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CURRICULUM

Field: Medicine
Major: General Medicine in English
Form of education: full-time
Duration of studies for Bachelor level: 6 years; 12 14-week semesters, 360 credits

1st year

1st semester

Anatomy and Embryology

Course

1. Anatomy. Introduction. Scope. Embryology.
2. Steps preceding implantation. Sexual cells. Sperm. Spermatogenesis. Anomalies
3. Oogenesis. Ovary, ovary follicles. Menstrual cycle
4. Fertilization. Zygote. Growth and development period. Morula stage. Blastula stage
5. Normal and abnormal implantation. Embryonic evolution in the first three weeks
6. Trophoblast and embryoblast. Bilaminar embryo
7. Endoblast de**v**elopment. Ectoblast development
8. Development of embryonic annexes. Formation of placenta. Placental circulation and functions of the placenta. Placental barrier
9. Development of the amnion and the alantoid. The yolk sac.
10. Morphological and functional characteristics of development in the fetal period; months 3-9 of intrauterine life.
11. Normal development. Intrauterine growth
12. Development of the musculoskeletal system. Somites. Development of the skeleton; skull, axial skeleton, limbs.
13. Regions of the upper limb: Axilla, deltoid region, anterior and posterior brachial region, elbow crease region, anterior and posterior antebrachial region, palmar region
14. Regions of the lower limb: gluteal region, Scarpa's triangle, anterior and posterior femoral region, popliteal region, anterior and posterior calf region, plantar region. Hernial regions of the abdominal wall: white line, umbilicus, Spiegelian hernias, direct and indirect inguinal hernias, lumbar triangle, Grinfeld's space

Seminar/laboratory

1. Osteology, introductory notions, axes and planes.
2. Skeleton of the scapular belt. Scapula, clavicle
3. Skeleton of the free part of the upper limb. Humerus bone.
4. Bones of the forearm: Radius, Ulna.
5. Skeleton of the hand: carpus, metacarpus, phalanx
6. Bones of the lower limb: pelvic belt, coxal bone
7. Bones of the lower limb: femur, patella
8. Bones of the calf: tibia and fibula
9. Skeleton of the foot: tarsus, metatarsus, phalanx
10. Vertebral column: vertebra type
11. Regional characters of vertebrae
12. Particular characters of vertebrae (atlas, axis, C6, C7)
13. Axial skeleton: sacrum, sternum, ribs
14. Axial skeleton: curvatures of the vertebral column
15. Muscles of the torso: anterolateral wall of the thorax: m external oblique muscle, internal oblique muscle, transversus abdominis muscle, rectus abdominis muscle and its sheath
16. Inguinal canal. Trajectory, walls, orifices
17. Inguinal canal. Content
18. Arteries and veins of the torso. Innervation of the wall of the torso
19. Muscles of the scapular belt: thoraco-humeral (pectoralis major, pectoralis minor, serratus anterior)
20. Muscles of the arm
21. Muscles of the forearm. Plane I
22. Muscles of the forearm. Deep planes
23. Muscles of the hand: thenar muscles, hypothenar muscles
24. Muscles of the hand: palmar aponeurosis, lumbrical muscles, palmar interossei muscles, dorsal interossei muscles
25. Arteries of the upper limb. Veins of the upper limb, shallow and deep
26. Axilla. Walls, content
27. Nerves of the upper limb: brachial plexus, terminal branches of the brachial plexus
28. Muscles of the back: plane I and II

Biochemistry

Course

1. The cell. Goals of biochemistry. Cellular metabolism. Role of ATP in the organism. The three stages of the anaerobic metabolism. The cell, cellular location of metabolic processes.
2. Amino acids and proteins. Structure of amino acids. Properties of amino acids. Glutathione.

3. Proteins. Structure of proteins. Classification of proteins. Hemoproteins. Chromoproteins.

4. Nucleoproteins. Structure of nucleosides and nucleotides. Structure of DNA. Structure of RNA

5. Enzymes. Generalities. Classification. Structure and mechanism of action. Specificity of an enzymatic reaction.

6. Enzymes. Determining factors in the speed of an enzymatic reaction. Isozymes. Enzymatic activity in living cells. Allosteric effectors. Regulation of enzymatic activity.

7. Water-soluble vitamins. B vitamins (B1, B2, B3, B12, PP). Folic acid. Vitamin C. Biotin.

8. Fat-soluble vitamins. Vitamin A. Vitamin D. Vitamin E. Vitamin K.

9. Metabolism of protein substances. Digestion and absorption of amino acids. General mechanisms of the catabolism of amino acids. Metabolism of ammonia. Metabolism of key amino acids.

10. Metabolism of hemoglobin. Heme synthesis. Catabolism of hemoglobin. Metabolism of nucleotides. Synthesis of nucleotides. Catabolism of nucleotides.

11. Biosynthesis of nucleic acids. Biosynthesis of DNA. Biosynthesis of RNA.

12. Biosynthesis of proteins

13. Metabolism of purine and pyrimidine bases.

Tests

Seminar/laboratory

Work safety in a biochemistry laboratory

Introduction of glassware and laboratory equipment. Physiochemical methods utilized in a laboratory.

Units used in biochemistry. Percentage, molar and normal solutions

Dosage of serum proteins. Biuret reaction.

Dosage of hemoglobin

Determination of enzyme activity (transaminases, creatine phosphokinase, phosphatases, cholinesterase, GGT)

Dosage of serum and urinary amylase

Determination of metabolic products (urea, creatinine, bilirubin, uric acid)

Determination of Vitamin C

Biophysics and Medical Physics

Course

The structure of matter: Elementary particle, atomic nucleus, atom. Molecules, chemical and physical bonds. Aggregation states, particularities of the living substance. Physical quantities, measurement of physical quantities, units of measurement, data processing for experimental measurements. Particularities and structure of the living substance.

Elements of biological thermodynamics: thermodynamic system, thermodynamic equilibrium, state parameters. Internal energy, heat, work, enthalpy, calorimetry. Principles of thermodynamics. Enthalpy, entropy, Gibbs free energy. Standard chemical and biological status. Chemical and electrochemical potential. Medical applications: calorimetric determinations. The first principle of thermodynamics and its applicability in the living world. Balance of the body's energy. Second principle of thermodynamics. Entropy.

Notions of physics of liquids Fluid statics: hydrostatic pressure, units of pressure, Pascal's law, Archimedes' principle. Fluid dynamics: laminar flow. Bernoulli's equation, Hagen–Poiseuille equation, turbulent flow. Viscosity, viscometry. Surface tension, Laplace's equation, tensioactive substances. Phase transitions.

Water and aqueous solutions: The water molecule. Structure of water. Physicochemical properties. Influence of solutes on water structure. Water in living organisms: classification, content and role. Solutions and dispersions. Expression of concentrations. Solubility equilibrium. Acido-basic equilibrium. The pH of solutions and buffer systems. Electrophoresis. Centrifugation.

Cellular biophysics: The cell, cell components. Physical parameters of the cell. The cell membrane, models. Lipid-protein interactions in biological membranes. The structural model of biological membranes.

Transport phenomena: Diffusion: Fick's equation, Nernst equilibrium, Nernst-Planck equilibrium, membrane potential. Osmosis: phenomenon, osmotic pressure, laws of osmotic pressure, determination of osmotic pressure.

Active transport. Application in biology: passive and active transport across cell membranes, hypotonic/isotonic/hypertonic solution, filtration and resorption. Active transport: Na-K pump, secondary active transport. Co-transport of glucose and amino acids.

Bioelectricity: Bioelectrogenesis. The electrical model of a cell membrane. Ionic membrane potentials of equilibrium. Electrochemical potential. Nernst potential. Donnan membrane potential. Cellular bioelectrogenesis. Bioelectrogenesis of tissues and organs

Biomechanics of muscle contraction: Functions and muscle structure. The molecular mechanism of muscular contraction. Physical manifestations of muscle contraction.

Biophysics of the visual analyzer: the eye as an optical instrument, photoreceptors, retinal structure, signal transduction, color vision.

Biophysics of the auditory analyzer: Acoustic signals, structure of auditory analyzer, biophysical mechanisms of hearing.

Biophysical bases of the interaction between radiation and matter. Applications of biophysics in medicine: Electromagnetic waves, interaction mechanisms and biological effects of ionizing and non-ionizing radiation on living organisms. Ultraviolet, visible, infrared, microwave radiation. Dose - effect relation, characteristic measurement units. Dosimetry. Low doses of radiation. Radiopathology. Ultrasound. The principle of ultrasound examination. Doppler ultrasound

examination. The action of ultrasound and their use in medicine, medical applications of lasers, CT, MRI thermography, RES.

Tests, ongoing examinations

Seminar/laboratory

Introduction of works, work safety rules in a laboratory and the calculation of measuring errors. Prevention of fire and electric shock accidents. Introduction. International System of Units (SI) - description, applications in medicine, nomograms. Exercises for practical application of IS.

Determination of surface tension of different tensioactive substances (solutions) using the Traube stalagmomer. Analyzing the effect of a tensioactive substance on the coefficient of surface tension of water

Measuring the dynamic viscosity of biological liquids. Using the Hopler viscometer will be determined the viscosity of biological solutions and other solutions of pharmaceutical importance (glycerine)

Determination of the water equivalent of calorimeter and specific heat of different solid substances

Measuring the specific rotatory power and the concentration of solutions. Determination of concentrations of sucrose and glucose solutions using the polarimeter

Seminar and ongoing examination.

Determination of refraction index and molar refraction. Measurements of protein concentration in the serum, with Abbe refractometer, and the measurement of concentration of various solutions

Calibration of a thermistor as a thermometer and measuring cutaneous temperature and the feedback response in the process of self-regulation.

Determination of convergence in thin lenses and the study of their aberrations. Analyzing vision corrections in pathological cases.

Determination of microscope magnification and calibration of objective micrometer. Determination of the average size of erythrocytes by the use of the microscope.

Determination of average erythrocyte size by microscope.

Measuring osmotic pressure. The determination of the osmolarity of the aqueous solutions

Drawing the absorption spectrum and the determination of concentrations with the spectrophotometer, UV-VIS (paracetamol, penicillin)

Recapitulation

Seminar and ongoing examination

Cellular and Molecular Biology

Course

1. Introduction to the study of Cellular and Molecular Biology. The origin and evolution of eukaryotic cells

2. The molecular bases of the chemical organization of the cell
3. The cytoskeleton (I). The cytoplasmic matrix
4. The cytoskeleton (II). Cellular motility
5. The muscle and muscular contraction
6. Cell membranes
7. Molecular transport through cellular membrane
8.Transport mediated by the channel proteins
9. The trans-membrane transport of macromolecules. Exocytosis and endocytosis.
9. Receptors and cell signaling. Receptors and signaling molecules. Paracrine and autocrine signaling
10. Endoplasmic reticulum
11. Golgi apparatus
12. The cells's secretion. Lysosomes and peroxisomes
13. Mitochondria. Energy conversion into the cells
14. The molecular mechanism of oxidative phosphorylation in the mitochondria

Seminar/laboratory

1. Optical microscopy. Description of an optical microscope. Formation of image. Practical applications
2. Technique for obtaining permanent microscopic preparations: the fine section method
3. Technique for obtaining permanent microscopic preparations: monolayer array method (blood smear technique and organ impression)
4. Special techniques in optical microscopy with applications in medicine: phase contrast microscopy, fluorescence microscopy
5. Special techniques in optical microscopy with applications in medicine: examination in immersion (study of peripheral blood elements in May-Grumwald-Giemsa staining)
6. Special techniques in cellular and molecular biology: Electron microscopy. Components of an electron microscope. Functioning principle
7. The general study of the cell and cell envelope: specializations of the plasma membrane of the apical pole
7. Special techniques in cellular and molecular biology: Obtaining preparations for study in electron microscopy
8. The organelles of cell motility
9. Methods to highlight the nucleus and the nucleolus. Highlighting nucleic acids through the Brachet cytochemical technique
9. The general study of the cell and the cell envelope: specializations of the plasma membrane of the basal pole and cell coupling zones

10. Determination of sexual chromatin (Barr body) in the nuclei of epithelial cells in the oral mucosa

11. The study of cell division: mitosis

12. The study of cell division: meiosis

13. the human karyotype

14. Evaluation / practical examination

Physical Education

Seminar/laboratory

1.Development of general motor capacity - initial verification

2.Development of endurance (jogging), bilateral game

3.Reinforcement of basic technical elements learned in high school (sports game of choice), development of strength (circuit),

4.Reinforcement of basic technical elements during the game (sports game of choice), development of specific dexterity for the chosen sports branch

5.Bilateral game; development of endurance (jogging)

6.Reinforcement of game tactics through exercise complexes, development of strength (circuit)

7.Final assessment

Physiology

Course

1. The organism as a system. The living structure. The cell as a subsystem. Intercellular relations. Fundamental functions of the cellular subsystem. Reactive oxygen species.

2. Physiology of the membrane. Functional organization of the membrane. Transport across the membrane. The physiology of receptors – G proteins, the calmodulin – protein kinase system, the tyrosine – kinase system, the effect of coupling the agonist ligand with the receptor, intracellular receptors.

3. Cellular automatism. Differentiated cellular functions. Functional state and functional cellular capacity; ontogenesis and phylogenetics of the cell. Excitability. Physiology of the neuron. Synaptic transmission: organization of the synapse, synaptic potentials, chemical mediators. Physiology of the nerve fiber: nervous degeneration and regeneration, conduction through nerve fibers.

4. Physiology of the muscle fiber – The general organization of the striated muscle fiber. Physiology of the motor end-plate. Coupling excitation to contraction. The mechanism of muscular contraction.

5. Morpho-functional particularities of the myocardial tissue – Potential of action of working fibers. Morpho-functional particularities of the smooth muscle fiber. Regulation of smooth muscle contraction.

6. Body regulation. Regulation and its mathematical support. The organism viewed cybernetically. Regulation principles. Nervous regulation. Non-specific humoral regulation. Local hormones. Endocrine regulation. Regulatory immune system. Human upper nerve activity. Homeostasis and adaptation to environment.

7. The organism and the environment – Hydric sectors of the organism; distribution of water in the organism. Regulation of hydric equilibrium. Regulation of blood volume. Isostructure of the internal environment – Ionic, osmotic and acido-basic equilibrium.

8. The biochemical composition of blood plasma. Physiology of plasmatic proteins. Non-protein nitrogenous substances. Organic nitrogenous substances. Inorganic substances.

9. Physiology of formed elements: Hematopoiesis. Physiology of erythrocytes – erythropoiesis, regulation of erythropoiesis. Substances required for erythropoiesis.

10. The role of erythrocytes. Morpho-functional characteristics of erythrocytes. Structure and properties of erythrocytes. Erythrocyte metabolism. Hemolysis. Blood types.

11. Physiology of leucocytes – Granulocyte series. Granulopoiesis. Functions of granulocytes.

12. Monocyte-macrophage series. Functions of the monocyte-macrophage system. Lympho–plasmocyte series. Physiology of lymphoid organs.

13. The physiology of immunity – Antigens, antigenicity, immunogenicity. Antibodies. Antigen – antibody complexes. Complement system. Phases of the immune response and the cells involved. Particular immune reactions.

