INTERNAL MEDICINE

INTERNAL MEDICINE

FOURTH YEAR OF STUDIES

2024/2025. school year

Subject:

INTERNAL MEDICINE

The course is evaluated with 24 ECTS. There are 12 active classes per week (6 classes of lectures and 6 classes of work in a small group).

TEACHERS:

ON	Name and surname	Email address	title
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COURSE STRUCTURE:

Module	**Name of the module**	**Week**	**Lectures weekly**	**Work in a small group per week**	**Teacher**
1	Cardiology Pulmology Allergology and immunology	15	6	6	Zeljko Todorovic
2	Hematology Endocrinology Gastroenterology Nephrology Rheumatology	15	6	6	Zeljko Todorovic
					Σ180+180=360

EVALUATION:

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

ACTIVITY DURING THE LESSON: In this way, a student can earn up to 30 points by answering 2 exam questions from that week's lessons during the last working hour in a small group, and based on demonstrated knowledge, they can acquire 0-1 points.

FINAL MODULE EXAMS: In this manner, a student can earn up to 20 points, as per the attached table.

FINAL (ORAL) EXAM: In this manner, a student can earn 50 points, 10 points on the final skills assessment and 40 points on the oral exam.

The final skills assessment involves the student taking a medical history, conducting a physical examination of the patient, interpreting findings, providing a diagnosis (differential), and suggesting a therapeutic approach (6 points). The student should describe two ECG findings (2 points) and two radiological lung images (2 points). If the student does not pass the final skills assessment, they cannot proceed to the oral part of the exam. The oral part of the exam entails the student orally answering five posed questions (each question is worth 0-8 points).

MODULE		**MAXIMUM POINTS**			
		activity during the lesson	**final module exams**	**final(oral) exam**	**Σ**
1	Cardiology Pulmology Allergology and immunology	15	10		25
2	Hematology Endocrinology Gastroenterology Nephrology Rheumatology	15	10		25
				50	50
Σ		**30**	**20**	**50**	**100**

CONSULTATIVE TEACHING: Consultations can be scheduled with the head of the subject, Full professor Nataša Zdravković (natasasilvester@gmail.com).

The final grade is determined as follows:

In order for a student to pass the course, they must accumulate a minimum of 51 points, pass all modules, and pass the final oral exam.

To pass a module, a student must:
1. Score more than 50% of the points allocated for that module.
2. Earn more than 50% of the points designated for participation in classes within each module.
3. Pass the test for that module, meaning they have more than 50% correct answers

number of points won	grade
0 - 50	**5**
51 - 60	**6**
61 - 70	**7**
71 - 80	**8**
81 - 90	**9**
91 - 100	**10**

FINAL MODULE EXAMS

MODULE 1.

FINAL EXAM
0-10 POINTS

EVALUATION OF FINAL EXAM
The test has 40 questions
Each question is worth 0,25 point

MODULE 2.

FINAL EXAM
0-10 POINTS

EVALUATION OF FINAL EXAM
The test has 40 questions
Each question is worth 0,25 point

LITERATURE:

module	the name of the textbook	authors	publisher	the library
Cardiology Pulmology Allergology and immunology	Harrison's Principles of Internal Medicine, 20th Edition Textbook	Jameson JL, Fauci AS, Kasper DL, Hauser SL, Longo DL, Loscalzo J, eds.	McGraw Hill; 2018.	Yes
Hematology Endocrinology Gastroenterology Nephrology Rheumatology	Harrison's Principles of Internal Medicine, 20th Edition Textbook	Jameson JL, Fauci AS, Kasper DL, Hauser SL, Longo DL, Loscalzo J, eds.	McGraw Hill; 2018.	Yes

All the presentations can be found on the website of the Faculty of Medical Sciences: www.medf.kg.ac.rs

PROGRAM:

MODULE 2: RHEUMATOLOGY, HEMATOLOGY, ENDOCRINOLOGY, GASTROENTEROLOGY, NEPHROLOGY.

TEACHING UNIT 1 (FIRST WEEK):

CLASSIFICATION OF RHEUMATIC DISEASES. RHEUMATOID ARTHRITIS. SPONDYLOARTHRITIS. ANKYLOSING SPONDILITIS. REACTIVE ARTHRITIS (SY REITER). PSORIASIS ARTHRITIS. ENTEROPATHIC ARTHRITIS.

lectures 3 classes	work in a small group 3 classes
Classification of rheumatic diseases Rheumatoid arthritis Common features of spondyloarthropathies and classification criteria. Ankylosing spondylitis Reactive arthritis. Psoriatic arthritis. Enteropathic arthritis. **What a student should know:** Classification of rheumatic diseases. Etiopathogenesis, clinical picture, systemic manifestations, radiographic findings, method of diagnosis, classification criteria and treatment of rheumatoid arthritis. Common features and classification criteria of spondyloarthropathies. Etiopathogenesis, clinical picture, radiographic finding, method of diagnosis and treatment of ankylosing spondylitis, reactive arthritis, psoriatic arthritis and enteropathic arthritis.	Presentation of a patient with rheumatoid arthritis and spondyloarthropathy. Radiographic findings on peripheral joints and spine in patinets with rheumatoid arthritis and spondyloarthropathy. Classification criteria for rheumatoid arthritis and spondyloarthropathies. Clinical picture, diagnostics, therapy rheumatoid arthritis and spondyloarthropathy. **What a student should know:** Clinical picture, diagnosis and treatment of rheumatoid arthritis and spondyloarthropathy. What are the systemic manifestations of rheumatoid arthritis and spondyloarthropathy. Radiographic changes in peripheral joints and spine in rheumatoid arthritis and spondioloarthropathies.

TEACHING UNIT 2 (FIRST WEEK):

SYSTEMIC DISEASES OF CONNECTIVE TISSUE - GENERAL CHARACTERISTICS. SYSTEMIC ERYTHEMATIC LUPUS. ANTIPHOSPHOLIPID SYNDROME.

lectures 3 classes	work in a small group 3 classes
Systemic connective tissue diseases Systemic lupus erythematosus. Antiphospholipid syndrome. . **What a student should know:** Which diseases are considered systemic connective tissue diseases and their common clinical and immunoserological characteristics. Systemic lupus erythematosus, antiphospholipid syndrome - etiopathogenesis, clinical picture, classification criteria, diagnosis and therapy.	Common clinical and immunoserological characteristics of systemic connective tissue diseases. Presentation of a patient with a systemic connective tissue disease. Etiopathogenesis, clinical picture, classification criteria, diagnosis and therapy of systemic lupus erythematosus and antiphospholipid syndrome. **What a student should know:** Clinical manifestations and significant serological analyzes and therapy of systemic lupus erythematosus and antiphospholipid syndrome.

TEACHING UNIT 3 (SECOND WEEK):

SJOGREN'S SYNDROME. POLYMYOSITIS/DERMATOPOLIMYOSITIS. SYSTEMIC SCLEROSIS. MIXED CONNECTIVE TISSUE DISEASE.

lectures 3 classes	work in a small group 3 classes
Sjogren's syndrome. Dermato/polymyositis. Systemic sclerosis. Mixed connective tissue disease. **What a student should know:** Sjogren's syndrome, dermato/polymyositis, systemic sclerosis, mixed connective tissue disease - etiopathogenesis, clinical picture, classification criteria, diagnosis and therapy.	Etiopathogenesis, clinical picture, classification criteria, diagnosis and therapy of Sjogren's syndrome, dermato/polymyositis, systemic sclerosis and mixed connective tissue diseases. **What a student should know:** Clinical manifestations, significant serological analyzes and treatment of Sjogren's syndrome, dermato/polymyositis, systemic sclerosis and mixed connective tissue diseases.

TEACHING UNIT 4 (SECOND WEEK):

SYSTEMIC VASCULITIS. NODOSE POLYARTHERITIS. TEMPORAL ARTERITIS. TAKAYASU ARTERITIS. WEGENER'S GRANULOMATOSIS. EOSINOPHILIC GRANULOMATOSIS WITH POLYANGITIS (CHURG-STRAUSS). STYLE'S DISEASE IN ADULTS.

lectures 3 classes	work in a small group 3 classes
Vasculitis. Style's disease of adults **What a student should know:** Classification of systemic vasculitis. Polyarteritis nodosa, Sy . Churg - Strauss, Morbus Wegener, temporal arteritis, Takayasu arteriti - etiopathogenesis, clinical picture, classification criteria, diagnosis and therapy. Style's disease in adults - etiopathogenesis, clinical picture, classification criteria, diagnosis and therapy	Classification, etiopathogenesis, clinical picture, classification criteria, diagnosis and therapy of systemic vasculitis. Etiopathogenesis, clinical picture, classification criteria, diagnosis and therapy of Styl's disease in adults. **What a student should know:** Classification, clinical picture, diagnosis and therapy of systemic vasculitis. Clinical picture, classification criteria, diagnosis and therapy of Styl's disease in adults.

