnosis of renal disease and functional testing. Glomerulonephritis-etiopathogenesis, classification and clinical picture. Acute, rapidprogressive, persistent and chronic glomerulonephritis - diagnosis and treatment. Acute pyelonephritis. Chronical pyelonephritis and other interstitial nephropathy. Vasculitis. Acute and chronic renal failure. Nephrolithiasis and vascular nephropathy. Kidney transplant. Emergencies in nephrology. Water and electrolytes abnormalities. Clinical aspects of the functioning of the immune and disorders of the appliance. Hypersensitivity reactions - pathophysiological and clinical aspects. Atopy. Pharmacological and nutritional allergies. Systemic anaphylactic reactions. Autoimmunity. Autoimmune diseases, connective tissue diseases. Systemic lupus erythematosus. Rheumatoid arthritis. Sjogren's syndrome. Systemic sclerosis. Polymyositis. Mixed connective tissue disease. Seronegative arthritis. Differential diagnosis of arthropathy. Immunodeficient conditions. Diagnostic methods in immunology. Transplantation immunology and clinical aspects to transplantation. Therapeutic methods in clinical immunology. 6. HEMATOLOGY Anemic syndrome. The division of anemia. Iron deficiency anemia and conditions. Aplastic anemia and paroksizmna nocturnal haemoglobinuria. Megaloblastic anemia. Hemolytic anemia (hereditary corpuscular, ekstracorpucular, microangiopathy). Anemia of complex genesis and anemia in the elderly. Leukocytosis, leukopenia, and agranulocytosis. Eosinophilia, basophilia, monocytosis. Malignant hematological diseases - etiology, classification and therapeutic principles. Acute leukemia (lymphoblastic, nonlymphoblastic). Chronic myeloid leukemia. Erythrocytosis and polycythemia. Myelofibrosis and essential thrombocythemia. Chronic lymphocytic leukemia. Tricholeukemia. Lymphomas (Hodgkin's and non Hodgkin's lymphoma, B and T lymphocytes). Differential diagnosis of lymphoadenomegaly and splenomegaly. Plasmacytoid lineage disease (MGUS, multiple myeloma and other diseases plasmacytoid lineage). Hemorrhagic syndrome, vasculopathy, thrombocytopenia and thrombosthenias. Hemophilia A and B, Von Willebrand's disease (congenital and acquired). Hypoprothrombinaemia, pathologic fibrinolysis and disseminated intravascular coagulation (DIC). Arterial and venous thrombosis. Stem cell transplantation. Molecular diagnostics and treatment of hematological diseases.

Practical teaching

1.The history and physical examination of pulmonary patients, diagnostic and therapeutic algorithms in pulmonology. The role of general practitioners in the diagnosis and treatment of pulmonary diseases, solving emergencies in pulmonology. 2. The history and physical examination of patients with gastroenterology and hepatology diseases, diagnostic and therapeutic algorithms in gastroenterology and hepatology. The role of general practitioners in the diagnosis and treatment of gastrointestinal diseases and hepatological and solving emergencies in gastroenterology and hepatology. 3. The history and physical examination of patients with cardiological disases, diagnostic and therapeutic algorithms in cardiology. The role of general practitioners in the diagnosis and treatment of cardiovascular diseases, solving emergencies in cardiology. 4. History taking and physical examination of endocrine patients, patients with diabetes and other metabolic disorders, diagnostic and therapeutic algorithms in endocrinology, diabetes and other metabolic disorders. The role of the general practitioner in the diagnosis and treatment of endocrine disorders, diabetes mellitus and other metabolic diseases, solving emergencies in endocrinology, diabetes and metabolic disorders. 5. The history and physical examination of patients with immune and renal diseases, diagnostic and therapeutic algorithms in clinical immunology and nephrology. The role of general practitioners in the diagnosis and treatment of immune diseases and nephrology, as well as taking care of emergencies in clinical immunology and nephrology. 6. History taking and physical examination of patients with hematological diseases, diagnostic and therapeutic algorithms in hematology. The role of general practitioners in the diagnosis and treatment of hematological diseases.

Literature

Compulsory

1. Harrison's Principles of Internal Medicine, McGraw-Hill Professional 20th Edition 2018;
2. Lecture handouts and notes

Number of active classes	**Theoretical classes:** 195	**Practical classes:** 180 **Other classes:** 120

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			