14. Physiology of thrombocytes – Thrombopoiesis. Structure of thrombocytes. Thrombocyte metabolism. Thrombocyte functions. Physiology of fluid-coagulant equilibrium – Physiological hemostasis. Vascular-platelet phase. Secondary hemostasis. Coagulation factors. Stages of the coagulation process. Regulation of coagulation. Fibrinolysis. Regulation of fluid-coagulant equilibrium

Seminar/laboratory

1. Permeability of biological membranes. Observation of erythrocyte behavior in media of different osmolality.
2. Exploration of hydro-electrolytic and acido-basic equilibrium.
3. Plasma proteins. Analysis of electrophoresis.
4. Determination of blood volume and hematocrit. Determination of hemoglobin.
5. Osmotic hemolysis. Determination of globular resistance.
6. Determination of erythrocyte sedimentation rate
7. Principles for counting formed elements. Leukocyte count
8. Determination of constants and erythrocyte indices.
9. Test 1
10. Determination of blood groups in the ABO and Rh system
11. Exploration of hemostasis

12. Exploration of blood coagulation
13. Analysis of blood test bulletins
14. Test 2

Medical Informatics and Biostatistics

Course

1. What is information? Structure of an IBM PC type computer. Peripheral equipment. Computer networks
2. Windows operating system. History, versions, generalities, structure of a window. Organizing information in a computer. Rules used in naming files and folders
3 Searching for files and folders. Using search masks. Creating, copying, moving, deleting files and folders
4 Editing texts. Applications that can be used in editing texts. Structure of an MS Word text editor window. Structural elements of an edited text
5 Formatting pages, characters, paragraphs. Inserting page headers and footers
6 Advanced formatting elements: inserting boxes, images, tables, elements from other applications
7 Spreadsheet applications. Presentation of MS Excel window components: organization by cells, columns and rows.
8 Addressing cells, columns and rows. Formatting Excel components. Inserting calculus formulas
9 The graphic representation of data in a table. Formatting graphic representations
10 Making presentations using MS Powerpoint program. Powerpoint window structure and its components. Organize a presentation.
11 Basics in Microsoft Access. Introduction. Relational databases
12 Access object classes. Creating a database.
13 Tablets - types of relationships between tables, requests, functions;
14 Clauses. Access forms and reports

Seminar/laboratory

1. Presentation of the structure of an IBM PC. Using a keyboard; keys with special functions. Using a mouse. Work techniques with the mouse.
2. Organization and elements of a Windows workspace. Opening applications. Browsing files and folders with Windows Explorer.
3. Creating, copying, moving, renaming, deleting files and folder. Creating “shortcuts” for rapid access to files or folders. Searching for files and folders.
4. Using the Word application; structure of a window. Formatting pages, characters and paragraphs

5. Inserting textboxes, headers and footers. Inserting automatic elements into a header or footer.

6. Assessment test 1

7. Structure of MS Excel spreadsheet application. Formatting cells; sizes, colors, borders. Creating a table

8. Inserting spreadsheet formulas. Using preset formulas. Using statistic formulas

9. Graphic representation of data contained in a table. Formatting charts; inserting legend, charts, formatting axes

10. Assessment test 2

11. Using Powerpoint; window structure and components. Making a presentation - part 1

12. Making a presentation - part 2. Automatic slide show

13. Creating a medical database in Access

14. Relationships between tables, clauses, functions in Access

Modern language – English

seminar

1. Health and illness: asking about health, sickness, recovery: intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing

2. Parts of the body: the abdomen, the chest, the pelvis, describing radiation of pain; Functions of the body: eating, the five senses, less common functions: intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing

3. Medical practitioners: practitioners, specialties, hospital staff, medical terms, shifts, intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing

4. Nurses and Allied Health Professionals: nursing grades, support workers, specialization, community health, technicians, opticians, intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing

5. Hospitals and Primary Care: Introduction to a hospital, outpatients, inpatients, the National Health Service, the practice team, a GP's day: intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing

6. Medical education: medical education in the UK, a student's view, people in medical education, medical qualifications, the overseas doctor: intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing

7. Symptoms and signs: describing problems, presentation, talking about symptoms: intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing

8. Blood, bones, the endocrine system: full blood count, anaemia, bone fractures, treatment of fractures, excess and deficiency, negative feedback systems, a letter of referral

9. The eye, the gastrointestinal system, gynaecology: parts of the eye, examination of the eye, retinopathy, examination of the abdomen, the faeces, the female reprodcutive system, menstruation, a gynaecological consultation, contraception

10. The heart and circulation, infections: shortness of breath, heart rhythm, heart failure, physical examination, examining the heart and circulation; fever, microorganisms, source and spread of infection

11. Mental illness and the nervous system: psychiatric disorders, substance abuse, affective disorders, neurotic ans stress-related disorders; sensory loss, motor loss, loss of consciousness, the motor system, tendon reflexes, coma

12. The respiratory system, pregnancy and childbirth, the skin: cough, labour, types of skin lesion, rashes, injuries to the skin, case report, sores: intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing

Modern language – German

Seminar

1.Die deutsche Aussprache

2.Was ist das? Objekte benennen und beschreiben. Das Adjektiv

3.Was machen wir jetzt? Zeit ausdrücken

4.Dialog im Zug. Kurze Dialoge schreiben

5.Wir zählen und rechnen. Die Zahlen bis 100

6.Die Bahn ist immer sicher. Die Transportmittel

7.Im Hotel. Dialog und um Informationen bitten

8. Bitte, wo ist? Richtige Fragen stellen

9.Meine Familie und ich. Familienmitglieder beschreiben

10.Im Fotogeschaft. Verben richtig benutzen

11.Im Schreibwarengeschaft. Dialoge

12.Die Ferien. Freizeitsbescheftigungen. Erzählen

13.Am Bahnhof. Grüssen

14.Das Landeralphabet. Wiederholung

Romanian

Seminar

1.Limba română - limbă romanică. Alfabetul limbii române; Reguli de scriere şi pronunţare

2.Prezentarea Universităţii de Vest Vasile Goldiş Arad. Articolul hotărât şi nehotărât

3.Cum ne prezentăm. Substantivul –gen, număr- cu referiri la termenii medicali

4.Orientare, direcţii. – Adverbe de loc.

5. Dialoguri cotidiene. Exprimarea posesiei. Verbele a fi şi a avea. Cazul genitiv

6.Programul zilnic. Exprimarea orei. Numeralul

7.Corpul -Verbul
8.Identificarea şi caracterizarea persoanei - Adjectivul
9.Starea de sănătate-dialoguri . Verbul – timpul trecut şi viitor
10.Casa şi locuinţa- Exerciţii lexico-gramaticale
11.La farmacie - dialoguri . Adverbul
12.La cumpărături –Dialoguri
13.Regimul alimentar– Dialoguri. Pronumele
14.In timpul liber. –Conjuncţia

2nd semester

Anatomy and Embryology

Course

1. Branchial arches, Cephalic extremity. Developmental anomalies in branchial arches and sacs.
2. The cervical segment, branchial arches. Development of the thyroid and parathyroid glands
3. Development of the coelomic cavity, the internal coelom. Anomalies. Development of the diaphragm muscle
4. Development of the digestive system. The oral cavity. The anterior, middle and posterior intestine. The omphaloenteric duct. Developmental anomalies.
5. Development of the liver, pancreas and spleen. Anomalies. Development of the respiratory system. Development of the larynx and trachea. Anomalies.
6. Development of the respiratory system. Development of the pleurae. Development of the lungs.
7. Development of the cardiovascular apparatus. Development of the pericardium. Development of the heart. Separation of atria and ventricles. Anomalies. Fetal circulation
8. Development of the cardiovascular apparatus. Septation of the arterial cone. Development of the dorsal aorta. Development of arteries and veins. Development of the lymphatic system.
9. Development of the urinary system: kidneys, upper urinary pathways, urinary bladder, lower urinary pathways. Congenital anomalies of the urinary system.
10. Development of the genital system. The period of sexual differentiation. The development of gonads. Testicle and ovary.
11. Development of male and female genital ducts. Development of external genital organs. Anomalies
12. The mediastinal region, walls, content. The thymovascular level, limits, content. The cardio-pericardial level. The fibrous and serous pericardium. The heart; connections, external configuration.
13. The heart. Internal configuration, structure, coronary arteries, cardiac veins. Intrinsic and extrinsic innervation.

14. The mediastinal region, the posterior level. The descending aorta. The thoracic esophagus. The azygos vein system

Seminar/laboratory

1. Muscles of the pelvic belt: external muscles of the pelvis: gluteus maximus, gluteul medius, gluteus minimus, quadratus femoris muscle, obturator externus muscle
2. Muscles of the posterior region of the thigh (adductor magnus muscle, semimembranosus muscle, semitendinosus muscle, biceps femoris muscle, muscles of the iliotibial tract)
3. Posterior muscles of the calf: triceps surae muscle, popliteus muscle, long finger flexor muscles, flexor pollicis longus muscle and tibialis posterioris muscle
4. Popliteus space: arteries, veins and nerves
5. Plantar muscles, synovial sheaths of the muscles of the foot
6. Muscles of the anterior side of the thigh: sartorius muscle, quadriceps femoris muscle, pectineus muscle, adductor muscles
7. Muscular and vascular lacuna
8. Femoral canal, adductor canal
9. Skeleton of the foot: tarsum, metatarsum, phalanx
10. Anterior muscles of the calf (tibialis anterior, flexor digitorum, fibularis longus, fibularis brevis, extensor hallucis longus)
11. Vessels and nerves of the lower limb (internal iliac artery, external iliac artery, femoral artery, popliteal artery, posterior tibial artery, dorsalis pedis artery, plantar arteries
12. Lumbar plexus (iliohypogastric nerve, ilioinguinal nerve, genitofemoral nerve, femoral cutaneous nerve, obturator nerve, femoral nerve)
13. Sacral plexus (sacral plexus proper, sciatic nerve)
14. The skull as a whole. Frontal bone
15. Ethmoid bone. Sphenoid bone. Occipital bone
16. Temporal bones. Parietal bones
17. Bones of the viscerocranium (lacrimal bones, nasal bones, zygomatic bones, palatine bones, inferior nasal concha, vomer)
18. Maxillary bones and mandible
19. Endobasis and exobasis
20. Mimic muscles
21. Masticatory muscles
22. Flexor muscles, extensor and rotatory of the head and neck
23. Vessels of the cervicocephalic extremity
24. Innervation of the cervicocephalic extremity
25. Ribcage. Pleura. Trachea. Main bronchia
26. Lungs, external configurations, relations. Pulmonary hilum. Internal anatomic structure

27. Anterior mediastinum, Cardio-pericardial level. Pericardium. Heart. External configuration, relations. Internal configuration, atria, ventricles.

28. Posterior mediastinum. Thoracic trachea, thoracic esophagus. Thoracic canal. Azygos vein system

Biochemistry

Course

1. Energetic metabolism. Reduction-oxidation reactions. Reduction potential. Principles of bioenergetics. High- and low-energy compounds.

2. ATP reactions. ATP synthesis. ATP hydrolysis. High-energy bonds.

3. Oxidative phosphorylation. The anaerobic stage and the aerobic stage of biological oxidation. Oxidative phosphorylation. The mechanism of oxidation.

4. The respiratory chain. The transport of electrons in the respiratory chain. Structure of the respiratory chain. NADH dehydrogenase. Coenzyme Q. Cytochromes. Cytochromoxidase. The mechanism of oxidative phosphorylation: chemiosmotic coupling.

5. Lipid metabolism. Generalities. Classification of lipids. Fatty acids. Main categories of lipids. Triglycerides. Cholesterol and cholesteryl esters. Glycerophospholipids. Sphingolipids.

6. The digestion and absorption of lipids. Digestive enzymes. Bile salts. Absorption.

7. Fatty acid catabolism. Fatty acid beta-oxidation. Acylcarnitine.

8. Unsaturated fatty acid oxidation. « Beta » oxidation in peroxisomes. Fatty acid alpha-oxidation. Omega-oxidation. Metabolism of propionyl-coenzyme A.

9. Fatty acid biosynthesis. Stages of fatty acid biosynthesis. Formation of malonyl-CoA from acetyl-CoA. Fatty acid elongation. Unsaturated fatty acid biosynthesis

10. Glycerol metabolism. Triacylglycerol metabolism. Metabolism of ketone bodies. Synthesis of ketone bodies. Oxidation of ketone bodies.

11. Complex lipid metabolism. Glycerophospholipid metabolism. Phosphatidic acid synthesis. De novo glycerophospholipid synthesis. Cardiolipin biosynthesis. Plasminogen biosynthesis. Sphingolipid metabolism.

12. Steroid compounds. Sterols. Cholesterol

13. Lipoproteins. Lipoprotein classes. Lipoprotein metabolism. Chylomicrons as a form of transporting exogenous lipids. VLDL, IDL and LDL transport.

14. Eicosanoids. Chemical structure. Cyclooxygenase path. PGH2 biosynthesis. The linear path of lipoxygenase

Seminar/laboratory

1. Work safety in a biochemistry laboratory

2. Determination of redox potential. Oxidative phosphorylation in the mitochondria

3. Determination of the iodine index of fats

4. Dosage of total lipids. Dosage of serum cholesterol
5. Dosage of HDL – cholesterol.
6. Dosage of LDL – cholesterol
7. Dosage of serum triglycerides
8. Classification of hyperlipidemia by sedimentation at 4 degrees C
9. Electrophoresis of lipoproteins.
10. Dosage of phospholipids
11. Dosage of free fatty acids
12. Colloquium

Cellular and Molecular Biology

Course

1.Cell junctions
2. Receptors and cell signaling (1)
3. Receptors and cell signaling (2)
4. The nucleus, the control center of cellular activity.
5. the nucleoli
6. Transmission and expression of genetic information (from DNA to RNA)
DNA replication
7. The transcription and processing of RNA
8. Protein synthesis, the final stage of gene expression (from RNA to protein)
9. Extracellular matrix and cell adhesion
10. Disordering of the molecular mechanisms that control proliferation, differentiation, and cell survival. (Cancer)
11. Oncogens
12. Tumor-suppressor genes
13. Apoptosis
14. Scientific progresses and research strategies in the field of stem cells

Seminar/laboratory

1. Organelles of cellular synthesis: ribosomes and endoplasmic reticulum: study in OM and EM
2. Organelles of cellular secretion: Golgi complex - study in OM and EM
3. Organelles generating energy: mitochondria - study in OM and EM
4. Organelles of cellular digestion: lysosomes and peroxisomes
5. Study of phagocytosis. Observation of the phagocytosis of microbes by leukocytes. Highlighting lysosomes and phagocytosis by fluorescence microscopy
6. Highlighting cytoplasmic inclusions: lipids, glycogen, pigments

7. Special techniques utilized in cellular and molecular biology: cell culture technique

8. Special techniques utilized in cellular and molecular biology: fractioning cells by differential centrifugation

9. Modern methods of molecular biology utilized in research and diagnosis: generalities

10. Special techniques utilized in molecular biology: Study of DNA. Agarose gel electrophoresis

11. Special techniques utilized in molecular biology: Study of DNA. Temperature Gradient Gel Electrophoresis (DGGE).

12. Special techniques utilized in molecular biology: Study of DNA. DNA isolation techniques from biological products.

13. Special techniques utilized in molecular biology: Study of DNA. Gene amplification (PCR technique).

14. ongoing assessment / practical examination

Physical Education

Seminar/laboratory

1.Development of general motor capacity - initial verification

2.Development of endurance (jogging), bilateral game

3.Reinforcement of basic technical elements learned in high school (sports game of choice), development of strength (circuit),

4.Reinforcement of basic technical elements during the game (sports game of choice), development of specific dexterity for the chosen sports branch

5.Bilateral game; development of endurance (jogging)

6.Reinforcement of game tactics through exercise complexes, development of strength (circuit)

7.Final assessment

Physiology

Course

1. Diet. Necessary energetic intake, necessary carbohydrate, lipid and nitric intake. Vitamins. Necessary hydromineral intake. Diet and nutrition. Physiological diet.

2. Oral digestion. Mechanic phenomena of oral digestion. Mastication. Deglutition. Regulation of deglutition. Esophageal motility.

3. The motor function of the stomach, small intestine and colon. Regulation of the digestive system motility.

4. The secretory function of the digestive system - Salivary secretion, regulation. Gastric secretion. Nervous and hormonal mechanisms of gastric secretion regulation.

5. Physiology of the exocrine pancreas. Regulation of pancreatic secretion. Secretion of the bile by the liver. Intestinal secretion, intestinal secretion regulation.

6. Digestion and absorption of carbohydrates, proteins and lipids in the gastrointestinal tract. Water an ion absorption in the intestine. Regulation.

7. The functional organization of pulmonary respiration. Physiology of pulmonary ventilation. Pulmonary volumes and capacities.

8. The physiology of pulmonary perfusion: the functional organization of the pulmonary circulatory system, the effect of the hydrostatic pressure gradient on the regional pulmonary blood flow. Dynamics in pulmonary capillaries.

9. Physical principles of gas exchanges. Gas diffusion across the alveolocapillary membrane. The composition of alveolar air and its relation to atmospheric air.

10. The respiratory function of blood for oxygen and carbon dioxide. The transport of blood gases. Cellular respiration.

11. Regulation of respiration. Respiration under hypo- and hyperbaric conditions. Respiration in the fetus and the mechanism of first respiration. Regulation of respiratory center tone.

12. The functional organization of the renal-urinary system. Glomerular filtration. Tubular functions.

13. Renal cleansing. The role of kidneys in homeostasis.

14. Regulation of the renal function. Urine. Physiology of the uriniferous tract. Micturition. The role of kidneys in ensuring hydromineral and circulatory homeostasis.