TEACHING UNIT 5 (THIRD WEEK):

DEGENERATIVE RHEUMATISM OF THE PERIPHERAL JOINTS AND SPINE. EXTRA-ARTICULAR RHEUMATISM. FIBROMYALGIA.

lectures 3 classes	work in a small group 3 classes
Degenerative diseases of peripheral joints and spine. Extra-articular rheumatism. Fibromyalgia. **What a student should know:** Degenerative diseases of peripheral joints and spine, extra-articular rheumatism, fibromyalgia - etiopathogenesis, clinical picture, classification criteria, diagnosis and therapy	Etiology, division, clinical picture, diagnosis and therapy of degenerative diseases of peripheral joints and spinal column, extra-articular rheumatism and fibromyalgia. **What a student should know:** Clinical picture, diagnosis and therapy of degenerative diseases of peripheral joints and spinal column, extra-articular rheumatism and fibromyalgia.

TEACHING UNIT 6 (THIRD WEEK):

METABOLIC BONE DISEASES. OSTEOPOROSIS. OSTEOMALACIA. METABOLIC DISEASES OF THE JOINTS-GOUT

lectures 3 classes	work in a small group 3 classes
Metabolic joint diseases: gout. pseudogout. Metabolic bone diseases: osteoporosis. osteomalacia. **What a student should know** Metabolic joint diseases (gout and pseudogout) – etiopathogenesis, clinical picture, diagnosis and therapy. Metabolic bone diseases (osteoporosis and osteomalacia) - etiopathogenesis, risk factors, clinical picture, diagnostics and therapy.	Presentation of patients with metabolic joint disease. Etiopathogenesis, clinical picture, radiographic changes, diagnosis and therapy of gout and pseudogout. Etiopathogenesis, risk factors, clinical picture, diagnosis and therapy of osteoporosis and osteomalacia. **What a student should know:** Clinical picture, radiographic changes, diagnosis and therapy of gout and pseudogout. Risk factors, clinical picture, diagnosis and treatment of osteoporosis and osteomalacia.

TEACHING UNIT 7 (FOURTH WEEK):

ORIGIN OF BLOOD CELLS: HEMATOPOEITIC ORGANS, CONCEPT OF PLURIPOTENTIAL CELLS. DISEASES OF PLURIPOTENT CELLS AND SPECIFIC HEMATOPOESIS STEM CELLS.

lectures 3 classes	work in a small group 3 classes
Hematopoiesis and hematopoietic organs The concept of a pluripotent hematopoietic cell Diseases of pluripotent cells of hematopoiesis - definition, etiopathogenesis, clinical picture, diagnosis and treatment Diseases of determined stem cells of hematopoiesis - definition, etiopathogenesis, clinical picture, diagnosis and treatment **What a student should know:** The importance and role of hematopoietic organs in homeostasis Define the term hematopoiesis stem cell Adopt the division of hematopoietic stem cell diseases Learn the symptoms and clinical signs of hematopoietic stem cell disease Learn the therapeutic modalities used in the treatment of the most common hematopoietic metaplastic cell diseases	Acquaintance of students with the symptoms and clinical signs of hematopoietic stem cell disease Objective examination of patients suffering from hematopoietic stem cell disease **What a student should know:** Learn the most common symptoms of a patient suffering from hematopoietic stem cell disease Learn the most common clinical signs of hematopoietic stem cell disease Adopt the basics of laboratory tests that are applied during the diagnosis of hematopoietic stem cell disease Understand the importance of applying various diagnostic methods in the differential diagnosis of hematopoietic stem cell diseases

TEACHING UNIT 8 (FOURTH WEEK):

ACUTE LEUKEMIA - CLINICAL PICTURE AND DIAGNOSIS. CHRONIC GRANULOCYTIC LEUKEMIA. GRANULOCYTOPOEIS AND ITS DISORDERS. DISORDERS OF THE MONOCYTE-MACROPHAGE LINE.

lectures 3 classes	work in a small group 3 classes
Definition, etiology, pathophysiological classification, etiological factors, pathogenic mechanisms of acute leukemias	Acquaintance of students with the symptoms and clinical signs of hematopoietic stem cell disease Objective examination of patients suffering from hematopoietic stem cell disease.

Acute myeloid leukemia - definition, etiopathogenesis, clinical picture, diagnosis and treatment
Acute lymphoblastic leukemia - definition, etiopathogenesis, clinical picture, diagnosis and treatment
Chronic granulocytic leukemia - definition, etiopathogenesis, clinical picture, diagnosis and treatment
Granulocytopoiesis and monocytopoiesis
Disorders of granulocytopoiesis and monocytopoiesis

What a student should know:
Define the term leukemia and its importance in clinical practice
Adopt the most common divisions of leukemia
To learn the etiopathogenesis of acute leukemias
Learn the symptoms and clinical signs of acute leukemias
Adopt diagnostic algorithms in diagnosing leukemia
Learn the therapeutic modalities used in the treatment of the most common types of acute leukemia
Learn the therapeutic modalities used in the treatment of chronic granulocytic leukemia

What the student should to know:
Learn the most common symptoms of patients suffering from acute leukemia
Learn the most common clinical signs that occur in acute leukemias
Adopt the basics of laboratory tests that are applied during the diagnosis of leukemia
Understand the importance of applying peripheral blood smears and bone marrow aspirates in the differential diagnosis of leukemias, as well as the importance of other diagnostic methods in the differential diagnosis of leukemias

TEACHING UNIT 9 (FIFTH WEEK):

ANEMIA - ETIOLOGY, PATHOGENESIS, DIVISION AND CLINICAL PICTURE. APLASTIC ANEMIA. HYPOCHROMIC ANEMIA. MEGALOBLASTIC ANEMIA. HEMOLYSIS ANEMIA. ANEMIA IN CHRONIC DISEASES._ _ _ _ _ _ _ _

lectures 3 classes	work in a small group 3 classes
Definition, etiology, pathophysiological division, etiological factors, pathogenetic mechanisms the occurrence of anemia Aplastic anemia - definition, etiopathogenesis, clinical picture, diagnosis and treatment Hypochromic anemias - definition, etiopathogenesis, clinical picture, diagnosis and treatment Megaloblastic anemia - definition, etiopathogenesis, clinical picture, diagnosis and treatment Hemolytic anemias - definition, etiopathogenesis, clinical picture, diagnosis and treatment Anemia of unknown cause - definition, clinical picture, diagnosis and treatment Anemias caused by acute bleeding - definition, etiopathogenesis, clinical picture, diagnosis and treatment **What a student should know:** Define the concept of anemia and its clinical significance Practice Adopt the most common divisions of anemia Learn the etiopathogenesis of anemia Understand the connection between the clinical picture and etiopathogenesis of anemia Adopt diagnostic algorithms when diagnosing anemia Learn the therapeutic modalities used in the treatment of the most common types of anemia	Acquaintance of students with the symptoms and climatic signs of anemia Objective examination of patients with anemia **What a student should know:** Learn the most common symptoms of a patient suffering from anemia Learn the most common clinical signs that occur in anemia Adopt the basics of laboratory tests that are applied during the diagnosis of anemia Understand the importance of applying peripheral blood smears and bone marrow aspirates in differential diagnosis anemia

TEACHING UNIT 10 (FIFTH WEEK):

CHRONIC LYMPHOPROLIFERATIVE DISEASES. IMMUNOPROLIFERATIVE DISEASES.

lectures 3 classes	work in a small group 3 classes
Chronic lymphoproliferative diseases - definition, etiopathogenesis, classification, clinical picture, diagnosis and treatment Immunoproliferative diseases **What a student should know:** Definition, etiopathogenesis and clinical picture of chronic lymphoproliferative diseases Diagnostic algorithm of chronic lymphoproliferative diseases Therapeutic approach in the treatment of chronic lymphoproliferative diseases Immunoproliferative diseases	Recognition of symptoms and clinical signs characteristic of chronic lymphoproliferative diseases To adopt a diagnostic algorithm in the diagnosis of chronic lymphoproliferative diseases **What a student should know:** Physical findings of patients suffering from chronic lymphoproliferative diseases To adopt a diagnostic algorithm in the diagnosis of chronic lymphoproliferative diseases Basic principles of treatment of patients suffering from chronic lymphoproliferative diseases.