Seminar/laboratory

1. Saliva. Action of salivary amylase on starch.
2. Paraclinical exploration of the stomach.
3. Paraclinical exploration of the liver.
4. Functional exploration of the pancreas.
5. Functional exploration of the bile ducts.
6. Study of the state of nutrition. Calculating energetic needs.
7. Anthropometric indices.
8. Food ration.
9. Test 1
10. Functional exploration of the respiratory system. Spirometry.
11. Functional exploration of the respiratory system. Expirography.
12. Functional exploration of the respiratory system. Analysis of ventilometric evaluations.
13. Functional exploration of the kidney. Summary urine test.
14. Test 2

Legislation for Foreigners

Course

LEGAL REGULATIONS

1. European and national legislative framework
2. international law
THE CONCEPT OF FOREIGNER
European Community Law
Romania
The legal regime for Foreigners
The principles of legal regime for Foreigners
Rights and obligations of foreigners in Romania
Rights of Foreigners in Romania
Obligations of Foreigners in Romania
Rights of foreigners accommodated in the centers
Obligations of the foreigners accommodated in the centers
THE ADMISSION IN ROMANIA
Litigation concerning the entry on the state territory
CONDITIONS OF ENTRY
Citizens of member states of the European Union, European Economic Area and Switzerland
Citizens of third countries
The conditions for the entry of foreigners in Romania
Situations in which the entry on the Romanian territory is refused for foreigners
Entry visa for Romania
Exceptions to the obligation to obtain a Romanian visa:
Conditions for exemption from the requirement to obtain a Romanian visa
Types of visas issued by the Romanian authorities
RIGHT OF RESIDENCE OF FOREIGNERS IN ROMANIA
Temporary residence permit
Extension of temporary residence permit
Extension of temporary residence permit for foreigners who come to study
Extension of the right of temporary residence for foreigners to work
Regulation of the right of residence for foreigners who can run business activities in Romania without a work permit
The right of permanent residence
Legal regulation
Conditions of entitlement to long-term residence
The right of permanent residence is forbidden
Refusal of establishing the domicile in Romania
FOREIGNER WORKERS IN ROMANIA
WORK PERMITS

Documents required to be issued the work permits for a foreigner
How to make a contract of employment
Rights and obligations of the employee
The rights of employees in Romania
The obligations of employees
The rights and obligations of the employer
The rights of employer
The obligations of employer
How to find solutions to disputes concerning the rights and obligations arising from individual employment contracts
Duration of work
How is the right to rest and holidays established?
Which are the salary rights of employees?
HEALTH INSURANCE
Conditions for access to education in education institutions in the national system of Romania
Eligibility criteria
Selection criteria
Admission to studies. Preparatory year. Studies in foreign languages.
Admission to high-school
Cycle I - undergraduate enrollments
Cycle II enrolling to master university studies
Cycle III (diploma of cycle 3) - doctoral studies
Registration for postgraduate specialization studies in the medical field (residency)
Organizing and conducting competition for the award of scholarships, under Government Resolution No. 288/1993 on the education of foreigners in Romania, republished law, as amended and supplemented, and the National Education Law No. 1/2011, with amended
RECOGNITION OF DIPLOMAS AND QUALIFICATIONS
SOCIAL INTEGRATION OF FOREIGNERS IN ROMANIA
EXPULSION OF FOREIGNERS
The foreigners's decision to return to Romania
Expulsion of foreigners with an escort
Returning interdiction
Taking under public supervision and placement in a special center ("luarea în custodie publica")
Contraventions
Setting the period of prohibition of entry into Romania
Review

Modern language – English

seminar

Organic Chemistry and Biochemistry: alcohols, carboxylic acids, salts of carboxylic acids, fats (lipids), carbohydrates, aminoacids and proteins, steroids: explanatory notes, words and phrases, pronunciation

Medical Skills: the medical interview, oral diagnosis, home care of the sick, physicians and surgeons and their diagnostic procedures: explanatory notes, words and phrases, pronunciation

Semiology and Clinics: rheumatic fever, heart diseases in infancy and childhood, the infantuile eczema, rickets, measles, bronchitis, asthma, diabetes mellitus: explanatory notes, words and phrases, pronunciation

Semiology and Clinics: myocardial infarction, tubulo-interstitial nephritis, arthritis, ectopic pregnancy, jaundice in pregnancy, brenner tumors of ovary, syndromes involving facial pain: explanatory notes, words and phrases, pronunciation

Pharmacology and Therapeutics: the vitamins, tobacco and its alkaloids, penicillin, drug tolerance, epinephrine, drugs of the carbohydrate group, drugs: explanatory notes, words and phrases, pronunciation

Pharmacology and Therapeutics: of thr fatty acid group, drugs of the alkaloid group, drugs of the protein group, drugs of the isoprenoid group: explanatory notes, words and phrases, pronunciation

Reading: Disease – an undefined word; Short account of Chinese medicine; exploring the borderlands of the mind: explanatory notes, words and phrases, pronunciation

Reading: „A complete physician", a tool for diagnosis and for education: explanatory notes, words and phrases, pronunciation

Patients' rights, telemedicine, health care and the next generation internet: explanatory notes, words and phrases, pronunciation

Reading for detail: Famous physicians: Hippocrates, Avicenna, William Harvey, Louis Pasteur, Joseph Lister: explanatory notes, words and phrases, pronunciation

General Acronyms and Abbreviations in Medicine

Data presentations: referring to a table or figure, comparing variables, approximating, line graphs, pie charts and bar charts, describing trends, the structure of a research article

Modern language – German

Seminar

1.Die Phonetik

2.Wie ist das? Was ist das? Die Steigerungsform der Adjektive

3.Wohin fahren wir jetzt? Plätze beschreiben

4.Dialog im Kaufhaus. Verbformen

5.Die Wirtschaft in Deutschland. Dialog

6.Am Markt. Ist est wichtig gesund zu essen?
7.Das Frühstück bei den Deutschen und die Gesundheit
8.Beim Mittagessen. Höflichkeitsformen
9.Man sagt .... Das unpersönliche Pronomen
10.Er hält Diät. Dialog beim Arzt
11.Der Körper des Menschen
12.Beim Arzt. Patienten und Ärzte in Deutschland
13.Gesundheit und Sport. Dialog und Beschreibung
14.Im Großkaufhaus und Wiederholung der Grammatik

Romanian

Seminar

1.Despre familie. –Dialoguri. Cazurile substantivului
2.Tehnica de redactare a unei cereri. Articolul posesiv
3.Corespondenţa oficială . Exerciţii de redactare
4.Tratamente şi reţete străvechi . – Comentariu pe text. Verbe
5.Interferenţe culturale- Medicina populară în ţara dumneavoastră- Dialoguri
6.Locul medicinii populare în contextul practicii medicale actuale . Numeralul ordinal
7.Timpul meu- Dialoguri
8.Mediul şi sănătatea (I) comentariu pe text . Verbul -moduri
9.Remedii pe bază de plante comentariu pe text
10.Termenii medicali şi originea lor în limba română (terminologia medicală)
11.Rolul limbilor clasice (latina şi greaca) în îmbogăţirea terminologiei medicale Comentarii pe text .
12.Reţete ale medicinii populare pentru dureri de dinţi Comentarii pe text
13.Instrumente medicale Comentarii pe text – Exprimarea politeţei în limba română
14.Recapitulare - Dialoguri.

Scientific Research Methodology

Course

1. Introduction. Research methods
2. Clinical research
3. Methodology of study
    - Phases for elaborating a clinical study
    - Errors in medical studies
4. Principles of statistical analysis. Estimating and testing hypothesis
5. Normal distribution. Measuring central tendency and dispersion

6. Meta-analysis in medical research. Survival data analysis
7. Statistical methods in medical research. The choice of statistic method
8. Designing experiments
9. Medical scientific writing
   -Types of medical writings
   - Writing style and technique
   - The format of a research paper
   - Title. Authors
   - Abstract. Key words.
10. Medical scientific writing
   - Introduction
   - Materials and methods
   - Ethics. Statistics
   - Results
   - Discussions
   - Acknowledgements
11. Medical scientific writing
   - Introduction
   - Materials and methods
   - Ethics. Statistics
   - Results
   - Discussions
   - Acknowledgements
12. Medical scientific writing
   - Bibliographical references
   - Tables and figures
13. Medical scientific writing
   - Abbreviations. Symbols
   - Oral presentation: slides, video projection and posters
14.. Recapitulation

<u>Seminar/laboratory</u>

1. Introduction. Research methods
2. Clinical research
3. Methodology of study
   - Phases for elaborating a clinical study
   - Errors in medical studies

4. Principles of statistical analysis. Estimating and testing hypothesis
5. Normal distribution. Measuring central tendency and dispersion
6. Meta-analysis in medical research. Survival data analysis
7. Statistical methods in medical research. The choice of statistic method
8. Designing experiments
9. Medical scientific writing
   -Types of medical writings
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   - Acknowledgements
11. Medical scientific writing
   - Introduction
   - Materials and methods
   - Ethics. Statistics
   - Results
   - Discussions
   - Acknowledgements
12. Medical scientific writing
   - Bibliographical references
   - Tables and figures
13. Medical scientific writing
   - Abbreviations. Symbols
   - Oral presentation: slides, video projection and posters
14. Recapitulation

Environmental Health

Course

Introduction to the study of environmental health. General Ecology: definition, object of study. Human ecology: definition, object of study

Ecological systems: structure, functions, general features. The theory of systems. Hierarchy of ecological systems. Levels of organization of living matter. Food chains

Human ecosystem - an integral part of the general ecosystem.

Structure and functions. Relationship between the human organism and the environmental factors

Man as the central part of the human ecosystem

The environmental factors that infuence the human organism: physical, chemical, biological, psycho-social and behavioral factors

Adapting to the environment as a means of establishing the human ecosystem

Human adaptation to physical and chemical factors

Adapting to the environment as a means of establishing the human ecosystem

Human adaptation to biological agents, tuberculosis in children

Adapting to the environment as a means of establishing the human ecosystem

Means of defense of the body. Natural and acquired immunity

The influence of environmental factors on health status of population

Foods and their role in human ecosystem

The influence of environmental factors on health status of population

Infectious agents and their role

The influence of environmental factors on health status of population the psycho-social factors and their role

Population studies. The human population

Population studies. Profile and contemporary tendencies.

Population studies.

The ecological significance of population.

Sanitary and Social Legislation

Course

1. Health – a fundamental human right (prerequisites for health, individual and community health, definition and domains of Public Health, main health systems)
2. Introduction to the management of health services (management as a system, role, functions, managerial attributes, organizational culture, systemic thinking)
3. Health systems - organization
4. Social health insurance and medical legislation
5. Principles of social health insurance and main healthcare systems
6. The reform of health services in Europe and Romania – legislative framework
7. The WHO strategy for the 21st century.

2nd year

1st semester

Anatomy

Course

1. Development of the nervous system – generalities
2. The nervous system – generalities
3. The spinal cord
4. Membranes of the spinal cord
5. The brain stem – medulla, pons, midbrain
6. The cerebellum
7. The 4th ventricle
8. Cranial nerves
9. The diencephalon – the thalamus
10. The hypothalamus
11. The metathalamus, the epithalamus, the subthalamus
12. The telencephalon – faces of the cerebral cortex
13. The microscopic structure of cerebral cortex
14. The archicortex, Basal nuclei

Seminar/laboratory

1. The abdomen – limits and walls. The diaphragm muscle
2. The abdominal cavity – supramesocolic and inframesocolic space, peritoneum. Generalities
3. Peritoneum – omentum, peritoneal folds, ligaments
4. Peritoneum – omental bursa
5. Peritoneum – unfolding of the peritoneum in the different planes of the abdominal cavity
6. The gastric region –abdominal esophagus, stomach.
7. Duodenal-pancreatic region
8. Hepatic region – liver: external configuration, location
9. Hepatic region – liver: structure, segmentation
10. Hepatic region – hepatic portal vein, hepatic artery, suprahepatic veins, lymph ducts of the liver, intrahepatic bile ducts
11. Hepatic region – classical hepatic lobule, portal lobule, hepatic acinus
12. Extrahepatic bile ducts
13. Splenic region – spleen: external configuration
14. Spleen - relations, structure, vessels and nerves.

15. Jejunum and ileum – mesentery, external and internal conformation, location
16. Large intestine (colon) – cecum and appendix
17. Large intestine (colon) – ascending and transverse colon
18. Large intestine (colon) –descending and sigmoid colon
19. Large intestine – rectum
20. Vascularization of the inframesocolic space
21. Retroperitoneal space – generalities
22. Retroperitoneal space – kidneys: external configuration
23. Retroperitoneal space – kidneys: Relations, macroscopic structure, segmentation
24. Retroperitoneal space – kidneys: structure and ultrastructure of the nephron.
25. Retroperitoneal space –excretory ducts of the kidney
26. Retroperitoneal space – adrenal glands
27. Retroperitoneal space – retroperitoneal vessels
28. Recapitulation

Biochemistry

Course

Lipid metabolism. Generalities. Classification of lipids. Fatty acids. The main categories of lipids. Triglycerides. Cholesterol and cholesterol esters. Glycerophospholipids. Sphingolipids

Digestion and absorption of lipids. Digestive enzymes. Bile salts. Absorption.

Catabolism of fatty acids. Beta-oxidation of fatty acids. The acyl-carnitines.

Oxidation of unsaturated fatty acids. "Beta" oxidation in the peroxisomes. Alpha-oxidation of fatty acids. Omag-oxidation. The metabolism of propionyl-coenzyme A

The biosynthesis of fatty acids. The stages of biosynthesis of fatty acids. The formation of malonyl-CoA from acetyl-CoA. Elongation of fatty acids. The biosynthesis of unsaturated fatty acids

The metabolism of glycerol. Metabolism of triacylglycerols.

Ketone body metabolism. Synthesis of ketone bodies. The oxidation of ketone bodies

Complex lipid metabolism. Glycerol-phospholipids metabolism. Phosphatidic acid synthesis. Glycerol-phospholipids' de novo synthesis. Cardiolipin biosynthesis. Plasminogens biosynthesis . The metabolism of sphingolipids. Cholesterol metabolism.

Lipoproteins. Lipoprotein classes. Lipoprotein metabolism. Chylomicrons as a form of exogenous lipid transport. Transport of VLDL, IDL and LDL. The HDL metabolism.

Hormones. Characterization and classification. Action mechanism.

Amino acid-derived hormones. Histamine. Serotonin. Pituitary melatonin hormone. Adrenal medullary hormones. Thyroid hormones.

Peptide and protein hormones. Insulin. Glucagon. Parathyroid hormone. Calcitonin. Hypothalamic neurohormones.

Anterior pituitary hormones. GH. Prolactin. Human placental lactogen. ACTH. MSH. Endorphins. Endorphin synthesis. Glycoprotein hormones. Thyrotropin-releasing hormone. Gonadotropic hormones.
Posterior pituitary hormones. Atrial natriuretic peptide. Erythropoietin. Plasma quinines. Hormones of the gastrointestinal tract. The renin-angiotensin system.
Lipid hormones. Adrenocortical hormones. Sexual hormones. Gestagenic hormones. Placental hormones. Eicosanoids. Chemical structure. Cyclooxygenase path. PGH2 biosynthesis. Linear path of lipoxygenase.

Seminar/laboratory
Work safety in the biochemistry laboratory.
Determination of fat iodine index
Dosage of total lipids. The dosage of serum cholesterol
Dosage of HDL - cholesterol.
Dosage of LDL - cholesterol.
Dosage of serum triglycerides
Classification of hyperlipidemias by sedimentation at 4 degrees C
Lipoprotein electrophoresis.
Dosage of phospholipids, dosage of free fatty acids
Dosage methods for hormones
Dosage of thyroid hormone. Dosage of other hormones

Medical Bioethics

Course
Bioethics. Origins, History
1. The origin of the term. The emergence of bioethics as a „new reflection"
2. Moments in the history of bioethics
Epistemological justification
1. Formation of thinking in bioethics and research methodology in bioethics
2. The problem of definition of Bioethics
1. The main centers of Bioethics in the world
2. From medical ethics to bioethics. The Role of the Church
Bioethics and Health Sciences
1. Bioethics, anthropology and interdisciplinary character
Prenatal Diagnosis
1. Getting ethics
2. Prenatal diagnosis and prenatal screening
3. Assisted medical reproduction

4. Practical case

Transplantation of tissues and organs

1. Definition

2. Legislative framework

3. Special Principles

4. the Informed Consent

5.Practical case

Communication with the patient

Free discussions and practical case on the communication with the patient

The Cloning

1.Ethical principles

2.Practical case

The Eugenics

1. Definition

2. Society and eugeny

3. Racial Differences

4. Eugenic policy

5.Practical case

Euthanasia

1.Ethical principles

2.Practical case

The Ethics, the Moral, the Morality

1. The meaning of the terms

2. Branches of ethics

Bioethics, moral and Christian morality.

1.Contraception

2.Bioethics and health of the fetus

3.Practical case

Relatia medic-pacient prin perspectiva moderna europeana a drepturilor pacientului

Doctor-Patient relation in daily practice, practical cases, doctor-patient relationship models, discussions

Patients' rights versus medical body obligations.