TEACHING UNIT 11 (SIXTH WEEK):

MODERN CONCEPT OF HEMOSTASIS. HEMORRHAGIC SYNDROMES - DIVISION AND CLINICAL PICTURE. THROMBOCYTOPENIA.

lectures 3 classes	work in a small group 3 classes
Modern concept of hemostasis Hemorrhagic syndromes - definition, divisions, etiopathogenesis Thrombocytopenia - definition, etiopathogenesis, clinical picture, diagnosis and treatment **What a student should know:** Modern concept of hemostasis Definition and etiopathogenesis of hemorrhagic syndromes Etiopathogenesis, clinical picture, diagnostic algorithm and therapy of thrombocytopenia	Treatment of patients with hemorrhagic syndromes Learn the most common symptoms and clinical manifestations of hemorrhagic syndromes Understand the relationship between the clinical picture and the types of hemorrhagic syndromes To adopt a diagnostic algorithm in the diagnosis of hemorrhagic syndromes **What a student should know:** The most important symptoms and signs of hemorrhagic syndromes Physical findings of patients with hemorrhagic syndrome Differential diagnosis of hemorrhagic syndromes Basic principles of treatment of patients suffering from chronic lymphoproliferative diseases. Basics of transfusion support in patients with hemorrhagic syndrome

TEACHING UNIT 12 (SIXTH WEEK):

THROMBOPHILIA. TREATMENT WITH BLOOD DERIVATIVES - INDICATIONS, CONTRAINDICATIONS, ADVERSE EFFECTS. COAGULOPATHIES.

lectures 3 classes	work in a small group 3 classes
Thrombophilia - definition, importance Trobophilia - clinical picture, diagnosis, therapy	Define indications and contraindications for the use of blood derivatives

Treatment with blood derivatives - indications, contraindications, side effects
Posttransfusion reactions.
Transmission of transmissible diseases by transfusion.
Coagulopathies - definition, etiopathogenesis, clinical picture, diagnosis and treatment

What a student should know:
Definition and etiopathogenesis of thrombophilia
Clinical picture, diagnostic algorithm and treatment of thrombophilia
Indications and contraindications for blood transfusions
derivatives
The most common adverse reactions when using blood products
Etiopathogenesis, clinical picture, diagnostic algorithm and therapy of coagulopathy

Learn the clinical manifestations of the most common post-transfusion reactions
Learn about the most common infections that can be transmitted through the use of blood products

What a student should know:
The most important symptoms and signs of thrombophilia
Differential diagnosis of thrombophilia
The most important symptoms of post-transfusion unmarried ereactions
Treatment of post-transfusion adverse reactions

TEACHING UNIT 13 (SEVENTH WEEK):

THE ENDOCRINE SYSTEM: PRINCIPLES OF ENDOCRINOLOGY. TESTS OF ENDOCRINE FUNCTION. PITUITARY GLAND DISORDERS.

lectures 3 classes	work in a small group 3 classes
Definition and classification of hormones Mechanisms of hormone action Hypothalamic and pituitary hormones and their regulation Diseases of the hypothalamus: definition, classification and etiopathogenesis Pituitary diseases: definition, classification and etiopathogenesis Diagnostic procedures in diseases of the hypothalamus and pituitary gland Diabetes insipidus: definition, etiopathogenesis, clinical picture, diagnosis and treatment Prolactinomas: definition, classification, etiopathogenesis, clinical picture, diagnosis and treatment Acromegaly: definition, etiopathogenesis, clinical picture, diagnosis and treatment Cushing's disease: definition, etiopathogenesis, clinical picture, diagnosis and treatment Hypopituitarism: definition, etiopathogenesis, clinical picture, diagnosis and treatment **What a student should know:** Definition, classification and mechanisms of action of hormones Definition, classification and etiopathogenesis of hypothalamic and pituitary diseases Clinical picture in various diseases of the pituitary gland Diagnostic algorithm for diseases of the hypothalamus and pituitary gland Modern therapeutic approach in diseases of the hypothalamus and pituitary gland	Treatment of a patient suffering from diabetes insipidus Treatment of a patient suffering from prolactinoma Treatment of a patient suffering from acromegaly Treatment of a patient suffering from Cushing's disease Treatment of a patient suffering from hypopituitarism Analysis and interpretation of laboratory test results in diseases of the hypothalamus and pituitary gland Analysis and interpretation of diagnostic procedures (radiological examinations) in diseases hypothalamus and pituitary gland **What a student should know:** The most important symptoms and signs of diseases of the hypothalamus and pituitary gland Diagnostic algorithms for examining hypothalamic or pituitary function disorders Interpretation of laboratory test results, suppressive and stimulating tests in diseases of the hypothalamus and pituitary gland Interpretation of radiological examination results (X-ray, CT and NMR examination of the sellar region) Diagnosing diseases of the hypothalamus and pituitary gland Differential diagnosis of hypothalamic and pituitary diseases Modern principles of treatment of patients with disorders of the function and morphology of the hypothalamus and pituitary gland

TEACHING UNIT 14 (SEVENTH WEEK):

THYROID GLAND DISORDERS: GOITER, THYROIDITIS, THYROID TUMORS

lectures 3 classes	work in a small group 3 classes
Definition, classification, etiopathogenesis, clinical picture, diagnosis and treatment of goiter Definition, classification, etiopathogenesis, clinical picture, diagnosis and treatment of thyroiditis Thyroid neoplasms: definition, classification, etiopathogenesis, clinical picture, diagnosis and treatment **What a student should know:** Definition, classification and etiopathogenesis of goiter Definition, classification and etiopathogenesis of thyroiditis Clinical picture in various thyroid gland diseases Diagnostic algorithm for thyroid gland diseases Modern therapeutic approach in thyroid gland diseases	Treatment of a patient suffering from thyroiditis Treatment of a patient suffering from thyroid neoplasm Analysis and interpretation of laboratory and hormonal test results in goiter, tireoiditis and thyroid tumors. Analysis and interpretation of diagnostic procedures (radiological examinations) in goiter, thyroiditis and thyroid tumors. **What a student should know:** The most important symptoms and signs of goiter, thyroiditis, and thyroid tumors. Diagnostic algorithms for examination of goiter, thyroiditis and thyroid tumors. Interpretation of the results of laboratory tests and hormonal analyzes in goiter, thyroiditis and thyroid tumors. Interpretation of radiological examination results (ultrasound, scintigraphy, CT and NMR examination) Diagnosis of goiter, thyroiditis and thyroid tumors. Differential diagnosis of goiter, thyroiditis and thyroid tumors. Modern principles of treatment of goiter, thyroiditis and thyroid tumors.

TEACHING UNIT 15 (EIGHT WEEK):

THYROID GLAND FUNCTION DISORDERS: HYPERTHYROIDISM AND HYPOTHYROIDISM

lectures 3 classes	work in a small group 3 classes
Iodine and thyroid hormone metabolism Mechanism of action and regulation of thyroid function Diagnostic algorithms for testing thyroid function disorders Diagnostic algorithms for examining disorders functions of the gonads Hyperthyroidism: definition, etiopathogenesis, clinical presentation, diagnosis and treatment Hypothyroidism: definition, etiopathogenesis, clinical picture, diagnosis and treatment **What a student should know:** Definition, classification and mechanisms of action of thyroid hormones Definition, classification and etiopathogenesis of thyroid function diseases Clinical picture in various diseases of the thyroid gland Diagnostic algorithm for thyroid gland diseases Modern therapeutic approach in thyroid gland diseases	Treatment of a patient suffering from hyperthyroidism Treatment of patients suffering from hypothyroidism Analysis and interpretation of laboratory and hormonal test results in thyroid disease Analysis and interpretation of diagnostic procedures (ultrasound, scintigraphy, CT, NMR examination thyroid region) diseases of the thyroid gland **What a student should know:** The most important symptoms and signs of thyroid disease Diagnostic algorithms for examining thyroid gland function disorders Interpretation of the results of laboratory tests, suppressive and stimulating tests in diseases of the thyroid gland Interpretation of radiological examination results (ultrasound, scintigraphy, CT and NMR examination of the thyroid region) Diagnosing thyroid gland disease Differential diagnosis of thyroid gland disease Modern principles of treatment of patients suffering from disorders of the function of the thyroid gland

TEACHING UNIT 16 (EIGHT WEEK):

ADRENAL GLAND DISORDERS. SEX HORMONE DISORDERS.