1. History

2. Current regulations

3. The role of family doctor

4. Trends in the development of family medicine

5. Principles of patients' rights in Europe

Physical Education

Seminar/laboratory

1.Development of general motor capacity - initial verification

2.Development of endurance (jogging), bilateral game

3.Reinforcement of basic technical elements learned in high school (sports game of choice), development of strength (circuit),

4.Reinforcement of basic technical elements during the game (sports game of choice), development of specific dexterity for the chosen sports branch

5. Bilateral game; development of endurance (jogging)

6.Reinforcement of game tactics through exercise complexes, development of strength (circuit)

7.Final assessment

Physiology

Course

1. Physiology of the heart.
2. Physiology of the vascular system.
3. Physiology of the endocrine system.

Seminar/laboratory

1. Determination of arterial tension. Oscillometry.
2. Electrocardiogram. Notions on derivations. ECG recording.
3. Electrocardiogram. Morphological and chronological analysis.
4. Analysis of cardiovascular changes in effort. Exploration of the capacity to adapt to effort.
5. Heart sounds. Phonocardiogram. Correlation between heart sounds and radial pulse.
6. Carotid pulse. Carotid sphygmogram.
7. Apexogram. Jugular venous pulse; jugulogram. Calculation of systolic rates using ECG, carotid pulse and phonocardiogram.
8. Exploration of venous circulation and microcirculation.
9. Functional state and functional heart capacity.
10. Functional exploration of vegetative and cardio-vascular tone.
11.Functional exploration of the orofacial system. Functional exploration of the salivary glandes.
12. Functional exploration of the stomach.
13. Functional exploration of the bile ducts and endocrine pancreas.
14. Practical examination.

Histology

Course

Introduction to the study of histology

Histology as a science; Introduction and history; Types of microscopes used in cyto-histological research; General histological notions: histogenesis and cytodifferentiation, parenchyma and stroma, cell changes within tissues; General characteristics and classification of tissues

Epithelial tissues

General characteristics; Structure of the basement membrane; Cell adhesion; Classification of epithelia; Covering epithelia: unistratified (squamous, cuboidal, columnar), stratified (squamous, columnar), transitional (pseudostratified and urothelium); Histophysiology of covering epithelia

Epithelial tissues

Glandular epithelia, General classification, Classification of exocrine glandular epithelia, General morphological organization, Cell changes during the secretory cycle.

Connective tissues (1)

General characteristics, Classification of connective tissues, Embryonic connective tissues (mesenchymal and mucous); Adult or permanent connective tissues; Loose connective tissue – constitutive elements (cells, fibers and ground substance)

Connective tissues (2)

Dense regular and irregular connective tissues (tendon, aponeurotic, fibro-lamellar and elastic); Specialized connective tissues (reticular, adipous, seromembranous and pigmented)

Supporting connective tissues

General characteristics and classification of cartilaginous tissues; Hyaline, elastic and fibrous cartilaginous tissue; General histological structure of the bone tissue (cells, mineralized ground substance, fibrillar system); Classification of bone tissues. Immature or non-lamellar bone tissue; Mature Haversian bone tissue (spongy and compact); The bone as an organ; Histological structure of the diaphysis; Ossification and osteogenesis.

Muscle tissues

Classification; Smooth muscle tissue; Striated skeletal muscle tissue. Structure of the striated skeletal muscle fiber under the optical and electron microscope; Tubular systems of the striated skeletal muscle fiber; Connective envelopes of the striated muscle; Vascularization and innervation of the striated skeletal musculature; Striated cardiac muscle tissue; Structure of the cardiac muscle fiber; Vascularization and innervation; Nodal or excitoconductor tissue of heart; Regeneration of muscle tissues.

The vascular apparatus

General characteristics of vessels; Capillaries: histological structure and classification. Arterio-venous and true blood capillaries (continuous, fenestrated and sinusoidal); Lymphatic capillaries; Arteries – classification; Elastic type arteries; Muscular type arteries; Arterioles; Classification of veins; Special vessels; Lymphatic vessels.

Blood

Plasma; Blood cells; Erythrocytes; Thrombocytes; Leukocytes; Polymorphonuclear leukocytes or granulocytes; Mononuclear leucocytes or granulocytes; Lymphocytes (B and T); Monocytes.

Origin and formation of blood cells. Hematopoietic organs.

Blood-forming bone marrow; Hematopoiesis (erythropoiesis, thrombocytopoiesis, granulocytopoiesis, lymphocytopoiesis, monocytopoiesis, monocyte-macrophage system)

Lymphopoietic organs

Classification of lymphopoietic organs; Central lymphoid organs (thymus, equivalents of the bursa of Fabricius in mammals and humans); Peripheral lymphoid organs (lymph node, spleen, amygdalin lymphoid tissue, intestinal lymphoid tissue).

Nervous tissue. The neuron

The neuron. Structure of the perikaryon. Neuronal extensions (dendrites and axon); Nerve fiber, classification (fibers of type A, B, C); Histological structure of the nerve fiber; Classification of neurons; Endings and expansions of the peripheral nerve fiber.

Nervous tissue. The peripheral nervous system

Neuroglia. Macroglia, microglia and neuroglia; Nerve ganglia; peripheral nerves; Degenerative and regenerative processes of peripheral nerve fibers.

The central nervous system (1)

Spinal cord; Histological structure of gray matter; Histological structure of white matter; Cerebral trunk and reticular substance; Cerebellum and cerebellar cortex;

Histological structure of gray and white matter; Hemispheres and cerebral cortex; Cytoarchitecture of the cerebral cortex; Meningeal envelopes and blood-brain barrier.

<u>Seminar/laboratory</u>

Histological technique

description of the optical microscope;

practical exercises for using a microscope, examining histological preparations and making drawings

description of stages required for making a permanent preparation

Covering and lining epithelia

Simple (unistratified) epithelia:

Simple squamous epithelium (mesentery)

Simple cuboidal epithelium (thyroid – follicle, renal tubules)

Simple columnar epithelium (small intestine)

Stratified (multistratified) epithelia:

Stratified squamous non-cornified epithelium (esophagus)

Stratified squamous cornified epithelium (skin)

Transitional epithelia

Urothelium (urinary bladder)

Pseudostratified ciliated columnar epithelium (trachea)
Glandular epithelia in exocrine glands
Exocrine glands without an excretory duct:
Unicellular gland (caliciform cell in the small intestine)
Exocrine glands proper (with an excretory duct)
Simple tubular gland (Lieberkühn gland)
Connective tissues
Embryonic connective tissue (mucous or Wharton's jelly) from the umbilical cord
Loose connective tissue (mesentery)
Dense regular connective tissues:
Tendon
Aponeurotic
Specialized connective tissues:
Reticular (lymph node medulla)
White-yellow adipose (hypoderm)
Pigmented (melanophore cells)
Cartilaginous tissues
Hyaline (cartilaginous tracheal ring)
Elastic (epiglottis)
Fibrous (intervertebral discs)
Bone tissues
Spongy bone tissue
Compact bone tissue (transversal section and longitudinal section)
Enchondral ossification
Muscle tissues
Smooth muscle tissue (longitudinal and transversal section)
Isolated fibers
Smooth musculature (intestine)
Striated muscle tissue (longitudinal and transversal section):
Skeletal
Cardiac
Vascular apparatus
Capillaries
Arteries (elastic type; muscular type)
Veins
Blood smear technique and May-Grümwald-Giemsa staining
Morphology of formed blood elements: erythrocytes, leukocytes and thrombocytes

Hemato- and lymphopoietic organs:
Hematogenous red marrow
Lymph node
Lymphopoietic organs:
Spleen
Thymus
Palatine tonsil
Nerve tissue
Neuron: description, types of neurons and their location
Nerve fiber in longitudinal section (dissociated sciatic nerve)
Nervous system
Spinal cord
Spinal ganglion
Cerebellar cortex
Cerebral cortex

Modern language – English

seminar

1. Receiving the patient: greeting patients and putting them at ease; asking the opening questions and setting the agenda for the interview.
2. The presenting complaint: Encouraging the patients to express themselves in their own words; taking an accurate history of the presenting complaint.
3. Past medical and family history: requesting the patient's past medical history; taking effective notes during an interview; writing an effective patient note.
4. The social history and telephone consultations: enquiring about the patient's social history; employing good telephone etiquette.
5. Examining the patient: preparing and reassuring the patient during and examination; explaining examination procedures.
6. Giving results: explaining results in a way that patients can understand and remember; encouraging patients to express their fears and concerns.
7. Planning treatment and closing the interview: explaining treatments to the patient; discussing options; describing benefits and side effects.
8. Dealing with sensitive issues: approaching sensitive issues without bias and remaining non-judgmental; reading and responding to patient clues.
9. Breaking bad news: delivering bad news in a sensitive way; reassuring a patient or relative; showing empathy.
10. Communicating with challenging patients: encouraging a withdrawn patient to speak; calming an aggressive or angry patient; showing sensitivity and respect to an elderly patient.

11. Communicating with the elderly: carrying out an effective interview with an elderly patient; showing sensitivity and respect to an elderly patient.

12. Communicating with children and adolescents: establishing and developing rapport with a child; reassuring a child; explaining procedures to a child.

Modern language – German

Seminar

1.Name, Herkunft, Sprache. Dialog mit Verben in der ersten Person

2.Eine fremde Stadt. Beschreibung und Dialog

3.Musik und Kultur in Deutschland. Projekt

4.Tagesablauf – Arbeit – Freizeit

5.Essen und Trinken Rumänien und Deutschland. Das Substantiv

6.Sprachen lernen für Ärzte. Dialog

7.Reisen nach Deutschland. Geographische Beschreibungen

8.Wohnen in Deutschland. Einen Arbeitsplatz suchen

9.Einladen - Kochen – Essen. Höflichkeitspronomen und Verben im Plural

10.Kleidung im Krankenhaus. Dialog

11.Wetter und Landschaften. Dialog und Adjektive

12.Körper und Gesundheit. Warum Arzt werden?

13.Im Wartezimmer. Dialog

14.Dialog: Beim Arzt. Wiederholung der Grammatik

Romanian

Seminar

1.Limba română -.limbajul medical Caracteristici ale terminologiei medicale

2.Personalităţi marcante ale medicinii (I)-Substantive proprii nume de persoane

3.Personalităţi marcante ale medicinii (II) – Comentariu pe text. Adjectivul

4.Dialoguri cotidiene. Exprimarea posesiei.

5.Consecinţele poluării Comentariu pe text.

6.Corespondenţa oficială -Exerciţii de redactare ; Comentarii pe text

7.Corespondenţa oficială -Exerciţii de redactare ; Comentarii pe text

8. Starea de sănătate-dialoguri . Verbul – moduri

9.Spitalul din orasul meu– comentariu pe text. Exerciţii de conversaţie. Propoziţia exclamativă

10.Medicamentele comentariu pe text. Exerciţii de conversaţie.

11.Boli şi bolnavi Comentariu pe text . Familia de cuvinte

12.Medicina populară şi reţete vechi- Comentariu pe text . Registre lexicale

13.Aspecte ale culturii româneşti- Medicina şi artele. Medici scriitori. Comentariu pe text . Gradele de comparaţie

14.Recapitulare- Dialoguri. Prepoziţii

Microbiology, Virology, Parasitology

Course

1. The medical profession and the science of microbiology.
2. General and molecular bacteriology

General characteristics of the Prokaryota kingdom.

3. Bacterial morphology.
4. Bacterial physiology.
5. Bacterial genetics. Antibacterial chemotherapy.
6. General and molecular virology. General properties and classification.
7. Viral multiplication.
8. Viral genetics.
9. Antiviral chemotherapy. Viral oncogenesis.
10. Fundamental immunology. Infection and immunity. Fundamental immunology, general concepts. Antibodies and B lymphocytes.
11. Antigens; chemical mediators of inflammatory reaction; lymphoid tissues and organs.
12. Types of immune response, types of inflammations.
13. Microbial pathogenicity and the pathogenesis of infection.
14. The immunological diagnosis of infectious diseases.

Seminar/laboratory

1. General principles of conduct in a microbiology laboratory. Work safety rules. The role of a microbiology laboratory in laboratory diagnosis.
2. Microorganism growth control. Sterilization and disinfection. Antiseptics and disinfectants
3. Stages of laboratory diagnosis in bacteriology. Sampling techniques and transport of pathological products.
4. Smear technique. Microscopic examination of a smear. Staining in bacteriology (simple, Gram, Ziehl-Neelsen, Neisser).
5. Culture media. Insemination techniques for pathological products.
6. Culture-related and biochemical characteristics of bacteria.
7. Antibiogram
8. Applications of serological reactions in laboratory diagnosis. Agglutination reaction – technique and applications. Precipitation reaction - applications.
9. Complement fixation reaction – principle and applications. Intradermoreactions: IDR Shick – neutralization IDR and tuberculin IDR (PPD) - allergic IDR.
10. Enzymatic methods. Immunofluorescence reaction. Detection of nucleic acids: hybridization, PCR, genotyping

11. Gram-positive cocci.
Staphylococcus genus. Laboratory diagnosis of infections caused by staphylococci.
Enterococcus genus. Laboratory diagnosis of infections caused by enterococci.
12. Gram-positive cocci. Streptococcus genus. Laboratory diagnosis of infections caused by streptococci. ASLO reaction.
13. Recapitulation. Smear and culture medium readings.
Serological reactions in laboratory medicine.
14. Seminar

Behavioral Sciences

Course

Introduction to behavioral sciences. Applicability to health. Social perception of the medical profession
Diagnostic and therapeutic risks. The civil responsibility of the physician
Principles of the physician-therapist relation. Types of patients
The concept of psychosomatics
Personality
Personality disorders
Personality disorders. Approaches
Stress and health
Behavior under stress
Eating behavior
Sexual behavior
Behavior in chronic and terminal diseases
Teamwork. Medicine and religion
The physician and the quality of life
Tests

Seminar/laboratory

The importance and role of behavioral sciences in informing physicians
Identification and understanding of behavioral factors in disease prevention. Establishing ethical norms in medical care
Normality, health , abnormality, mental illness.
Genetics, environment, behavior. Behavioral changes in mental illnesses
Behavioral changes in mental illnesses. Normal and pathological personality
Conflict and frustration
Vulnerability and life events.

Adaptation, stress and coping mechanisms
Neuroanatomy and behavior
Neurochemistry and behavior
Neuroendocrinology, neurophysiology and behavior
Improving the quality of life in patients with chronic illnesses
Application of tests
Application of tests

2nd semester

Anatomy

Course

1. Ascending cortical paths
2. Descending cortical paths
3. Development of the organ of sight
4. The organ of sight – the palpebral region and the lacrimal apparatus
5. The organ of sight – the bulbar region
6. The organ of sight – the retina
7. The organ of sight – the refractive media of the eye
8. The organ of sight – the retro-bulbar region
9. The development of the organ of hearing
10. The organ of hearing – the auricular region
11. The organ of hearing – the region of the tympanic cavity
12. The organ of hearing – the labyrinthine region
13. The auditory and vestibular receptor
14. The vestibular path and the acoustic path

Seminar/laboratory

1. The pelvis – limits, walls.
2. Pelvic peritoneum
3. Posterior perineum: ischioanal fossa
4. Anterior perineum in males – external genital organs (scrotum and penis).

Anterior perineum in females - external genital organs: labial formations, interlabial space, erectile apparatus, accessory glands of the vulva

6. Pelvic-subperitoneal space – sacro-recto-genito-pubic fascia
7. Organs of the pelvis: urinary bladder, urethra in females and in males
8. Internal female genital organs: vaginal region, uterine region
9. Internal female genital organs: tubo-ovarian region.

10. Internal male genital organs: testicle, epididymis, deferent duct
11. Prostate and seminal vesicles
12. Spinal cord – external configuration, vertebromedullar topography
13. Spinal cord – gray and white matter, spinal meninx
14. Spinal cord – spinal nerve
15. Brainstem: medulla oblongata
16. Brainstem: pons Varolii, ventricle IV
17. Brainstem: mesencephalon
18. Cranial nerves.
19. Cerebellum.
20. Cerebral hemispheres, ventricles I, II and III
21. Diencephalon: thalamus
22. Diencephalon: hypothalamus and pituitary gland
23. Visual analyzed
24. Acoustico-vestibular analyzed
25. Regions of the neurocranium
26. Fronto-parieto-occipital, temporal region
27. Buccal, labial, genian, masseteric, parotid, submandibular region
28. Palatine, lingual, sublingual, tonsillar region

Physical Education

Seminar/laboratory

1.Development of general motor capacity - initial verification

2.Development of endurance (jogging), bilateral game

3.Reinforcement of basic technical elements learned in high school (sports game of choice), development of strength (circuit),

4.Reinforcement of basic technical elements during the game (sports game of choice), development of specific dexterity for the chosen sports branch

5.Bilateral game; development of endurance (jogging)

6.Reinforcement of game tactics through exercise complexes, development of strength (circuit)

7.Final assessment

Physiology

Course

General organization of the nervous system. Physiology of nerve centers. Physiology of the spinal cord.

Conductive function of the spinal cord. Physiology of the brainstem.

Physiology of the cerebellum and diencephalon. Physiology of the reticular formation. Physiology of the basal nuclei.
Physiology of the extrapyramidal nervous system. Physiology of the cerebral cortex.
Electrical activity of the brain. Limbic system and higher nervous activity.
Physiology of sense organs. Somato-visceral sensitivity. Visual and auditory analyzer.
Physiology of sense organs. Vestibular, gustative and olfactory analyzer.
Physiology of the state of wake and sleep.
Physiology of behavior and cognition.
Physiology of somatic muscular effectors.
Physiology of energetic metabolism at rest and effort.
Thermoregulation.
Physiology of carbohydrate metabolism. Blood glucose regulation. Physiology of the fat and protein metabolism.
Physiological nutrition. Needs in nutritional principles. Regulation of food intake and nutritional balance.

Seminar/laboratory
Nerve conduction velocity.
EMG.
EEG 1.
EEG 2.
Myotatic reflexes. Study of osteotendinous reflexes.
Exploration of the visual analyzer.
Exploration of the auditory and vestibular analyzer.
Seminar 1.
Functional exploration of the thyroid. Basal metabolism.
Functional exploration of the parathyroid.
Food ration.
Study of the state of nutrition.
Seminar 2.
Practical exam.

Medical Genetics

Course
Introduction - evolution of knowledge about the hereditary phenomenon, classical genetics, mitosis and meiosis, genetic dissection
Molecular genetics nucleic acids, gene structure, the central dogma, the genetic code, proteins and phenotype, methods for molecular cloning and gene analysis.

The human genome: structure and organization, replication and DNA repair, gene families, satellite DNA, mini-satellite DNA, micro-satellite DNA, telomeric DNA, mobile genetic elements, genome integrity.

Population genetics: biological development factors, Hardy-Weinberg -Chetverikov law, interactions between genes and environment, polymorphism, penetrance and expressivity, variability of populations study.

The laws of heredity: Mono-hybridization and purity of gametes. Dihybridization and independent segregation of pairs of characteristics determined by genes situated on different chromosomes. The phenomenon of linkage.

Intra-gene interactions: total dominance, incomplete dominance, co-dominance, multi alelism.

Inter-genic interactions: complementarity, dominant suppression, recessive epistasis, dominante epistasis, duplicated genes

Chromosome cycle: structure and morphology, mitotic and interphase chromosomes, karyotype, centromere and kinetocorl, telomere, eu- and heterochromatin, variegation positional effect; genetic determinism of sex, X-linked heredity, X chromosome inactivation, genetic mosaicism

Expression of genetic information: promoter, the open reading field, transcription, translation, transcriptional control, transcriptome, proteome, epigenetic changes.

Nutritional genetics and genomics.

Mutations and monogenic diseases: cellular and molecular bases of monogenic diseases, molecular disease classification.

Mutations and Chromosomal and genomic diseases: causes and consequences of mutations, autosomal diseases, syndromes with sex chromosome abnormalities, reproductive disorders of chromosomal causes.

Extranuclear genomes and maternal heredity: the mitochondrial genome and human conditions associated with gene mutations in the mitochondrial genome.

Maternal effect: morphogens and embryogenesis.

Consultation and genetic counseling: objectives, guidelines, principles and stages of consultation; genetic explorations; genetic counseling; clinical genetic services.

Prevention and treatment of genetic diseases: population screening and prenatal diagnosis; gene therapy.

Genetics and personalized medicine.

Ethical considerations

Seminar/laboratory

Presentation of genetic laboratory and the topics for practical work. Training on safety in the laboratory. Principles of genetic study.

DNA study. The isolation, digestion and visualization of DNA fragments by electrophoresis. Southern and Northern methods, in situ DNA hybridization.

The study of DNA polymorphism and molecular diagnostics (PCR, DNA RNA sequencing molecular cloning, recombinant DNA technology).

Mono- and polygenic traits variability study.

The study of genomes and chromosomes. The composition of the human karyotype. Chromosome Nomenclature, normal and pathological.

Highlighting mitotic and politeness chromosomes. Phases of the cell cycle and mitotic index.

Exercise type of genetic diagnosis and genotype on Mendelian laws of heredity, family trees based and hypothetical cases.

Exercises based on the Family Tree diagnosis for hereditary diseases of different causes.

Genetic consultation exercises type (family history, family tree, biochemical investigations and DNA).

Laboratory examination. Case study analysis based on predetermined topics

Histology

Course

Sense organs (1)

The tactile organ. The skin or tegument. Structure of the thick and thin epidermis. Dermis. Hypodermis. Skin appendages. Sweat glands. Pilosebaceous unit. Nail.

Sense organs (2)

Olfactory organ. Gustative organ (taste buds – cellular and nervous composition). Auditory organ and balance organ. External, medium and internal ear. Osseous and membranous labyrinth. The organ of Corti.

Sense organs (3)

The organ of sight. The globe of the eye. Tunics or membranes of the globe of the eye. Sclera. Cornea. Corneal limbus. Vasculo-pigmentary tunic or uvea. Choroid. Ciliary zone. Ciliary processes. Iris. Nervous tunic or retina. Transparent media of the globe of the eye (cornea, aqueous humor, lens, vitreous humor). Accessory organs of the globe of the eye.

The digestive system (1)

General characteristics of the digestive wall. Oral cavity. Oral mucosa. Tongue. Lingual mucosa. Dental organ.

The digestive system (2)

Pharynx. Esophagus. Stomach, histological structure of the gastric wall and mucosa; Surface and glandular epithelium; Cells of the fundic glands; Pyloric glands.

Small intestine. Intestinal villi. Small intestine mucosa. Small intestine submucosa. Muscular tunic of the small intestine. External or serous tunic.

The digestive system (3)

Small intestine. Mucosa, submucosa, muscular tunic, extern tunic. Ileocecal appendix. Rectum and anal sac. Vascularization and innervation of the intestine. Minor and major salivary glands. Histological structure: capsule, stroma, parenchyma. Parotid, submaxillary and sublingual gland.

The digestive system (4)

Accessory glands of the digestive tube. Liver. Histological structure. Hepatic lobule: classical, functional and hepatic acinus. Hepatocytes. Intra- and extrahepatic bile ducts. Gallbladder. Exocrine pancreas: secretory acini. Serozymogenic cells. Centroacinar cells. Histophysiology of the exocrine pancreas. Endocrine pancreas. Cells of the endocrine pancreas. Histophysiology of the endocrine pancreas.

Endocrine glands

Pituitary gland. Histological structure of the anterior pituitary, the pars intermedia and the posterior pituitary. Pineal gland. Thyroid gland. Histological and cytological structure. Thyroid follicle. Parathyroid glands. Principal and oxyphilic cells. Parathyroid function. Adrenal glands. Cortex of the adrenal gland. Fasciculate and reticulate glomerular area. Medulla of the adrenal gland. Chromaffin cells. Sympathetic ganglion cell. Paraganglia.

The respiratory system

Extrapulmonary airways. Nasal cavities. Pharynx. Larynx. Trachea. Intrapulmonary airways. Large bronchi, lobar bronchi, segmental bronchi, interlobar bronchi, intralobar bronchi, terminal bronchioles and respiratory bronchioles, alveolar sacs and pulmonary alveolus. Alveolo-capillary complex. Defense mechanisms of the respiratory system. Carcinogenesis and smoking.

The urinary system

Kidney. Structural organization. Constituents of renal tubes. Nephron. Renal corpuscle. Bowmann capsule. Renal glomerulus. Collecting tubules. Histophysiology of the kidney. Urinary or excretory ducts of the kidney. Urinary bladder. Urethra.

The male reproductive system (1)

Testicle. Structure of seminiferous tubules. Epididymal duct and deferent duct. Structure of spermatogenetic epithelium. Sertoli cells. Spermatogenetic cells (spermatogonia, spermatocytes, spermatids, spermatozoa). Spermatogenesis and spermiogenesis. Interstitial or endocrine tissue of the testicle.

The male reproductive system (2)

Spermatic excretion ducts or genital ducts: intratesticular, extratesticular, deferent duct. Ejaculatory duct. Accessory glands of the spermatic ducts. Seminal vesicles. Prostate. Cowper's bulbourethral glands. Copulating organ or penis. Tunica albuginea. Structure of corpora cavernosa.

The female reproductive system (1)

Cortex and medulla. Ovarian follicles. Development and maturation of ovarian follicles. Primordial follicles. Primary follicles. Secondary follicle. Mature or De Graaf follicle. Oocyte. Ovulation. Oogenesis. Corpus luteum. Follicular atrophy. Fallopian tubes.

The female reproductive system (2)

Uterus. Structure of the non-gestative uterus. Myometrium. Endometrium. Cyclic changes in the endometrium. Structure of the gestative or pregnant uterus. Placenta. Structure of the fetal placenta. Structure of the maternal placenta. Placental barrier. Vagina. Mammary glands in adult non-pregnant women. Mammary glands during pregnancy. Mammary glands during lactation.

Seminar/laboratory

Skin or tegument
Composing layers
Structure of the pilous follicle
Sense organs
Olfactory mucosa
Organ of Corti
Eye: overall, cornea, retina
Oral cavity
Lip
Tongue
Tooth – overall structural appearance
The digestive system (1)
Esophagus
Stomach: overall, fundic mucosa, pyloric region
Small intestine: duodenum, jejunum, ileum
Large intestine
Appendix
Accessories of the digestive system
Salivary glands: parotid, sublingual, submaxillary
Liver
Exocrine and endocrine pancreas
Gallbladder
Recapitulative paper: sense organs and digestive system
Endocrine glands
Thyroid: overall, in hypofunction, in hyperfunction
Parathyroids
Pineal gland
Endocrine glans
Pituitary gland: anterior pituitary, overall
Adrenal glands: overall, cortex of the adrenal glands, medulla of the adrenal glands
Respiratory system

Trachea
Lung
Urinary system
Kidneys
Gallbladder
Ureter
The male reproductive system
Testicle – seminiferous tubes
Epididymis
Prostate
The female reproductive system (1)
Ovary
Uterus
The female reproductive system (2)
Placenta
Mammary gland (at rest, lactation)
Recapitulative paper.

History of Medicine

Course

Introduction. Definition. Object. The necessity of knowledge. Sources. Archaic medicine. Paleopathology.
Medicine in the slave society. Medicine in ancient Egypt.
Ancient Indian, Judaic, Chinese, Japanese, Tibetan, Phoenician medicine.
Ancient Greek medicine
Ancient Roman medicine. Ancient Arab medicine.
Medicine during the 4th – 45th centuries. The Middle Ages
Medicine during the Renaissance.(14th – 17th centuries)
Medicine in the 17th century.
Medicine in the 18th century. The Enlightenment
Medicine in the 19th century
Medicine in the 20th century
History of Romanian medicine. Dacian medicine. Medicine in the period of the migratory peoples.
History of Romanian medicine. Medicine in the 18th – 19th centuries.
History of Romanian medicine. Medicine in the 20th century. The link between Romanian medicine and universal science.

Modern language – English

seminar

Controversial topics in medicine: predicting the topic, group discussion based on article titles; exchanging information, note taking, Reading professional journals: advantages and disadvantages of new experimental techniques, essay/letter writing (based on the outcome of the debate)

The first use of anaesthetic: collaborative task, multiple matching, gap filling; Transplant services: reading for gist, brainstorming types of texts, language in use, identifying texts, comparing answers

Feeling ill: „Are some people more concerned about their health than others?": whole class discussion, expressing opinion, listening for specific information, filling in a table; „Why do patients complain?": classifying symptoms, giving arguments; learning new words connected to the topic, developing notes int a piece of news, discussing text cohesion and coherence

4. Systems, Diseases and Symptoms: describing problems, presentations, talking about symptoms: intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing.

5. Blood and Bones: full blood count, anemia, bones, fractures, treatment of fractures: intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing.

6. Childhood: milestones, common infectious diseases, celiac disease: intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing.

7. The endocrine system: excess and deficiency, negative feedback systems, a letter of referral: intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing.

8. The heart and circulation: shortness of breath, hearts rhythm hearts failure, physical examination, examining the heart and circulation: intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing.

9. MRI and ultrasound: Magnetic Resonance Imaging, ultrasound, preparing for medical imaging, describing medical imaging: intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing.

10. Treatment: medical treatment, prescriptions and drugs; surgical treatment: the operating theatre, instruments, the operation, an operation report.

11. Therapy: radiotherapy , a day in the life of a physiotherapist, cognitive behavioral therapy: intensive reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing.

12. Physical and mental examination: examining a patient, giving instructions, some symptoms of psychiatric disorders, mood, typical questions from mental state examination: : intensive

reading, listening for specific information, vocabulary connected to the topic, using words and expressions in writing.

Modern language – German

Seminar

1. Im Krankenhaus arbeiten. Verben in der Zukunft
2. Die Stationen: Die Aufnahmestation. Dialog
3. Dialog: Beim Hausarzt. Gespräch
4. Ein Notfall. Das Imperativ. Űbungen
5. Die Pflichten der Schwester. Krankenschwestern in Deutschlang. Besprechung
6. Die Pflichten des Arztes. Űbungen
7. Wünsche, Hinweise, Verbote. Űbungen
8. Ein Krankenhausmanager sein. Diskussion
9. Messen: Fieber, Puls, Blutdruck. Aktiv und Passiv üben
10. Die Visite. Ein Programm festlegen
11. Körper und Gesundheit. Wie halte ich mich gesund? Besprechung
12. Beim Zahnarzt. Dialog
13. Für die Operation vorbereiten. Verben und Reflexivpronomen üben
14. Die Anamnese. Wiederholung

Romanian

Seminar

1.Substantivul şi derivatele substantivelor cu referire la termenii medicali
2.Caracteristici ale terminologiei medicale - Exerciţii lexicale
3.Ştiri medicale- Comentarii pe texte Substantive proprii care denumesc oraşe sau ţări
4.Diete de slăbire - Comentarii pe text
5.Dialoguri cotidiene. Exprimarea posesiei.
6.Modele de cereri -Stilul administrativ Comentariu pe text.
7.Fişa de observaţii medicale -Stilul ştiinţific
8.Stilul de viaţă -dialoguri .
9.Relaţia medic-bolnavi - dialoguri Recapitulare pronumele
10.Analizele medicale -comentariu pe text. Exerciţii de conversaţie. Propoziţia exclamativă
11.Se poate învăţa să fii sănătos ? Exerciţii de conversaţie. Propoziţia interogativă
12.Nutriţia -Comentariu pe text . Familia de cuvinte
13.Cabinetul medical -Comentariu pe text . Registre lexicale
14.Aspecte ale culturii româneşti- Medicina şi artele. Medici muzicieni. . Gradele de comparaţie

Pre-Hospital Emergencies and First Aid Techniques

Course

Introduction. Organization of pre-hospital medical emergency activities. Chain of survival
Basic life support. Safety position. Upper airway obstruction.
Automated external defibrillation. Defibrillators. Automated external defibrillation protocol
Advanced life support. ALS protocol . Resuscitation medication
Heart rate monitoring. Arrhythmia preceding and following cardiac arrest.
Pre-hospital cardiac emergencies. Acute coronary syndrome
Pre-hospital respiratory emergencies. Airway management
Resuscitation in respiratory emergencies – special situations. Asthma. Drowning.
Resuscitation in digestive emergencies. Hypovolemic shock. Anaphylactic shock.
Resuscitation in hypothermia. Neurological emergencies.
Resuscitation in pregnancy, electric shock. Intoxications.
Burns.
Traumatology
Resuscitation in children

Microbiology, Virology, Parasitology

Course

SPECIAL BACTERIOLOGY

Pathogenicity factors and infections caused by bacteria in the following genera:
Baccillus. Corynebacterium
Mycobacterium.
Staphylococcus. Streptococcus. Enterococcus.
Neisseria-meningococcus and gonococcus, Hemophylus, Bordetella..
Enterobacteriaceae family pathogenic enterobacteria / opportunistic enterobacteria.
Vibrio, Campylobacter, Helicobacter.
Clostridium - Botulism, Tetanus, Gas gangrene, infection with C. dificile.
Main species of unsporulated anaerobes. Bacteroides, Fusobacterium, anaerobic cocci.
Treponema, Leptospira, Borrelia.
Rickettsiaceae family and Chlamydia and Mycoplasma genera.

SPECIAL VIROLOGY

Orthomyxoviridae and the antigenic variation of influenza viruses.
Paramyxoviridae.
Rhabdoviridae family.
Picornaviridae family - Rhinoviruses, Enteroviruses, relations to the Hepatitis A virus.
Papovaviridae, Adenoviridae and Herpetoviridae families.

Hepatitis viruses.

Retroviridae; HIV.

PARASITOLOGY

Host – parasite relations. Classification of medically important parasites.

Parasitic protozoa in human. Flagellates. Giardia (lamblia), Trichomonas. Toxoplasma gondii, Pnumocystis carinii..

Plathelminthes phylum. Cestoda – Taeniidae family. Echinococcus granulosus. Nemathelmintes phylum.

Enterobius vermicularis. Trichuris trichiura. Rhabditidae and Ankilostomidae family. Trichostrongikloidae. Trichinella spiralis.

Filairoidea and filariasis - general characteristics and representatives.

General mycology. Fungi with importance for human pathology.