lectures 3 classes	work in a small group 3 classes
Hormone metabolism of adrenal cortex and medulla Mechanism of action and regulation of adrenal function Diagnostic algorithms for examining disorders of adrenal gland function Definition, classification, etiopathogenesis, clinical picture, diagnosis and treatment of hypocorticism Definition, classification, etiopathogenesis, clinical picture, diagnosis and treatment of hypercorticism Hyperaldosteronism: definition, classification, etiopathogenesis, clinical picture, diagnosis and treatment Pheochromocytoma: definition, classification, etiopathogenesis, clinical picture, diagnosis and treatment Adrenogenital syndrome: definition, classification, etiopathogenesis, clinical picture, diagnosis and treatment. Metabolism of sex hormones, mechanism of action and regulation of sexual function Diseases of the female gonads: definition, etiopathogenesis, clinical picture, diagnosis and treatment Diseases of male gonads: definition, etiopathogenesis, clinical picture, diagnosis and treatment **What a student should know:** Definition, classification and mechanisms of action adrenal cortex and medulla hormones Definition, classification and etiopathogenesis of hypocorticism Definition, classification, etiopathogenesis and clinical picture of hypercorticism Definition, classification, etiopathogenesis and clinical picture of hyperaldosteronism Definition, classification, etiopathogenesis and clinical picture of pheochromocytoma Definition, classification, etiopathogenesis and clinical picture of adrenogenital syndrome Diagnostic algorithm for adrenal gland diseases Modern therapeutic approach in adrenal gland diseases Definition, classification and mechanisms of action of sex hormones Definition, classification and etiopathogenesis of gonadal diseases Clinical picture in various diseases of the gonads Diagnostic algorithm for gonadal diseases Modern therapeutic approach in diseases of the gonads	Treatment of a patient suffering from hypocorticism Treatment of a patient suffering from hypercorticism Treatment of patients suffering from hyperaldosteronism Treatment of a patient suffering from pheochromocytoma Treatment of a patient suffering from adrenogenital syndrome Treatment of patients with hypogonadism Treatment of a patient with amenorrhea Analysis and interpretation of laboratory test results in diseases of the cortex and medulla of the adrenal gland Analysis and interpretation of laboratory and hormonal test results in gonadal diseases Analysis and interpretation of diagnostic procedures (radiological tests: ultrasound, CT, NMR, scintigraphy) of the cortex and medulla of the adrenal gland Analysis and interpretation of diagnostic procedures (radiological examinations) for gonadal diseases **What a student should know:** The most important symptoms and signs of adrenal cortex and medulla disease The most important symptoms and signs of gonadal disease Diagnostic algorithms for examination of gonad function disorders Diagnostic algorithms for examination of disorders of the cortex and medulla of the adrenal gland Interpretation of the results of laboratory tests, suppressive and stimulating tests in diseases of the cortex and medulla of the adrenal gland Interpretation of laboratory test results, suppressive and stimulation tests in diseases of the gonads. Interpretation of radiological examination results (ultrasound, CT, NMR and scintigraphy of the adrenal gland) Diagnosis of gonad disease Diagnosing diseases of the cortex and medulla of the adrenal gland Differential diagnosis of diseases of the cortex and medulla of the adrenal gland Differential diagnosis of gonadal diseases Modern principles of treatment function disorder of the cortex and medulla of the adrenal gland Modern principles of treatment diseases of the gonads

TEACHING UNIT 17 (NINGHT WEEK):

DIABETES MELLITUS: EPIDEMIOLOGY, ETIOLOGY DEFINITION, DIAGNOSIS AND THERAPY. POLYCYSTIC OVARY SYNDROME (PCOS).

lectures 3 classes	work in a small group 3 classes
Metabolism, mechanism of action and regulation of pancreatic hormones Definition and classification of diabetes mellitus Epidemiology of diabetes mellitus Etiopathogenesis of diabetes mellitus Diagnostic algorithms for examining glycoregulation disorders Clinical picture of diabetes mellitus Treatment of diabetes mellitus Polycystic ovary syndrome **What a student should know:** Definition, classification and mechanisms of action of pancreatic hormones Definition and classification of diabetes mellitus Epidemiology and etiopathogenesis of diabetes mellitus Diagnostic algorithms for examining glycoregulation disorders Definition, ethyopathogenesis and diagnostic algorithms for polycystic ovary syndrome.	Treatment of a patient suffering from diabetes mellitus Treatment of patients with hirsutism/polycystic ovary syndrome Analysis and interpretation of laboratory test results in diabetes mellitus Analysis and interpretation of laboratory test results in polycystic ovary syndrome. Analysis and interpretation of diagnostic procedures (radiological examinations-ultrasound, CT abdomen) in a patient with polycystic ovary syndrome. **What a student should know:** The most important symptoms and signs of diabetes mellitus The most important symptoms and signs of polycystic ovary syndrome Diagnostic algorithms for examining glycoregulation disorders Interpretation of laboratory test results in a patient with diabetes mellitus Interpretation of laboratory test results in a patient with polycystic ovary syndrome. Interpretation of radiological examination results (ultrasound, CT abdomen) in patient with polycystic ovary syndrome.

TEACHING UNIT 18 (NINGHT WEEK):

OBESITY. METABOLIC SYNDROME. ACUTE AND CHRONIC COMPLICATIONS OF DIABETES.

lectures 3 classes	work in a small group 3 classes
Acute complications of diabetes mellitus Hypoglycemic syndrome: definition, classification and etiopathogenesis. Definition and classification of chronic complications of diabetes mellitus Diabetic retinopathy: definition, classification and etiopathogenesis Diabetic neuropathy: definition, classification and etiopathogenesis Diabetic nephropathy: definition, classification and etiopathogenesis Arterial hypertension: definition, classification and etiopathogenesis Coronary artery disease: definition, classification and etiopathogenesis Cerebrovascular disease: definition, classification and etiopathogenesis Peripheral macroangiopathy: definition, classification and etiopathogenesis Diabetes and atherosclerosis Disorder of lipid metabolism in diabetes: definition, classification and etiopathogenesis	Treatment of patients with an acute complication of diabetes mellitus - ketoacidosis Treatment of patients with acute complications of diabetes mellitus - hypoglycemic syndrome Treatment of patients with chronic complications of diabetes mellitus Treatment of patients with arterial hypertension Treatment of patients with obesity Treatment of patients with metabolic syndroma Analysis and interpretation of laboratory test results in diabetes mellitus and obesity **What a student should know:** Determining the existence of acute complications of diabetes mellitus The most important symptoms and signs of diabetes mellitus Diagnostic algorithms for examining chronic complications of diabetes mellitus Interpretation of laboratory test results in a patient with diabetes mellitus Determining the existence of chronic complications of diabetes mellitus

Obesity: definition, classification and etiopathogenesis Metabolic syndome: definition and ethiopathogenesis. Modern therapeutic approach in diabetes mellitus Modern therapeutic approach to obesity **What a student should know:** Definition and classification of acute complications of diabetes mellitus Definition and classification of chronic complications of diabetes mellitus Microvascular complications of diabetes mellitus Macrovascular complications of diabetes mellitus Principles of treatment of diabetes mellitus Mechanism of action of drugs for the treatment of diabetes mellitus Principles of obesity treatment Principles of metabolic syndroma treatment	

UNIT 19 (TENTH WEEK):

DISEASES OF THE ESOPHAGUS. TUMORS OF THE ESOPHAGUS. GASTRITIS AND GASTROPATHIES. ULCER DISEASE. HELICOBACTER PYLORI INFECTION. STOMACH TUMORS.

lectures 3 classes	work in a small group 3 classes
Functional disorders of the esophagus (achalasia, diffuse spasms of the esophagus): definition, etiopathogenesis, clinical picture, diagnosis and treatment Inflammatory diseases of the esophagus (esophagitis, peptic ulcer of the esophagus, Barrett's esophagus): definition, etiopathogenesis, clinical picture, diagnosis and treatment Non-ulcer dyspepsia and gastroesophageal reflux: definition, etiopathogenesis, clinical picture, diagnosis and treatment Esophageal diverticula: definition, etiopathogenesis, clinical picture, diagnosis and treatment Mallory - Weis syndrome: definition, etiopathogenesis, clinical picture, diagnosis and treatment Esophageal tumors: definition, etiopathogenesis, classification, clinical picture, diagnosis and treatment Gastritis and gastropathies: definition, etiopathogenesis, clinical picture, diagnosis and treatment Ulcer disease (duodenal ulcer and gastric ulcer): definition, etiopathogenesis, classification, clinical picture, diagnosis and treatment Helicobacter pylori infection: definition, etiopathogenesis, spectrum of induced diseases, clinical picture and treatment Stomach tumors: division, definition, etiopathogenesis, clinical picture, diagnosis and treatment **What a student should know:**	Treatment of patients with esophageal diseases Treatment of patients suffering from ulcer disease Analysis and interpretation of diagnostic procedures (radiological examinations, endoscopic examinations) Treatment of patients with tumors of the esophagus and stomach **What a student should know:** The most important symptoms and signs of esophageal disease The most important symptoms and signs of ulcer disease Interpretation of radiological examination results Interpretation of endoscopic examination results Diagnosing esophageal disease and ulcer disease Differential diagnosis in relation to malignant diseases of the esophagus and stomach Treatment of patients suffering from diseases of the esophagus and stomach The most important symptoms and signs in patients with tumors of the esophagus and stomach