Seminar/laboratory

Gram-negative cocci. Laboratory diagnosis of infections caused by germs from the Neisseria genus.

Laboratory diagnosis of infections caused by germs from the Haemophilus genus.

Non-fermentative Gram-negative bacilli. Laboratory diagnosis of infections caused by germs from the Pseudomonas genus

Laboratory diagnosis of infections caused by germs from the Acinetobacter genus.

Enterobacteriaceae family. Laboratory diagnosis of infections caused by enterobacteria - fermentative Gram-negative bacilli (Escherichia coli, Klebsiella, Proteus, Shigella,Salmonella, Yersinia).

Gram-positive bacilli. Laboratory diagnosis of infections caused by germs from the Bacillus genus.

Laboratory diagnosis of infections caused by germs from the Clostridium genus and endogenous anaerobic germs.

Laboratory diagnosis of infections caused by germs from the Corynebacterium genus (diphtheria).

Spiral bacteria (Vibrio cholerae, Helicobacter pylori, Treponema pallidum, Borellia, Leptospira) – laboratory diagnosis

Acid-alcohol resistant bacilli (Mycobacterium tuberculosis)- laboratory diagnosis in tuberculosis

Bacteria with altered cellular wall (Ureaplasma spp., Mycoplasma spp.) – laboratory diagnosis

Intracellular bacteria (Chlamydia spp.,Rickettsia spp.)- laboratory diagnosis

Bacteriological diagnosis in respiratory, enteral, genitourinary, systemic infections – case presentations.

Recapitulation: smear readings and culture media.

Seminar

Laboratory diagnosis in infections caused by hepatitis viruses.
Laboratory diagnosis in herpetic infections
Laboratory diagnosis in HIV infections. AIDS.
Platyhelminthes (Fasciola hepatica, Taenia saginata, Taenia solium, Echinococcus granulosus) – developmental cycle, laboratory diagnosis and anti-parasitic treatment
Nemathelminthes (Ascaris lumbricoides, Enterobius vermicularis, Trichinella spiralis) – developmental cycle, laboratory diagnosis and anti-parasitic treatment
Mycology. Laboratory diagnosis mycoses caused by yeasts, dermatophytes, molds.
Seminar

Medical psychology

Course

Medical Psychology - delimitation; interdisciplinary approach.
Theoretical current in medical psychology.
Psychology of the patient.
Aspects of communication between doctors and patients.
Dialogue doctor - patient.
Elements of bio-psycho-typology
Personality.
Personality disorders.
Elements of social psychology.
Iatrogeny
Suicide and para-suicide.
Thanatology elements.
Euthanasia.
Psychotherapy.

3rd year

1st semester

Primary Health Care

Course

Consultation in the practice of family physicians. Particularities. Approaching a clinical case.
Particularities of symptomatic treatment. Treatment in various symptoms.
Diagnostic and treatment algorithms in the most frequent respiratory diseases from the point of view of the family physician (GP).

Diagnostic and treatment algorithms in the most frequent cardio-vascular diseases from the point of view of the GP

Diagnostic and treatment algorithms in the most frequent digestive diseases from the point of view of the GP

Diagnostic and treatment algorithms in the most frequent rheumatic diseases from the point of view of the GP

Diagnostic and treatment algorithms in the most frequent hematological diseases.

Diagnostic and treatment algorithms in the most frequent renal diseases.

Diagnostic and treatment algorithms in the most frequent neurological diseases.

Mental health in the practice of the family physician.

Pre-hospital emergencies in orthopedics and traumatology.

Surgical acute abdomen: diagnosis and pre-hospital treatment.

Guidelines for supervision of the pregnant woman and infant.

Smoking, excessive alcohol consumption, drug use – involvement of the family physician.

Seminar/laboratory

Consultation in the practice of the family physicians. Particularities. Approaching a clinical case.

Particularities of symptomatic treatment. Treatment in various symptoms.

Diagnostic and treatment algorithms in the most frequent respiratory diseases from the point of view of the family physician (GP).

Diagnostic and treatment algorithms in the most frequent cardio-vascular diseases from the point of view of the GP

Diagnostic and treatment algorithms in the most frequent digestive diseases from the point of view of the GP

Diagnostic and treatment algorithms in the most frequent rheumatic diseases from the point of view of the GP

Diagnostic and treatment algorithms in the most frequent hematological diseases.

Diagnostic and treatment algorithms in the most frequent renal diseases.

Diagnostic and treatment algorithms in the most frequent neurological diseases.

Mental health in the practice of the family physician.

Pre-hospital emergencies in orthopedics and traumatology.

Surgical acute abdomen: diagnosis and pre-hospital treatment.

Guidelines for supervision of the pregnant woman and infant.

Smoking, excessive alcohol consumption, drug use – involvement of the family physician.

Pharmacology, Clinical Pharmacology

Course

Introduction to pharmacology. Objectives of the study of pharmacology. Generalities on drugs. Researching and obtaining a new drug

Elements of general pharmacology. Drug absorption and routes of administration.

Distributing and eliminating drugs from the organism. Pharmacokinetic parameters and their dynamics

Drugs' mode of action. Drug interaction (pharmacokinetic and pharmacodynamic)

Side effects. Pathological states caused by drugs and their socio-economic implications. Pharmacovigilance

Parasympathetic ANS medication

Sympathetic ANS medication

Cough suppressants and expectorants. Antiasthmatic drugs

Digitalis and other drugs that stimulate myocardial contraction

Antiarrhythmics

Antianginals

Anti-ischemic vasodilators. Vasoconstrictor medication

Antihypertensives

Diuretics and antidiuretics

Seminar/laboratory

Introduction to pharmacology. Objectives of the study of pharmacology. Generalities on drugs. Researching and obtaining a new drug

Elements of general pharmacology. Drug absorption and routes of administration.

Distributing and eliminating drugs from the organism. Pharmacokinetic parameters and their dynamics

Drugs' mode of action. Drug interaction (pharmacokinetic and pharmacodynamic)

Side effects. Pathological states caused by drugs and their socio-economic implications. Pharmacovigilance

Parasympathetic ANS medication

Sympathetic ANS medication

Cough suppressants and expectorants. Antiasthmatic drugs

Digitalis and other drugs that stimulate myocardial contraction

Antiarrhythmics

Antianginals

Anti-ischemic vasodilators. Vasoconstrictor medication

Antihypertensives

Antianemics. Hemostatic medication. Antithrombotic medication. Polymeric plasma substituents

Pathophysiology

Course

Pathophysiology of immunity
Pathophysiology of inflammation
Pathophysiology of thermoregulation
Pathophysiology of pain
Pathophysiology of shock
Pathophysiology of hydromineral metabolism
Pathophysiology of acido-basic equilibrium
Pathophysiology of protein metabolism
Pathophysiology of carbohydrate metabolism
Pathophysiology of lipid metabolism
Pathophysiology of nutritional disorders

Seminar/laboratory

Pathophysiology of immunity
Pathophysiology of inflammation
Pathophysiology of thermoregulation
Pathophysiology of pain
Pathophysiology of shock
Pathophysiology of hydromineral metabolism
Pathophysiology of acido-basic equilibrium
Pathophysiology of protein metabolism
Pathophysiology of carbohydrate metabolism
Pathophysiology of lipid metabolism
Pathophysiology of nutritional disorders

General Immunology

Course

Organs and cells of the immune system
The major histocompatibility complex
Defense mechanisms
Antigens
Allergens
Antibodies. Progressive systemic sclerosis. Dermatomyositis. Polymyositis.
The complement system. Disseminated lupus erythematosus.
Mediators and modulators

Immune allergic reactions. Allergic rhinitis. Allergic asthma.
Atopic allergic reactions. Allergic dermatitis.
Specific immunotherapy
Immunomodulatory therapy
The immune response in malignization processes
Immunity in transplants

Seminar/laboratory
Organs and cells of the immune system
The major histocompatibility complex
Defense mechanisms
Antigens
Allergens
Antibodies. Progressive systemic sclerosis. Dermatomyositis. Polymyositis.
The complement system. Disseminated lupus erythematosus.
Mediators and modulators
Immune allergic reactions. Allergic rhinitis. Allergic asthma.
Atopic allergic reactions. Allergic dermatitis.
Specific immunotherapy
Immunomodulatory therapy
The immune response in malignization processes
Immunity in transplants

Morphopathology

Course
Cellular reactions to aggressions
Hydroprotein, nucleoprotein, chromoprotein, lipid dystrophies
Carbohydrate, mineral, hyaline, amyloid, fibrinoid, mucinous, mucoid dystrophies
Hyperemia, hemorrhage, thrombosis
Embolism, infarction, edema, shock
Acute inflammations
Chronic inflammations
Healing processes
Hypersensitivity reaction; Transplant rejection reactions
Autoimmune diseases
Tumors: terminology, epidemiology, incidence, carcinogenesis

Tumors: biomorphological and cytological characters, invasion and metastasis, diagnostic methods
Tumors of the epithelial tissue
Tumors of the common connective tissue. Tumors of specialized connective tissues

Seminar/laboratory
Cellular reactions to aggressions
Hydroprotein, nucleoprotein, chromoprotein, lipid dystrophies
Carbohydrate, mineral, hyaline, amyloid, fibrinoid, mucinous, mucoid dystrophies
Hyperemia, hemorrhage, thrombosis
Embolism, infarction, edema, shock
Acute inflammations
Chronic inflammations
Healing processes
Hypersensitivity reaction; Transplant rejection reactions
Autoimmune diseases
Tumors: terminology, epidemiology, incidence, carcinogenesis
Tumors: biomorphological and cytological characters, invasion and metastasis, diagnostic methods
Tumors of the epithelial tissue
Tumors of the common connective tissue. Tumors of specialized connective tissues

Surgical Semiology

Course
Framework, a history of surgery
Asepsis and antisepsis
Antibiotics in surgery
Infections in surgery – generalities, septicemia
Localized acute infections: folliculitis, furuncle, carbuncle, hidradenitis, warm abscess (generalities, mammary abscess, post-injection abscess, Bartholin gland abscess, perianal abscess), cold abscess, phlegmon, erysipelas and erysipeloid, bursitis, ingrown nail, lymphangitis and acute lymphadenitis.
Infections of the hand
Tetanus and gas gangrene
Hemorrhage, hemorrhagic shock
Traumas (generalities): contusions, hematomas, wounds.
Polytraumas, crush syndrome
Burns and frostbites

Surgical disorders of muscles

Seminar/laboratory

Notions of asepsis, antisepsis and sterilization in Surgery Clinic and in the operating block

Recognition and use of surgical instruments, incision, excision, hemostasis, suture, surgical stitches and knots, drainage, meshing.

Types of probes, use

Evacuating enema

Bandages

Injections, perfusions, transfusions.

Puncture, aspiration, biopsy

Clinic general examination and by systems, local examination. General scheme of a case presentation

Medical Semiology

Course

GENERAL SEMIOLOGY

Clinical data sheet (components, importance, case history).

Present state (attitude, pathological progress, abnormal movements, physiognomy, psychological state, body deformations, tegument examination).

Examination of the muscular system, lymph nodes, thermal curve and significance of pathological aspects, edema.

SEMIOLOGY OF THE RESPIRATORY SYSTEM ‘

Particularities of case history in diseases of the respiratory system and functional and general symptoms in respiratory semiology,

Objective clinical examination: inspection, palpation, percussion and auscultation of the respiratory system.

Methods of paraclinical exploration: pleural puncture, pleural liquid examination, sputum examination, bronchoscopy, scintigraphy, echography, radiological examination, computed tomography, respiratory functional exploration, etc.

Clinical syndromes of the respiratory system: bronchial syndromes (acute and chronic bronchitis, bronchiectasis, asthma, bronchial obstruction), clinical pulmonary syndromes (condensation, suppuration, pulmonary emphysema, cavitary syndrome, pulmonary tumors).

Clinical syndromes of the respiratory system: pleural syndromes (pleural effusions, pneumothorax, pulmonary sequelae), mediastinal syndrome, clinical respiratory failure syndrome.

SEMIOLOGY OF THE CARDIOVASCULAR SYSTEM

Particularities of case history and main functional and general symptoms (cardiac dyspnea, precordial pain, palpitations, hepatalgia in cardiac patients, cardiac cough, cardiac hemoptysis, fever in cardiac patients, dyspeptic disorders in cardiac patients, etc.); lipothymia, syncope, shock, collapse.

General inspection in cardiac patients (facies, cyanosis, attitude, pallor, cardiac edema); inspection by segments, inspection, palpation and percussion of the precordial region.

Heart auscultation.

Semiology of arteries and veins (pulse, acute and chronic peripheral ischemia syndrome, phlebitic syndrome and chronic venous insufficiency.

Paraclinical exploration (EKG, vectography, echocardiography, phonocardiogram, mechanograms, cardiac catheterization, cardiac scintigraphy, radiological examination, etc.).

Cardiac syndromes (valvular, myocardial, coronary syndromes, clinical syndrome in heart rate disorders, pericardial, hypo- and hypertensive syndrome, clinical syndrome in heart failure).

Seminar/laboratory

Present state (attitude, pathological progress, abnormal movements, physiognomy, psychological state, body deformations, tegument examination).

Examination of the muscular system, lymph nodes, thermal curve and significance of pathological aspects, edema.

SEMIOLOGY OF THE RESPIRATORY SYSTEM ‘

Particularities of case history in diseases of the respiratory system and functional and general symptoms in respiratory semiology,

Objective clinical examination: inspection, palpation, percussion and auscultation of the respiratory system.

Methods of paraclinical exploration: pleural puncture, pleural liquid examination, sputum examination, bronchoscopy, scintigraphy, echography, radiological examination, computed tomography, respiratory functional exploration, etc.

Clinical syndromes of the respiratory system: bronchial syndromes (acute and chronic bronchitis, bronchiectasis, asthma, bronchial obstruction), clinical pulmonary syndromes (condensation, suppuration, pulmonary emphysema, cavitary syndrome, pulmonary tumors).

Clinical syndromes of the respiratory system: pleural syndromes (pleural effusions, pneumothorax, pulmonary sequelae), mediastinal syndrome, clinical respiratory failure syndrome.

SEMIOLOGY OF THE CARDIOVASCULAR SYSTEM

Particularities of case history and main functional and general symptoms (cardiac dyspnea, precordial pain, palpitations, hepatalgia in cardiac patients, cardiac cough, cardiac hemoptysis, fever in cardiac patients, dyspeptic disorders in cardiac patients, etc.); lipothymia, syncope, shock, collapse.

General inspection in cardiac patients (facies, cyanosis, attitude, pallor, cardiac edema); inspection by segments, inspection, palpation and percussion of the precordial region.

Heart auscultation.

Semiology of arteries and veins (pulse, acute and chronic peripheral ischemia syndrome, phlebitic syndrome and chronic venous insufficiency.

Paraclinical exploration (EKG, vectography, echocardiography, phonocardiogram, mechanograms, cardiac catheterization, cardiac scintigraphy, radiological examination, etc.).

Cardiac syndromes (valvular, myocardial, coronary syndromes, clinical syndrome in heart rate disorders, pericardial, hypo- and hypertensive syndrome, clinical syndrome in heart failure).

Clinical Training on Medical and Surgical Subjects

Clinical internship in medical and surgical subjects

Seminar/laboratory/clinical internship

Section presentation, observation sheet, circuits

Examination of the respiratory and cardiovascular system, paraclinical investigations

Examination of the digestive and reno-urinary system, paraclinical explorations

Positive and differential diagnosis in obstructive pulmonary disease

Positive and differential diagnosis in CCP

Positive and differential diagnosis in pulmonary tumors

Positive and differential diagnosis in ischemic heart disease

Positive and differential diagnosis in heart failure

Positive and differential diagnosis in digestive diseases

Positive and differential diagnosis in renal diseases

Positive and differential diagnosis in rheumatic diseases

2nd semester

Clinical Microbiology

Course

1. Notions of clinical pathomorphosis of infectious diseases. Clinical and laboratory diagnosis in bacterial infectious diseases with respiratory entry ways: bacterial pneumonia, pneumonia caused by Mycoplasma pneumoniae.

2. Clinical and laboratory diagnosis in viral infectious diseases with respiratory entry ways: respiratory virosis, infectious mononucleosis, convulsive cough, mumps, viral pneumonia.

3. Clinical and laboratory diagnosis in infectious diseases with digestive entry ways: salmonellosis, food poisoning – botulism, bacillary dysentery, viral hepatitis, enteroviroses - poliomyelitis.
4. Clinical and laboratory diagnosis in infectious diseases with tegument and mucous entry ways: tetanus, erysipelas, gaseous gangrene, Q fever. Clinical and laboratory diagnosis in tropical diseases: cholera, malaria, ebola, filariasis in Europe.
5. Clinical and laboratory diagnosis in anthropozoonoses: anthrax, brucellosis, toxoplasmosis, listeriosis, leptospirosis, rabies, trichinosis.
Parasitoses of the temperate area. Antiparasitic therapy.
6. Clinical and laboratory diagnosis in bacterial and fungal infections with varied entry ways: staphylococcal infection, septicemia, infections with pathogen-conditioned germs.
7. Clinical and laboratory diagnosis in infections of the masculine and feminine reproductive system: gonococcal urethritis, syphilis, HIV1 and 2 infection, AIDS, uro-genital trichomoniasis.
8. Clinical and laboratory diagnosis in infections of the urinary system: urethritis, acute and chronic pyelonephritis, acute and chronic glomerulonephritis.
9. Clinical and laboratory diagnosis in eye infections.
10. Clinical and laboratory diagnosis in infections septicemia with Gram-negative germs.
11. Clinical and laboratory diagnosis in bacterial and viral meningitis and encephalitis. Tubercular meningitis.
12. Hospital-acquired infections: germs, mechanisms, prevention and therapy
13.Notions of anti-bacterial and anti-viral therapy.
Resistance of pathogenic micro-organisms to anti-infectious therapy (mechanisms) and tuberculostatics. The problem of multi-resistance to treatment of the Koch bacillus, a stringent reality.
14. Pathogenic fungi. Clinical entities (mycoses). Antifungal therapy.

Pharmacology, Clinical Pharmacology

Course
Diuretics and antidiuretics
Medication of the digestive system
Medication digestive system
Antibiotics and chemotherapeutics
Antibiotics and chemotherapeutics
Antibiotics and chemotherapeutics
Immuno-pharmacology
Hormonal and anti-hormonal substances used in medication
General anesthetics and local anesthetics

Anxiolytics and neuroleptics
Antidepressants and psychostimulants. Cerebral metabolic activators
Central analgesics
Analgesics, antipyretics and anti-inflammatory drugs. NSAIDs
Anticonvulsants and antiparkinsons

Seminar/laboratory
Pharmacology of antithrombotic drugs. Demonstration of the direct anticoagulant action of heparin
Presentation and prescription of medication for the digestive system
Pharmacodynamics of medication for the digestive system
Presentation and prescription of antibiotics
Presentation and prescription of antifungal, antiviral and antihelminthic drugs
Presentation and prescription of anticancer drugs
Histamine and antihistamines. Demonstration of the antihistamine action of romergan. Prescription of antihistamine drugs
Pharmacology of glucocorticoids
Pharmacodynamics of antidiabetics
Pharmacodynamics of general and local anesthetics: comparing the narcotic action of ether, halothane and ethyl chloride under experimental conditions. Pharmacotherapy of local anesthetics. Prescription
Pharmacodynamics of drugs with hypnotic action. Demonstration of the hypnotic action of some drugs under experimental conditions - therapeutic implications.
Pharmacodynamics of tranquilizers. Pharmacotherapy of the anxious syndrome
Presentation of central analgesic drugs and NSAIDs Demonstration of the central and peripheral analgesic action under experimental conditions. Pharmacotherapy of pain and rheumatic diseases.
Presentation and prescription of antiepileptic medication. Presentation and prescription of antiparkinson medication

Pathophysiology

Course
Physiopathology of the cardiovascular system
Physiopathology of respiration
Physiopathology of hematological disorders
Physiopathology of digestion
Physiopathology of excretion

Morphopathology

Course

Ischemic heart disease; Rheumatic heart disease; Pathology of the pericardium, myocardium, endocardium

Heart valve diseases; Congenital cardiac diseases; Heart failure; Cardiac tumors

Pathology of the vascular system

Diseases of the upper respiratory tract and bronchi

Diseases of the pulmonary parenchyma; Broncho-pulmonary tumors; Diseases of the pleura

Pathology of the stomach and intestine

Pathology of the liver, bile ducts, pancreas

Glomerular, tubular, vascular nephropathies

Interstitial nephropathies; Renal tumors; Pathology of the urinary ducts

Pathology of the female reproductive system

Pathology of the mammary gland

Pathology of the male reproductive system

Pathology of the blood

Pathology of the endocrine glandes. Pathology of the CNS

Seminar/laboratory

Ischemic heart disease; Rheumatic heart disease; Pathology of the pericardium, myocardium, endocardium

Heart valve diseases; Congenital cardiac diseases; Heart failure; Cardiac tumors

Pathology of the vascular system

Diseases of the upper respiratory tract and bronchi

Diseases of the pulmonary parenchyma; Broncho-pulmonary tumors; Diseases of the pleura

Pathology of the stomach and intestine

Pathology of the liver, bile ducts, pancreas

Glomerular, tubular, vascular nephropathies

Interstitial nephropathies; Renal tumors; Pathology of the urinary ducts

Pathology of the female reproductive system

Pathology of the mammary gland

Pathology of the male reproductive system

Pathology of the blood

Pathology of the endocrine glands. Pathology of the CNS

Cardiac and vascular surgery

Course

Clinical anatomy with implications in cardiac surgery
Clinical anatomy with implications in vascular surgery
Grafts used in cardiac surgery
Grafts and prosthetic materials used in vascular surgery
Shunt techniques used in cardiovascular surgery. Devices and auxiliary equipment
Extracorporeal circulation: technique, equipment, elements of physiology and pathophysiology
Pharmacology with implications in cardiovascular surgery. Auxiliary equipment monitoring
Peripheral coronary and vascular bypass surgery
Emergency cardiovascular surgery. Surgery in valvular cardiasis

Doctor-Patient Communication

Course

1. The concept of communication
1.1. General principles, advantages, role and educational objectives of communication
1.2. Communication techniques (role play, case studies)
2. Verbal and non-verbal elements in patient communication
2.1. Communicating with a child, adult and elderly patient
3. Motivation interview
4. Conversational behaviors and attitudes
5. Factors influencing physician-patient communication
5.1. Obstacles impeding physician-patient communication and how to solve them;
5.2. Factors modifying response to treatment; factors modifying treatment compliance
6. Professional standards and moral norms in public relations
7. Evaluation of communication abilities
7.1. Self-evaluation of communication abilities, and the personal style of oral communication and listening

Neurobiology

Course

Cells of nervous system
The neuron – a secretory cell
Neurotransmitters and neuromodulators
The role of CNS amino acids in transmitting nervous influx
Sensorial transduction
The postsynaptic cell
The motor system
The affective-emotional system

Human upper nerve activity
Learning and memory
Motivation
Language
Psycho-social life
Psycho-neuro-endocrino-immune integration. Adaptation and adaptiveness

Seminar/laboratory
Cells of nervous system
The neuron – a secretory cell
Neurotransmitters and neuromodulators
The role of CNS amino acids in transmitting nervous influx
Sensorial transduction
The postsynaptic cell
The motor system
The affective-emotional system
Human upper nerve activity
Learning and memory
Motivation
Language
Psycho-social life
Psycho-neuro-endocrino-immune integration. Adaptation and adaptiveness

Surgical Semiology

Course
Semiology of surgical diseases of the throat
Semiology of surgical diseases of the thyroid
Semiology of thoracic traumas - wall, lung and pleura, heart, greater vessels and esophagus
Semiology of surgical diseases of the mammary gland
Semiology of abdominal traumas
Semiology of surgical diseases of the abdominal wall (hernia, eventration, evisceration)
Surgical semiology of abdominal viscera – abdominal syndromes (acute peritonitis, intestinal occlusions, acute pancreatitis, entero-mesenteric infarction)
Semiology of surgical diseases of the arteries
Semiology of surgical diseases of the veins
Semiology of surgical diseases of the lymphatic vessels (including adenopathies)
Semiology of surgical diseases ano-rectal region

Seminar/laboratory

Clinical topography, examination and semiology of the throat

Clinical topography, examination and semiology of the thorax

Clinical topography, examination and semiology of the mammary gland

Clinical topography, examination and semiology of the abdomen – wall (hernia, eventration, evisceration) and viscera (stomach, duodenum, small intestine, appendix, colon, rectum, liver, bile ducts, pancreas, spleen)

Clinical topography, examination and semiology of the anal and perianal region

Clinical topography, examination and semiology of the arteries, veins and lymphatic vessels

Examination, description and semiology of tumors

Medical Semiology

Course

SEMIOLOGY OF THE RENAL-URINARY SYSTEM

Particularities of case history in renal diseases and the main functional and general symptoms. Objective examination, urine and blood examination in renal diseases.

Exploration of the urinary bladder, the urethra and the prostate. Functional renal exploration (radiology, echography, computed tomography, scintigraphy, clearance.).

Main clinical renal syndromes (clinical syndrome in: acute and chronic glomerulonephritis, acute and chronic pyelonephritis).

Main clinical renal syndromes (clinical syndrome in: nephrotic syndrome, acute and chronic failure).

SEMIOLOGY OF THE BLOOD AND HEMATOPOIETIC ORGANS

Particularities of case history in diseases of the blood. Symptoms and objective examination in diseases of the erythrocyte series (anemia, polyglobulia).

Symptoms and objective examination and paraclinical examinations in acute and chronic leukemia. Symptoms and clinical and paraclinical examinations in lymphoma.

Coagulation disorders.

SEMIOLOGY OF THE DIGESTIVE SYSTEM

Particularities of case history in diseases of the digestive system. Semiology of the mouth and pharynx in medical pathology. Semiology of the esophagus (functional symptoms, clinical and paraclinical examination, esophageal syndrome).

Semiology of the abdomen (abdominal pain, inspection, palpation, percussion, auscultation, abdominal puncture, laparoscopy, abdominal echography, radiological examination, computed tomography, etc.). Semiology of diseases of the stomach and duodenum (particularities of case history, functional symptoms, objective clinical examination, exploration of gastric secretion,

exploration of the evacuating function of the stomach, gastroscopy, gastric mucosa biopsy, radiological examination, exfoliative cytology, etc.).

Dyspeptic gastric syndromes, clinical syndrome in gastric and duodenal ulcer, impaired gastric evacuation, stomach cancer.

Syndromes of intestinal disorders (particularities of case history, functional symptoms, abdominal meteorism, inspection, palpation, percussion and auscultation). Paraclinical exploration of the intestine (examination of fecal matter, radiological examination, digestive endoscopy, exploration of the digestion and absorption function). Diarrheic syndrome, constipation syndrome, rectosigmoid syndrome.

Semiology of liver diseases (particularities of case history, functional and general symptoms, objective clinical examination, bio-humoral exploration, laparoscopy, liver biopsy, echography, computed tomography, scintigraphy).

Hepatic syndromes: icteric, portal hypertension, ascitic, chronic hepatitis, cirrhosis of the liver and liver failure.

SEMIOLOGY OF THE MUSCULOSKELETAL SYSTEM

Semiology of joints (inspection, palpation, active and passive movements, articular puncture, radiological ex., etc.). Clinical syndrome in acute articular rheumatism, rheumatoid polyarthritis, ankylosing spondylitis, degenerative rheumatisms.

Seminar/laboratory

SEMIOLOGY OF THE RENAL-URINARY SYSTEM

Particularities of case history in renal diseases and the main functional and general symptoms. Objective examination, urine and blood examination in renal diseases.

Exploration of the urinary bladder, the urethra and the prostate. Functional renal exploration (radiology, echography, computed tomography, scintigraphy, clearance.).

Main clinical renal syndromes (clinical syndrome in: acute and chronic glomerulonephritis, acute and chronic pyelonephritis).

Main clinical renal syndromes (clinical syndrome in: nephrotic syndrome, acute and chronic failure).

SEMIOLOGY OF THE BLOOD AND HEMATOPOIETIC ORGANS

Particularities of case history in diseases of the blood. Symptoms and objective examination in diseases of the erythrocyte series (anemia, polyglobulia).

Symptoms and objective examination and paraclinical examinations in acute and chronic leukemia. Symptoms and clinical and paraclinical examinations in lymphoma.

Coagulation disorders.

SEMIOLOGY OF THE DIGESTIVE SYSTEM

Particularities of case history in diseases of the digestive system. Semiology of the mouth and pharynx in medical pathology. Semiology of the esophagus (functional symptoms, clinical and paraclinical examination, esophageal syndrome).

Semiology of the abdomen (abdominal pain, inspection, palpation, percussion, auscultation, abdominal puncture, laparoscopy, abdominal echography, radiological examination, computed tomography, etc.). Semiology of diseases of the stomach and duodenum (particularities of case history, functional symptoms, objective clinical examination, exploration of gastric secretion, exploration of the evacuating function of the stomach, gastroscopy, gastric mucosa biopsy, radiological examination, exfoliative cytology, etc.).

Dyspeptic gastric syndromes, clinical syndrome in gastric and duodenal ulcer, impaired gastric evacuation, stomach cancer.

Syndromes of intestinal disorders (particularities of case history, functional symptoms, abdominal meteorism, inspection, palpation, percussion and auscultation). Paraclinical exploration of the intestine (examination of fecal matter, radiological examination, digestive endoscopy, exploration of the digestion and absorption function). Diarrheic syndrome, constipation syndrome, rectosigmoid syndrome.

Semiology of liver diseases (particularities of case history, functional and general symptoms, objective clinical examination, bio-humoral exploration, laparoscopy, liver biopsy, echography, computed tomography, scintigraphy).

Hepatic syndromes: icteric, portal hypertension, ascitic, chronic hepatitis, cirrhosis of the liver and liver failure.

SEMIOLOGY OF THE MUSCULOSKELETAL SYSTEM

Semiology of joints (inspection, palpation, active and passive movements, articular puncture, radiological ex., etc.). Clinical syndrome in acute articular rheumatism, rheumatoid polyarthritis, ankylosing spondylitis, degenerative rheumatisms.

Clinical Training on Medical and Surgical Subjects

Seminar/laboratory/clinical training

Presentation of section, data sheet, circuits

Examination of the respiratory and cardiovascular system, paraclinical investigations

Examination and interpretation of clinical cases hospitalized by sections/ 5 -6 cases

4th year

1st semester

General Surgery

Course

Thoracic surgical pathology: pleuro-pulmonary suppuration, tuberculosis, tumors
Surgical pathology of the mammary gland
Surgical pathology of the esophagus: diverticula, post-caustic stenosis, cardiospasm and cancer
Surgical pathology of the stomach and duodenum ulcer and cancer
Appendicitis. Meckel's diverticulum
Surgical pathology of the colon and rectum
Surgical pathology of the ano-perianal region
Surgical pathology of the liver: hydatid cyst, abscesses, cancer, portal hypertension syndrome
Surgical pathology of the external bile ducts (gallbladder, PBC): lithiasis, cancer
Surgical pathology of the pancreas: acute pancreatitis, pseudocysts and cancer. Surgical pathology of the spleen
Surgical acute abdomen: generalities
Digestive hemorrhages. Hemoperitoneum. Peritonitis
Intestinal occlusions
Surgical complications

Seminar/laboratory

General clinical examination and examination by systems, local examination, paraclinical investigations, positive diagnosis, differential diagnosis
Surgical treatment principles: operative indication, preoperative preparation, surgical intervention and postoperative care
General case presentation scheme
Clinical topography, examination and pathology of the throat (including thyroid)
Clinical topography, examination and pathology of the chest
Clinical topography, examination and pathology of the mammary gland
Clinical topography, examination and surgical pathology of the abdomen and pelvis – wall and viscera (stomach, duodenum, small and large intestine, liver and external bile ducts, pancreas, spleen)
Clinical topography, examination and pathology of the anal and perianal region
Clinical topography, examination and pathology of the arteries, veins and lymphatic vessels
Principles of early diagnosis and surgical treatment in cancer

Geriatrics and Gerontology

Course

The biology of the ageing process, senescence, objectives of geriatrics.

Elderly-specific case history, specific diet, family and social history

Clinical examination: vital signs in the elderly patient, examination - particularities: particularities in the elderly patient.

Examination by apparatuses and systems: respiratory, cardiovascular, digestive, particularities in the elderly patient.

Examination of the musculoskeletal and neurological system – particularities in the elderly patient.

Rational nutrition principles in the elderly: caloric needs, proteins, lipids, carbohydrates, caloric ratio calculation, vitamins and minerals. Nutritional particularities in the elderly patient.

Nutritional status, dietary principles in elderly adults, use of dietary supplements, ways to consume foods, weight control.

Atypical presentations of diseases in the elderly. Disease prevention: primary and secondary prevention; objective signs and biological age, HTN; heart failure;

Atherogenesis and atherosclerosis. Etiopathogeny, risk factors, practical and therapeutic attitude

Prevention of psychosocial issues. Depression.

Diabetes mellitus in the elderly: weight control; pharmacotherapy; hypoglycemia; education of elderly diabetic patients. Particularities in the elderly patient.

Diseases of the osteoarticular system the elderly: rheumatoid arthritis, pharmacological RA therapy, non-pharmacological therapies, etc. Arthrosis. Osteoporosis

Tertiary prevention: cardiovascular diseases, general principles; Measures to prevent diseases and functional deficiencies in the elderly patient: advice for patients, recommendations for healthy elderly people, preventive exercise and diet recommended, preventive lifestyle principles.