Definition, etiopathogenesis and classification of esophageal diseases Clinical picture in various diseases of the esophagus Diagnostic algorithm for esophageal diseases Therapeutic approach according to modern recommendations Definition, etiopathogenesis of ulcer disease and Helicobacter pylori infection Diagnostic algorithm for ulcer disease	

UNIT 20 (TENTH WEEK):

MALABSORBTION DISORDERS. CELIAC DISEASE. INFLAMMATORY DISEASES OF THE COLON. DIVERTICULA AND DIVERTICULITIS OF THE SMALL AND LARGE INTESTINE. IRRITABLE BOWEL SYNDROME.

lectures 3 classes	work in a small group 3 classes
Classification of causes and examination of malabsorption syndromes. Celiac disease: definition, etiology, clinical picture, treatment. Inflammatory bowel diseases: etiology and pathogenesis of Crohn's disease and ulcerative colitis, Clinical picture and differential diagnosis of inflammatory bowel diseases. Complications and treatment of inflammatory bowel diseases. Diverticula of the small and large intestine. Etiology, treatment and complications of intestinal diverticulum. Irritable bowel syndrome. **What a student should know:** Definition and classification of malabsorption syndrome. Tests for examination of intestinal absorption disorders. Etiology and clinical picture of celiac disease. Etiology, pathogenesis and clinical picture of inflammatory bowel diseases. Extraintestinal manifestations in inflammatory bowel diseases. Diagnosis and differential diagnosis of inflammatory bowel diseases. Treatment and complications of inflammatory bowel diseases. Clinical picture of diverticulum/diverticulitis small/large intestine. Definition, clinical picture and treatment of irritable bowel syndrome.	Treatment of patients with malabsorption syndrome. Familiarity with tests for investigation/confirmation of malabsorption syndrome. Treatment of patients with inflammatory bowel disease. Attendance/observation of colonoscopy in patients with ulcerative colitis. Treatment of patients with irritable bowel syndrome. **What a student should know:** To interpret tests to investigate/confirm malabsorption syndrome. To attend the performance of endoscopic examination in patients with malabsorption syndrome. To master the methods of physical examination of patients with inflammatory bowel diseases. To attend the endoscopic examination of patients with inflammatory bowel disease. To adopt diagnostic algorithms for the diagnosis of inflammatory bowel diseases. To become familiar with the principles of treatment of patients with: malabsorption syndrome, inflammatory bowel diseases, irritable colon syndrome.

UNIT 21 (ELEVENTH WEEK):

CARCINOID. GIT POLYPS. POLYPOSIS SYNDROME. COLON CANCER. ACUTE AND CHRONIC PANCREATITIS. PANCREAS CARCINOMA. ENDOCRINE TUMORS OF THE GIT AND PANCREAS.

lectures 3 classes	work in a small group 3 classes
Carcinoid tumors and carcinoid syndrome GIT polyps: definition and classification Polyposis syndrome Colon tumors: division, definition, etiopathogenesis, clinical picture, diagnosis and treatment Etiopathogenesis of acute and chronic pancreatitis and pancreatic tumors Clinical picture of acute and chronic pancreatitis and pancreatic tumor Diagnosis and treatment of acute and chronic pancreatitis Pancreatic tumor diagnosis **What a student should know:** Diagnostic principles in colon tumors Clinical picture of colon tumors, acute and chronic pancreatitis, pancreatic tumors Diagnostic principles of pancreatic diseases	Acquaintance of students with laboratory and diagnostic methods in colon tumors and polyposis syndrome Introducing students to the most important laboratory analyzes in pancreas diseases Introducing students to the most important visualization methods in pancreatic diseases **What a student should know:** The most important methods of physical examination of colon The most important methods of physical examination of pancreas tumors Interpretation of laboratory analyzes in pancreas diseases Interpretation of laboratory analyzes of chronic hepatitis

UNIT 22 (ELEVENTH WEEK):

BILIARY CALCULOSIS. CHOLECYSTITIS. CHOLANGITIS. GALLBLADDER AND BILE TRACT TUMORS. OTHER DISEASES OF THE BILIARY TRACT.

lectures 3 classes	work in a small group 3 classes
Etiology of biliary calculosis Definition, etiology, clinical picture, diagnosis and treatment of biliary calculus, cholecystitis and cholangitis Clinical picture, diagnosis and treatment of tumors of the gallbladder, bile ducts and ampulla vateri. Etiopathogenesis of biliary dyskinesia **What a student should know:** Knowledge of the clinical picture of diseases of the gallbladder and bile ducts Diagnostic and therapeutic principles in patients with diseases of the gallbladder and bile ducts	Acquaintance of the patient with the most important symptoms, signs of diseases of the gallbladder and bile ducts Acquaintance of students with the most important laboratory and diagnostic methods for diseases of the gallbladder and bile ducts **What a student should know:** The most important methods of physical examination in diseases of the gallbladder and bile ducts Interpretation of laboratory analyzes in diseases of the gallbladder and bile ducts Interpretation of laboratory analyzes in functional diseases of the biliary tract

UNIT 23 (TWELFTH WEEK):

DISORDER OF BILIRUBIN METABOLISM. HEREDITARY METABOLIC DISEASES OF THE LIVER. LIVER DAMAGE CAUSED BY DRUGS. ACUTE LIVER INSUFFICIENCY. ALCOHOLIC LIVER DISEASE. FATTY LIVER. NON-ALCOHOLIC STEATOHEPATITIS. AUTOIMMUNE HEPATITIS. PRIMARY BILIARY CIRRHOSIS. PRIMARY SCLEROSING CHOLANGITIS. VASCULAR DISEASES OF THE LIVER.

lectures 3 classes	work in a small group 3 classes
Hyperbilirubinemia, cholestasis jaundice Hepatolenticular degeneration-definition, etiopathogenesis, clinical picture, diagnosis and therapy	Treatment of patients with jaundice Recognition of symptoms and clinical signs of metabolic and toxic liver diseases

Hemochromatosis - definition, etiopathogenesis, clinical picture, diagnosis and therapy Alpha-1 antitrypsin deficiency - definition, etiopathogenesis, clinical picture, diagnosis and therapy Toxic and medicinal hepatitis - definition, etiopathogenesis, clinical picture, diagnosis and therapy Acute liver failure - definition, etiopathogenesis, clinical picture, diagnosis and therapy Alcoholic liver disease - definition, etiopathogenesis, clinical picture, diagnosis and therapy Fatty liver and non-alcoholic steatohepatitis - definition, etiopathogenesis, clinical picture, diagnosis and therapy Autoimmune hepatitis - definition, etiopathogenesis, clinical picture, diagnosis and therapy Primary biliary cirrhosis - definition, etiopathogenesis, clinical picture, diagnosis and therapy Primary sclerosing cholangitis - definition, etiopathogenesis, clinical picture, diagnosis and therapy Vascular diseases of the liver - definition, etiopathogenesis, clinical picture, diagnosis and therapy **What a student should know:** Definition and etiopathogenesis of hyperbilirubinemia Clinical picture, diagnostic algorithm and treatment of metabolic liver diseases Etiopathogenesis, diagnosis and therapy of toxic hepatitis	Diagnostic algorithm of metabolic and toxic liver diseases Diagnostic algorithm of vascular diseases of the liver **What a student should know:** The most important symptoms and signs of jaundice Differential diagnosis of hyperbilirubinemia, jaundice and cholestasis Physical findings of patients suffering from metabolic liver diseases Basic principles of treatment of patients suffering from metabolic diseases The most common symptoms and signs of toxic hepatitis Basic principles of treatment of sick patients from toxic hepatitis

UNIT 24 (TWELFTH WEEK):

LIVER CIRRHOSIS. PORTAL HYPERTENSION. RENAL COMPLICATIONS OF LIVER DISEASE. ASCITES. SPONTANEOUS BACTERIAL PERITONITIS. HEPATIC ENCEPHALOPATHY. LIVER TUMORS.

lectures 3 classes	work in a small group 3 classes
Cirrhosis of the liver – definition, clinical picture, diagnosis, therapy and importance Portal hypertension – definition, clinical picture, diagnosis and therapy Hepatorenal syndrome - definition, clinical picture, diagnosis and therapy Spontaneous bacterial peritonitis - definition, clinical picture, diagnosis and therapy Hepatic encephalopathy - definition, clinical picture, diagnosis and therapy Liver tumors - classification, etiopathogenesis, clinical picture, diagnosis and treatment **What a student should know:** Definition and etiopathogenesis, clinical picture, diagnostic algorithm and treatment of liver cirrhosis	Treatment of patients with liver cirrhosis Recognition of symptoms and clinical signs of liver cirrhosis and complications of liver cirrhosis To adopt a diagnostic algorithm in the diagnosis of liver cirrhosis and liver tumors **What a student should know:** The most important symptoms and signs of liver cirrhosis Physical findings of patients suffering from cirrhosis of the liver Basic principles of treatment of patients suffering from cirrhosis of the liver The most common symptoms and signs of liver cirrhosis complications

Basic principles of treatment of liver cirrhosis complications Etiopathogenesis, diagnosis and treatment of liver cirrhosis complications Etiopathogenesis, classification, clinical picture and liver tumor therapy Diagnostic algorithm for primary liver tumors	

UNIT 25 (WEEK THIRTEEN):

DIAGNOSIS OF KIDNEY DISEASES. DISORDERS OF WATER AND ELECTROLYTE METABOLISM.

lectures 3 classes	work in a small group 3 classes
Basics of renal morphology and function Diagnostic procedures in nephrology practice The concept and importance of substance clearance Examination of tubular functions: concentration and dilution ability, urine osmolarity, sodium ion excretion, measurement of urine acidity, proteinuria Basic and special ("extended") analyzes of urine and blood Kidney morphology: EHO examination, radiological and radionuclide diagnostics, biopsy, etc. Body water and compartments of distribution: hypo/hypervolemia and correction of disorders Sodium ion metabolism: hypo/hypernatremia and correction of disorders Potassium ion metabolism: hypo/hyperkalemia and correction of disorders Basics of acid-base balance and disorders: metabolic acidosis and alkalosis; respiratory acidosis and alkalosis and correction of the disorder **What a student should know:** Basics of kidney structure and function Diagnostic procedures in nephrology practice The concept and importance of substance clearance Tests for examination of tubular functions Biohumoral parameters for assessment of kidney function The importance of visualization techniques in the diagnosis of kidney diseases Distribution and volume disturbance of total, interstitial and circulating body water Metabolism of sodium and potassium ions, the most common disorders; diagnosis and treatment Metabolism of sodium and potassium ions, disorders and their correction Basics of acid-base balance, disorders and treatment	Treatment of patients with kidney disease Proposal of diagnostic procedures and procedures Interpretation and analysis of individual advantages "visualization" diagnostic procedures Analysis and interpretation of the results of laboratory tests **What a student should know:** The most important symptoms and signs of renal diseases Diagnostic algorithms for kidney diseases Interpretation of laboratory test results in kidney diseases Analysis and interpretation of urine sediment of patients from glomerulonephritis Interpretation of ultrasonographic and other findings examination of the kidney examination A concrete example of volume calculation body water, serum osmolarity, serum sodium and potassium, assessment of acid-base status Modern principles of treatment of disorders water, electrolyte and acid-base metabolism disorders

UNIT 26 (WEEK THIRTEEN):

GLOMERULAR KIDNEY DISEASES

lectures 3 classes	work in a small group 3 classes
Definition, etiology, pathogenesis and classification of glomerular kidney diseases Nephritic syndrome: definition, etiology, clinical features, diagnosis and treatment	Treatment of patients with nephritic syndrome Treatment of patients with nephrotic syndrome Analysis and interpretation of laboratory test results in patients with glomerular diseases Indications and contraindications for kidney biopsy

Glomerulonephritis manifested by the clinical picture of nephritic syndrome: etiopathogenesis, clinical picture, diagnosis and treatment Nephrotic syndrome: definition, etiology, clinical features, diagnosis and treatment Glomerulonephritis manifested by the clinical picture of the nephrotic syndrome: etiopathogenesis, clinical picture, diagnosis and treatment of the kidneys Interpretation of laboratory test results in glomerular diseases **What a student should know:** Definition, etiopathogenesis and classification of glomerular kidney diseases Clinical characteristics of nephrotic and nephrotic syndrome Diagnosis and treatment of glomerular kidney diseases	Analysis and interpretation of immunosuppressive treatment protocols for patients with glomerular diseases **What a student should know:** The most important symptoms and signs of glomerular kidney diseases Diagnosing algorithms for glomerular kidney diseases Analysis and interpretation of urine sediment of patients with glomerulonephritis Interpretation of findings of ultrasonographic examination of the kidney Diagnosis of glomerular diseases Modern principles of glomerulonephritis treatment

UNIT 27 (FOURTEENTH WEEK):

TUBULOINTERSTITIS DISEASES OF THE KIDNEY

lectures 3 classes	work in a small group 3 classes
Definition, etiology, pathogenesis and classification of tubulointerstitial kidney diseases Infectious kidney diseases: definition, etiology, favorable clinical features, diagnosis and treatment Acute infectious kidney diseases-D.Dg. infection of the upper and lower parts of the urinary tract Hereditary TIN diseases, endemic nephropathy, immuno-allergic and toxic nephropathy **What a student should know:** Definition, etiopathogenesis and classification of tubulointerstitial kidney diseases Clinical characteristics of acute and chronic urinary infections Diagnosis and treatment of urinary infections Diagnosis and treatment of other forms of TIN disorders	Treatment of patients with tubulointerstitial kidney diseases Analysis and interpretation of laboratory test results in patients with tubulointerstitial kidney disease Place and role of other diagnostic procedures, especially EHO examination **What a student should know:** The most important symptoms and signs of acute and chronic tubulointerstitial kidney diseases Diagnostic algorithms for tubulointerstitial kidney diseases Interpretation of laboratory test results in tubulointerstitial kidney diseases Analysis and interpretation of urine sediment of patients with tubulointerstitial kidney diseases Interpretation of findings of EHO renal examination Diagnosis of tubulointerstitial kidney diseases Modern principles of treatment of tubulointerstitial diseases kidneys

UNIT 28 (FOURTEENTH WEEK):

VASCULAR KIDNEY DISEASES. RENOVASCULAR HYPERTENSION.

lectures 3 classes	work in a small group 3 classes
Definition and classification of renal vascular diseases Renovascular hypertension, benign and malignant nephroangiosclerosis: diagnosis and treatment Kidney microvascular diseases: types, pathogenesis, diagnosis and treatment Thromboembolic kidney diseases: types, diagnosis and treatment	Treatment of patients with vascular diseases of the kidneys Analysis and interpretation of laboratory test results in patients suffering from vascular diseases of the kidneys Place and role of other diagnostic procedures, especially EHO examination **What a student should know:**

Coagulopathic disorders - EPH syndrome and other disorders: pathogenesis, prevention, diagnosis and treatment **What a student should know:** Diagnostics and clinical outcome of renovascular disorders Differential diagnosis of vascular kidney diseases Treatment of vascular kidney diseases	The most important symptoms of vascular diseases of the kidneys Diagnostic algorithms for vascular kidney diseases Interpretation of laboratory test results in renal vascular diseases Interpretation of findings of EHO renal examination Placement of vascular diseases of the kidneys Modern principles of treatment of vascular diseases kidneys

UNIT 29 (FIFTEENTH WEEK):

ACUTE KIDNEY INJURY

lectures 3 classes	work in a small group 3 classes
Definition, etiology and classification of AKI Prerenal type AKI: definition, etiopathogenesis, diagnosis Renal type AKI: definition, etiopathogenesis, diagnostics Postrenal type of acute renal failure: definition, etiopathogenesis, diagnostics Acute renal failure: clinical picture and complications Treatment of acute renal insufficiency **What a student should know:** Definition, etiopathogenesis and clinical picture AKI Diagnosis and treatment of acute renal failure	Treatment of patients with AKI Analysis and interpretation of results laboratory examination in patients with AKI Diagnostic algorithms for AKI Analysis of complications of AKI Therapeutic approach in patients with AKI **What a student should know:** The most important symptoms and signs of AKI Interpretation of laboratory test results Differentiation between prerenal and renal type AKI Interpretation of findings of ultrasonographic examination of kidneys in AKI Setting indications for kidney biopsy in AKI Indications for acute hemodialysis in patients with AKI Modern principles of AKI treatment

UNIT 30 (FIFTEENTH WEEK):

CHRONIC KIDNEY DISEASE. METHODS FOR REPLACEMENT OF KIDNEY FUNCTION

lectures 3 classes	work in a small group 3 classes
Definition, etiology, epidemiology and classification of chronic kidney disease (CKD) Pathophysiology of progression - "compensated and decompensated phase" of CKD Clinical manifestations of chronic kidney failure Diagnosis and differential diagnosis of CKD Basic principles of CKD treatment: prevention of progression, treatment of complications, accompanying disorders of other organ systems and methods for replacement of definitively damaged kidney function Definition of the term "definitely impaired kidney function" and methods for their replacement Physical principles of (extracorporeal) hemodialysis i (body) peritoneal dialysis Clinical modalities of extracorporeal and in-body hemodialysis	Treatment of patients with chronic renal failure Analysis and interpretation of laboratory test results in patients suffering from CKD The place and role of other diagnostic procedures, especially the importance of creatinine clearance and serum creatinine concentration as well as other parameters for assessing the severity of CKD (accompanying systemic disorders) Assessment of the degree of kidney function impairment - clinical stages Consideration of specific therapeutic modalities to slow down progression and treat accompanying disorders of other organ systems Visiting dialysis rooms and learning about the procedure and modalities of extracorporeal and in-body hemodialysis, as well as the criteria for deciding on a specific method

The most significant complications of extracorporeal and in-body hemodialysis and their treatment
Basic principles of kidney transplantation

What a student should know:
Definition, the most common etiological factors for the development of chronic nephropathies
CKD severity classification
Clinical characteristics of the "compensated and decompensated phases" of CKD
Diagnosis and treatment of urinary infections
Basic principles of CKD treatment: prevention of progression, treatment of complications and other associated disorders
Concept and physical principles of (extracorporeal) hemodialysis and (corporeal) peritoneal dialysis
Criteria for the selection of certain dialysis modalities
Expected complications of dialysis procedures and the way of their treatment.
Basics of transplant nephrology

Participation in solving complications of extracorporeal and in-body hemodialysis
Getting to know the efficiency parameters of extracorporeal and in-body hemodialysis

What a student should know:
The most important symptoms and signs of chronic nephropathies
Diagnostic algorithms for assessing the degree of progression of chronic nephropathies
Interpretation of laboratory test results in chronic nephropathies
Modern principles of treatment of progression of chronic nephropathies, choice, place and role
a method for replacing definitively damaged kidney function
Efficiency parameters and complications of methods for replacement of definitively damaged kidney function
Clinical monitoring of transplanted patients

WEEKLY COURSE SCHEDULE

COURSE	THURSDAY	FRIDAY
INTERNAL MEDICINE (6+6)	**LECTURES** **09:15 - 14:00** (Hall at the Internal Clinic) **PRACTICE** **14:15 - 16:30** (Internal Clinic)	**PRACTICE** **15:30 - 17:45** (Internal Clinic)

PRACTICE - according to the schedule of the department

TEACHING SCHEDULE FOR INTERNAL MEDICINE

module	week	type	Method unit name	teacher
2	1	**L**	Classification of rheumatic diseases. Rheumatoid arthritis. Spondyloarthritis. Ankylosing spondylitis. Reactive arthritis (Sy Reiter). Psoriatic arthritis. Enteropathic arthritis.	Full Prof. Aleksandra Lučić - Tomić
2	1	**P**		
2	1	**L**	Systemic connective tissue diseases - general characteristics. Systemic lupus erythematosus. Antiphospholipid syndrome.	Full Prof. Aleksandra Lučić - Tomić
2	1	**P**		
2	2	**L**	Sjogren's syndrome. Polymyositis/Dermatopolymyositis. Systemic sclerosis. Mixed connective tissue disease.	Full Prof. Aleksandra Lučić - Tomić
2	2	**P**		
2	2	**L**	Systemic vasculitis. Polyarteritis nodosa. Temporal arteritis. Takayasu arteritis. Wegener's granulomatosis. Eosinophilic granulomatosis and polyangitis (Churg-Strauss). Style's disease of adults.	Full Prof. Mirjana Veselinović
2	2	**P**		
2	3	**L**	Degenerative rheumatism of peripheral joints and spine. Extra-articular rheumatism. Fibromyalgia.	Full Prof. Mirjana Veselinović
2	3	**P**		
2	3	**L**	Metabolic bone diseases. Osteoporosis. Osteomalacia. Metabolic diseases of the joints-g iht.	Full Prof. Aleksandra Lučić - Tomić
2	3	**P**		
2	4	**L**	Origin of blood cells: hematopoietic organs, pluripotent cell concept. Diseases of pluripotent and committed stem cells of hematopoiesis.	Asst. Prof. Željko Todorović
2	4	**P**		

TEACHING SCHEDULE FOR INTERNAL MEDICINE

module	week	type	Method unit name	teacher
2	4	**L**	Acute leukemias - clinical picture and diagnosis. Chronic granulocytic leukemia. Granulocytopoiesis and its disorders. Disorders of the monocyte-macrophage lineage.	Asst. Prof. Željko Todorović
2	4	**P**		
2	5	**L**	Anemias - etiology, pathogenesis, division and clinical the painting. Aplastic anemia. Hypochromic anemia. Megaloblastic anemias. Hemolytic anemias. Anemias in chronic diseases.	Asst. Prof. Danijela Jovanović
2	5	**P**		
2	5	**L**	Chronic lymphoproliferative diseases. Immunoproliferative diseases.	Asst. Prof. Danijela Jovanović
2	5	**P**		
2	6	**L**	Contemporary concept of hemostasis. Hemorrhagic syndromes - division and clinical picture. Thrombocytopenia	Full Prof. Svetlana Djukić
2	6	**P**		
2	6	**L**	Thrombophilia. Treatment with blood derivatives - indications, contraindications, side effects. Coagulopathy.	Full Prof. Svetlana Djukić
2	6	**P**		
2	7	**L**	The endocrine system: principles of endocrinology. Tests of endocrine function. Pituitary gland disorders.	Asst. Prof. Violeta Mladenović
2	7	**P**		
2	7	**L**	Thyroid gland disorders: goiter, thyroiditis, thyroid tumors.	Asst. Prof. Violeta Mladenović
2	7	**P**		

TEACHING SCHEDULE FOR INTERNAL MEDICINE

module	week	type	Method unit name	teacher
2	8	**L**	Thyroid gland function disorders: hyperthyroidism and hypothyroidism.	Asst. Prof. Violeta Mladenović
2	8	**P**		
2	8	**L**	Adrenal gland disorders. Sex hormone disorders.	Asst. Prof. Violeta Mladenović
2	8	**P**		
2	9	**L**	Diabetes mellitus: epidemiology, etiology definition, diagnosis and therapy. Polycystic ovary syndrome (PCOS).	Asst. Prof. Violeta Mladenović
2	9	**P**		
2	9	**L**	Obesity. Metabolic syndrome. Acute and chronic complications of diabetes.	Asst. Prof. Violeta Mladenović
2	9	**P**		
2	10	**L**	Diseases of the esophagus. Esophageal tumors. Gastritis and gastropathies. Ulcer disease. Helicobacter pylori infection. Hypersecretory conditions. Tumors of the stomach.	Full Prof. Nataša Zdravković
2	10	**P**		
2	10	**L**	Malabsorption syndrome. Celiac disease. Wipple's disease. Protein-losing enteropathies. Inflammatory diseases of the colon. Other enteritis and colitis. Diverticuli and diverticulitis of the small and large intestine. Irritable bowel syndrome. Anorectal diseases.	Full Prof. Nataša Zdravković
2	10	**P**		
2	11	**L**	Tumors of the small intestine. Carcinoid. GIT polyps. Polyposis syndrome. Colon cancer. Acute and chronic pancreatitis. Pancreatic cancer. Endocrine tumors of the GIT and pancreas.	Full Prof. Dr. Nataša Zdravković
2	11	**P**		

TEACHING SCHEDULE FOR INTERNAL MEDICINE

module	week	type	Method unit name	teacher
2	11	**L**	Biliary calculosis. Cholecystitis. Cholangitis. Tumors of the gallbladder and bile ducts. Other diseases of the biliary tract.	Full Prof. Nataša Zdravković
2	11	**P**		
2	12	**L**	Bilirubin metabolism disorder. Hereditary metabolic liver diseases. Drug-induced liver damage. Acute liver failure. Alcoholic liver disease. Fatty liver. Nonalcoholic steatohepatitis. Autoimmune hepatitis. Primary biliary cirrhosis. Primary sclerosing cholangitis. Vascular diseases of the liver.	Full Prof. Nataša Zdravković
2	12	**P**		
2	12	**L**	Liver cirrhosis. Portal hypertension. Renal complications of liver disease. Ascites. Spontaneous bacterial peritonitis. Hepatic encephalopathy. Liver tumors.	Full Prof. Nataša Zdravković
2	12	**P**		
2	13	**L**	Diagnosis of kidney diseases. Disorder of water and electrolyte metabolism.	Asst. Prof. Tomislav Nikolić
2	13	**P**		
2	13	**L**	Glomerular kidney diseases.	Asst. Prof. Tomislav Nikolić
2	13	**P**		
2	14	**L**	Tubulointerstitial kidney diseases. Vascular kidney diseases.	Asst. Prof. Tomislav Nikolić
2	14	**P**		
2	14	**L**	Acute renal failure. Acute hemodialysis	Assoc. Prof. Tatjana Lazarević
2	14	**P**		

TEACHING SCHEDULE FOR INTERNAL MEDICINE

module	week	type	Method unit name	teacher
2	15	**L**	Chronic renal failure. Methods for replacing kidney function.	Assoc. Prof. Tatjana Lazarević
2	15	**P**		

	FME	**FINAL MODULE EXAM 2**
	E	**CORRECTIONAL MODULE EXAMS, DRAWING OF EXAMINATION COMMITTEE**
	E	**FINAL SKILLS ASSESSMENT AND ORAL EXAM**

EXAMINATION COMMITTEE FOR FINAL SKILLS ASSESSMENT AND ORAL EXAM

1. Full prof. Vladimir Miloradovic, Full prof. Violeta Iric Cupic
2. Full prof. Svetlana Djukic, Asst. prof. Vladimir Ignjatovic
3. Full prof. Ivan Cekerevac, Full prof. Aleksandra Lucic Tomic
4. Assoc. prof. Mirjana Veselinovic, Asst. prof. Rada Vucic
5. Asst. prof. Miodrag Sreckovic, Asst. prof. Tomislav Nikolic
6. Assoc. prof. Vladimir Zdravkovic, Asst. prof. Zeljko Todorovic
7. Assoc. prof. Vojislav Cupurdija, Asst. prof. Danijela Jovanovic
8. Full prof. Goran Davidovic, Asst. prof. Violeta Mladenovic

EXAM QUESTIONS

HEMATOLOGY

1. Anemias - etiology, pathogenesis, division and clinical picture
2. Hypochromic anemia
3. Megaloblastic anemia
4. Hemolytic anemia
5. Anemias of chronic diseases
6. Anemia of unknown etiology and anemia caused by acute bleeding
7. Diseases of pluripotent and committed stem cells of hematopoiesis
8. Aplastic anemia
9. Acute leukemias - etiopathogenesis, clinical picture, diagnosis and treatment
10. Chronic myeloid leukemia
11. Granulocytopoiesis and its disorders
12. Disorders of the monocyte-macrophage lineage
13. Chronic lymphoproliferative diseases - etiopathogenesis, division, clinical picture, diagnosis
14. Chronic lymphocytic leukemia
15. Hodgkin's lymphoma
16. Non-Hodgkin lymphomas
17. Immunoproliferative diseases – etiopathogenesis, division, clinical picture, diagnosis and treatment
18. Multiple myeloma
19. Hemorrhagic syndromes - etiopathogenesis, division, clinical picture, differential diagnosis
20. Vascular hemorrhagic syndromes
21. Thrombocytopenia
22. Idiopathic thrombocytopenic purpura
23. Hereditary and acquired disorders of platelet function
24. Coagulopathies - etiopathogenesis, division, clinical picture, diagnosis
25. Hemophilia A
26. Hemophilia B, hemophilia C and other hereditary coagulopathies
27. Acquired coagulopathies
28. Von Willebrand's disease
29. Thrombophilia
30. Treatment with blood products - indications, side effects, contraindications

ENDOCRINOLOGY

1. Functional tests in endocrinology
2. Hypopituitarism
3. Acromegaly and diabetes insipidus
4. Hypothyroidism
5. Thyrotoxicosis
6. Thyroiditis and tumors of the thyroid gland
7. Hypocorticism (*Addison* 's disease)
8. Hyperaldosteronism (*Conn* 's syndrome)
9. Hypercorticism (*Cushing* 's syndrome)
10. Pheochromocytoma
11. Obesity
12. Definition, classification, pathophysiology and epidemiology of diabetes
13. Diagnosis and clinical picture of diabetes
14. Etiopathogenesis of type 1 and type 2 diabetes
15. Diabetes therapy: diet, physical activity and oral antidiabetics
16. Modalities of insulin therapy in diabetes
17. Acute hyperglycemic complications of diabetes
18. Acute hypoglycemic complications of diabetes

19. Metabolic syndrome
20. Chronic microvascular complications of diabetes
21. Chronic macrovascular complications of diabetes
22. Polycystic ovary syndrome
23. Endocrine hypertension

GASTROENTEROHEPATOLOGY

1. Esophageal achalasia
2. Acute and chronic esophagitis, gastroesophageal reflux disease
3. Esophageal tumors
4. Peptic ulcer disease, Helicobacter pylori infection
5. Tumors of the stomach
6. Malabsorptive bowel diseases
7. Inflammatory bowel diseases
8. Diverticulosis disease
9. Colorectal cancer, polyps of the gastrointestinal tract and polyposis syndromes
10. Acute and chronic pancreatitis
11. Pancreatic cancer
12. Gallbladder and biliary tract diseases
13. Hepatolenticular degeneration (Wilson 's disease)
14. Hemochromatosis
15. Toxic and medicinal hepatitis
16. Alcoholic liver disease
17. Autoimmune hepatitis
18. Primary biliary cirrhosis
19. Primary sclerosing cholangitis
20. Liver cirrhosis and complications (ascites, portal hypertension, hepatorenal syndrome and spontaneous bacterial peritonitis)
21. Tumors of the liver and bile ducts

NEPHROLOGY

1. Examination of glomerular kidney function
2. Examination of renal tubular function
3. Analysis of urine sediment: diagnostic importance
4. Examination of proteinuria
5. Examining the morphology of the urinary tract
6. Nephrotic syndrome
7. Glomerulonephritis with a clinical picture of nephrotic syndrome
6. Nephritic syndrome
7. Glomerulonephritis with a clinical picture of acute nephritic syndrome
8. Glomerulonephritis with a clinical picture of chronic nephritic syndrome
9. Vascular kidney diseases: definition and classification
10. Renovascular hypertension
11. Acute tubulointerstitial nephritis
12. Chronic tubulointerstitial nephritis
13. Polycystic kidney disease
14. Infections of the upper urinary tract
15. Infections of the lower urinary tract
16. Acute renal failure: definition, etiopathogenesis and clinical picture
17. Acute renal failure: diagnosis and treatment
18. Complications of acute renal failure
19. Chronic renal failure: definition and classification
20. Chronic renal failure: etiopathogenesis and clinical picture
21. Chronic renal failure: diagnosis and treatment

22. Complications of chronic renal failure
23. Hemodialysis: definition, basic principles and indications
24. Peritoneal dialysis: definition, basic principles and indications

RHEUMATOLOGY

1. Rheumatoid arthritis (pathogenesis, clinical picture, classification criteria, diagnosis)
2. Rheumatoid arthritis therapy
3. Spondyloarthritis (classification criteria, common features)
4. Psoriatic arthritis.
5. Reiter's syndrome
6. Ankylosing spondylitis
7. Behçet's syndrome
8. Systemic lupus erythematosus
9. Systemic sclerosis
10. Sjogren's syndrome
11. Dermatomyositis and polymysitis
12. Vasculitis (definition, classification, pathophysiology, pathogenesis)
13. Polyarteritis nodosa
14. Wegener's granulomatosis
15. Temporal arteritis
16. Takayas' arteritis
17. Mixed connective tissue disease
18. Metabolic joint diseases (Gout)
19. Degenerative and extra-articular rheumatism
20. Metabolic bone diseases (Osteoporosis, Osteomalacia)