Clinical pharmacology: particularities in the elderly patient. The prevention of functional deficiencies, the prevention of home accidents and car accidents, the prevention of iatrogenic complications; interventions – particularities in ageing patient

Medical Imaging

Course

Introduction

Methods of radioimaging investigation

The radioimaging diagnosis of respiratory system

The radioimaging diagnosis of medistinal diseases

The radioimaging diagnosis of diphragmatic diseases

The radioimaging diagnosis of heart and blood vessels diseases
The radioimaging diagnosis of digestive tract diseases
The radioimaging diagnosis of liver and bile tract diseases
The radioimaging diagnosis of pancreatic diseases
The radioimaging diagnosis of spleen diseases
The radioimaging diagnosis of osteoarticular diseases
The radioimaging diagnosis of renourinary diseases
The radioimaging diagnosis in specialties
Recapitulative course

Microsurgery and Reconstructive Surgery

Course
History
The principles of microsurgery and plastic surgery
Burns
Grafts and flaps
General principles of facial surgery
General principles of hand surgery
Reconstructive microsurgery, principles, techniques

Seminar/laboratory
General principles and methods of plastic surgery and reconstructive microsurgery, instruments, techniques
Skin transplant and other types of tissue transplantation
Principles and physiology of skin flaps, musculo-cutaneous and muscular
The treatment of burns
General principles of hand surgery
Skin tumors: surgical treatment principles
Reconstructive microsurgery, principles, techniques

Internal Medicine

Course
Esophagus: concepts of anatomy, esophageal syndrome, paraclinical exploration. Esophageal motility disorders. Achalasia, Esophagitis, Esophageal tumors
Stomach: concepts of anatomy and physiology, paraclinical exploration: barium swallow, gastroscopy, gastric chemistry. Acute and chronic gastritis.
Gastro-duodenal ulcer. Concepts of morphopathology, risk factors, clinical symptoms, paraclinical exploration, treatment

Upper digestive hemorrhage. Stomach cancer. Zollinger-Ellison syndrome
Malabsorption syndrome. Clinical symptoms, paraclinical exploration, treatment
Inflammatory intestinal diseases: Crohn's disease, ulcerative colitis, clinical symptoms, paraclinical exploration, treatment
Benign and malignant tumors of the colon. Concepts of morphopathology, risk factors, clinical symptoms, paraclinical exploration, treatment
General concepts on hepatica anatomo-physiopathology, methods of assessing hepatic functions.
The great hepatic syndromes: the jaundice syndrome
The great hepatic syndromes: portal hypertension, hepatic encephalopathy
Chronic hepatitis, risk factors, etiology, diagnostic criteria, evaluation, treatment
Cirrhosis of the liver: classification, etiology, diagnosis, treatment
Hepatic tumors. Acute cholecystitis. Biliary lithiasis
Acute pancreatitis. Chronic pancreatitis. Pancreatic cancer
Tests

Seminar/laboratory/clinical internship
Section presentation, observation sheet, circuits
Clinical case presentation from esophagus pathology, preparing a clinical observation sheet, interpretation of investigations, treatment plan
Clinical case presentation from gastro-duodenal ulcer, stomach cancer, preparing a clinical observation sheet, interpretation of investigations, treatment plan
Clinical case presentation from upper digestive hemorrhage. Preparing a clinical observation sheet, interpretation of investigations, treatment plan
Clinical case presentation from malabsorption syndrome, preparing a clinical observation sheet, interpretation of investigations, treatment plan
Clinical case presentation from inflammatory intestinal diseases: Crohn's disease, ulcerative colitis;
Clinical case presentation from benign and malignant tumors of the colon, preparing a clinical observation sheet, interpretation of investigations, treatment plan
Clinical case presentation from jaundice syndrome, preparing a clinical observation sheet, interpretation of investigations, treatment plan
Clinical case presentation from portal hypertension, hepatic encephalopathy, preparing a clinical observation sheet, interpretation of investigations, treatment plan
Clinical case presentation from chronic hepatitis, diagnosis criteria, evaluation, treatment, preparing a clinical observation sheet, interpretation of investigations, treatment plan
Clinical case presentation from cirrhosis of the liver, classification, diagnosis, preparing a clinical observation sheet, interpretation of investigations, treatment plan

Clinical case presentation from cirrhosis of the liver, complications, treatment prognosis, preparing a clinical observation sheet, interpretation of investigations, treatment plan

Clinical case presentation from hepatic tumors, acute cholecystitis, biliary lithiasis, preparing a clinical observation sheet, interpretation of investigations, treatment plan

Clinical case presentation from acute, pancreatitis, chronic pancreatitis, pancreatic cancer

Assessment/practical examination

Occupational Medicine and Occupational Diseases

Course

Introduction to Occupational Medicine: definition, purposes, component areas, occupational contaminants, legislation

Occupational physiology: physiological changes, work capacity

Occupational diseases and occupation-related diseases

Pneumoconioses

Silicosis

Asbestosis

Byssinosis

Occupational asthma

Occupational lead poisoning

Occupational benzene poisoning

Occupational methanol poisoning

Occupational pesticide poisoning

Occupational carbon oxide poisoning

Noise-induced occupational diseases

Vibration-induced occupational diseases

Seminar/laboratory

Clinical observation sheet in cases of occupational diseases

Occupational case history

Clinical demonstration of pneumoconiosis cases

Pulmonary function tests: performance and interpretation

Silicosis – clinical cases

Occupational asthma – clinical cases

First-aid measures in acute methanol poisoning

First-aid measures in acute benzene poisoning

First-aid measures in acute carbon oxide poisoning

First-aid measures in acute pesticide poisoning

Occupation-related diseases – clinical cases
Pre-employment medical examination
Adjustment medical examination
Employee's periodical medical checkup

Orthopedics and Traumatology

Course

A short history of the development of orthopedics and traumatology.

Fractures – generalities

Fractures and sprains of the vertebral column: etiology, mechanism, pathological anatomy, classification, symptoms, clinical forms, differential diagnosis, radiographic examination, complication; treatment of the various forms in relation to location and anatomo-pathological form; treatment of complications.

Hip fractures: etiology, mechanism, pathological anatomy, classification, symptoms, complications, diagnosis, treatment of hip fractures and treatment of complications.

Fractures and sprains of the upper limb: fractures of the clavicle and shoulder blade, fractures of the radial distal epiphysis, fractures of the carpal scaphoid; fractures of the metacarpals and phalanges (etiology, mechanism, symptoms, complications, orthopedic and surgical treatment); sprains of the upper limb; recent, aggravated and recurrent scapulo-humeral sprain (clinical forms, treatment); elbow sprain; sprains of the phalanges, clavicle sprain.

Fractures and sprains of the lower limb: fractures of the ankle and foot bones; sprains of the lower limb.

Open fractures. Polytraumas.

Bone tumors and dystrophy; characteristics of benign and malignant bone tumors; anatomo-pathological forms; clinical aspects, diagnosis, radiographic examination, therapeutic attitude; bone dystrophy, solitary bone cyst and myeloplax tumor; symptoms, differential diagnosis, therapeutic attitude.

Osteoarticular tuberculosis: anatomo-pathological etiopathogeny, general and local signs; progression, complications, general treatment principles; bacillary osteoarthritis of the hip and knee, particularities, diagnosis, progression, complications and treatment.

Acute and chronic osteomyelitis: anatomo-pathological etiopathogeny, symptoms, clinical forms, differential diagnosis, progression; treatment of acute forms, treatment of chronic osteomyelitis; treatment of complications and sequelae.

Seminar/laboratory

Case presentations and clinical demonstrations from course topics, in connection with other pathologies.

Radiology

Course

Introduction
Methods of radioimaging investigation
The radioimaging diagnosis of respiratory system
The radioimaging diagnosis of medistinal diseases
The radioimaging diagnosis of diphragmatic diseases
The radioimaging diagnosis of heart and blood vessels diseases
The radioimaging diagnosis of digestive tract diseases
The radioimaging diagnosis of liver and bile tract diseases
The radioimaging diagnosis of pancreatic diseases
The radioimaging diagnosis of spleen diseases
The radioimaging diagnosis of osteoarticular diseases
The radioimaging diagnosis of renourinary diseases
The radioimaging diagnosis in specialties
Recapitulative course

Seminar/laboratory

Introduction
Methods of radioimaging investigation
The radioimaging diagnosis of respiratory system
The radioimaging diagnosis of medistinal diseases
The radioimaging diagnosis of diphragmatic diseases
The radioimaging diagnosis of heart and blood vessels diseases
The radioimaging diagnosis of digestive tract diseases
The radioimaging diagnosis of liver and bile tract diseases
The radioimaging diagnosis of pancreatic diseases
The radioimaging diagnosis of spleen diseases
The radioimaging diagnosis of osteoarticular diseases
The radioimaging diagnosis of renourinary diseases
The radioimaging diagnosis in specialties
Recapitulative seminar

2nd semester

Pediatric Surgery and Orthopedics

Course

Particularities of pediatric surgery. Obstetrical traumas in children
Pathology of the head, neck and vertebral column
The septic pathology of the newborn
Pathology of the thorax
Pathology of the abdominal wall and umbilical region
Pathology of the digestive tract and accessories:
congenital malformations of the digestive tract
neonatal peritonitis
abdominal traumas, foreign bodies, etc.
congenital megacolon
congenital malformations of the bile ducts
hydatid cyst
pathology of the spleen
Tumors in children
retroperitoneal tumors
malignant lymphoma
sacrococcygeal teratoma
Pathology of the uro-genital apparatus in children
urological pathology: congenital malformations, acquired diseases
genital pathology: congenital malformations, acquired diseases
Particularities of musculoskeletal pathology in children, Congenital malformations of the musculoskeletal system - congenital hip dislocation, congenital clubfoot, congenital and acquired malformations by segments
Traumatic pathology in children
particularities of fractures in children
traumatic conditions by regions
severe polytrauma: road accidents, etc.
Osteomyelitis
Burns, frostbites, electrocution, irradiation in children

Seminar/laboratory
Observation sheet:
case history
specific objective examination for children
paraclinical investigations, radiography, etc.
particularities of illnesses in pediatric surgery
Obstetrical traumas

Disorders of the head, throat, thorax, vertebral column
clinical appearance, diagnosis, treatment
Septic diseases of the toddler
Thorax pathology Abdominal wall disorders - processus vaginalis umbilical region, etc
The clinical appearance of congenital malformations of the digestive tract
paraclinical investigations
diagnosis
Treatment
Clinical picture of acquired abdominal disorders
their recognition
paraclinical investigations
treatment
Practical problems of urology in children
clinical and paraclinical investigations
specific examinations
devices and how they are used
Emergencies in pediatric surgery
suturing wounds
bandages
injections: i.m., i.v.
local anesthesia
hemostasis
puncture (diagnostic and therapeutic)
abdominal
thoracic
articular
evacuating incisions in abscesses and phlegmons
use of local antiseptics
Practical problems in reanimation and first aid. Conduct in simple and complex trauma
play-related
road accidents
burns
frostbites
Polytrauma
Particularities of operations in children, anesthesia
operations on soft parts
operations on the abdomen

operations on the thorax
operations on the bone
Esmark bandage
Orthopedic reduction of fractures
splints
extension
reduction of luxation
sprain tactics
Plaster cast
preparing plaster bandages
plaster thread fitting and removing a plaster cast its particularities depending on the anatomical region
Orthopedic devices
Corsets prostheses, etc.
evolution and modernization
indications
recommendations
Massage
simple
corrective (clubfoot, arthrogryposis, etc.)
kinesiotherapy
Operating theater
instruments for soft parts
instruments for bones
osteosynthesis materials
Complication of immediate and late orthopedic and surgical maneuvers

Phthisiology

Course

Tuberculosis bacillus. Nomenclature. Classification. Microscopic morphology. Development on growth media. Biochemical structure. Resistance to physical and chemical agents

The bacteriological diagnosis of tuberculosis. Sources of infection. Paths of entry of the infection and mechanism of contamination

Behavior of the macro-organism to the tubercular infection. Pathogenicity. Virulence and incidence. Experimental tuberculosis and the KOCH phenomenon. The immunologic response in tuberculosis. The general morpho-pathology of tuberculosis

The evolution of tuberculosis infection. The role of background and environmental factors. The cycle of tubercular infection in humans. Infection and disease

The role of infection characters. The role of background factors (internal environment). The role of ambient factors

Primary tuberculosis. Outlooks on primary tuberculosis. Clinical forms of primary tuberculosis: occult primary tuberculosis, manifest primary tuberculosis, tracheobronchial adenopathy, inflammatory extensive primary tuberculosis

Extensive caseous primary tuberculosis (pneumonia and bronchopneumonia): miliary tuberculoses, tubercular meningitis. Differential diagnosis of primary tuberculoses

Secondary tuberculosis (phthisis) phthisiogenesis. Clinical forms of secondary tuberculosis: tuberculosis in nodular foci. Infiltrative tuberculosis. Circumscribed caseous tuberculosis.

Cavitary fibro-caseous tuberculosis: tubercular cavern. Hemophthisis. Clinical-radiological and evolutionary-prognostic aspects. Chronic and hyper-chronic tuberculosis. Fibrous tuberculosis

Tracheo-bronchial tuberculosis as a particular clinical form of phthisis. Tuberculosis associated with other conditions. Differential diagnosis of secondary tuberculosis.

The treatment of tuberculosis. The experimental and clinical bases of the chemoresistance of tuberculosis. Bactericide and bacteriostasis. The bacillary over-action phenomenon. The anti-bacillary post-effect. Anti-tuberculosis drugs. Side effects.

Therapeutic regimes in the chemoresistance of tuberculosis. Principles and technique of application. Treatment of primary tuberculosis. Initial treatment of secondary tuberculosis. Treatment of immediate and late failures of chemoresistance of tuberculosis. Adjuvant treatments in tuberculosis. The treatment of sero-fibrinous tubercular pleurisy

Epidemiological notions of tuberculosis. Endemics and tuberculosis. Epidemiometric indicators of evaluation. The national anti-tuberculosis programme. Organization. Monitoring. The role anti-tuberculosis healthcare institutions. Integration in general healthcare

Methods for detecting tuberculosis. Tuberculin testing. The bacteriological examination of respiratory symptoms. Radio-photographic (RP) examinations. Epidemiometric filiation investigation

Tuberculosis prevention methods. Strictly monitored standardized chemotherapy: chemoprophylaxis . Outbreak fight. Health education

Seminar/laboratory

Highlighting KOCH’s bacillus

Tuberculin testing. Intradermoreaction to tuberculin

BCG vaccination

Primitive tuberculosis (primary infection)

Treatment of pulmonary tuberculosis

Secondary tuberculosis

Strictly monitored testing (TSS) in secondary tuberculosis. Organization of strictly monitored treatment (TSS)

Adjuvant testing. Testing emergencies

Tuberculosis detection methods

Prevention methods in tuberculosis

Monitoring tuberculosis patients. Pneumoperitoneum technique

Clinical observation sheet. Elements of diagnosis in pneumophthisiology. General objective elements

Clinical exploration of the respiratory system. Extero-thoracic examination

Radiological investigartion. Other explorations

Morphological exploration methods. Histo-cytological examination

Environmental Hygiene and Health

Course

Community hygiene: generalities, community medicine: objective, purposes; community; definition, types of community, models of community; branches of hygiene

Ambient air hygiene: temperature – direct warming, indirect warming, average temperature, optimal temperature, heat stress: general compensating manifestations, decompensating manifestations; cold stress: general compensating manifestations, decompensating manifestations; air humidity; air movements; air composition; oxygen: normal values, manifestations of the decrease in oxygen concentration; carbon dioxide: normal values, CO2 poisoning, symptoms; air pollution: definition, pollution sources, combating pollution

Housing hygiene: generalities, housing: definition, hygienic norms: placement, distances, surfaces, building materials, number of rooms, thermal ambient, natural and artificial lighting, internal and external noise, house heating, internal pollution

Water as a pathogenic risk for the community: infectious pathogenic risk, pathogenic risk through deficiency or excess of chemical substances: iodine deficiency, decreased water hardness, excess of chemical substances, fluorine excess and deficiency, fluorine deficiency; water-transmitted toxic risk; prophylaxis of water pollution

Radiation hygiene: classification, non-ionizing radiation, the action of solar radiation on the organism, polarized light therapy, ionizing radiation, natural radioactive resources, artificial radioactivity, the effect of ionizing radiation on the human body.

Food hygiene: importance of foods, food under the quantitative and qualitative aspect; the necessary food intake for humans, the importance and necessary intake of proteins, the importance and necessary intake of lipids, the importance and necessary intake of carbohydrates;

Food hygiene: the importance and necessary intake of mineral salts: role, quantitative needs; the importance and necessary intake of vitamins: vitamin A – role, necessary intake, foods rich in vitamin A, indications; vitamin D2 – role, necessary intake, foods rich in vitamin D2, indications; vitamin E – role, necessary intake, foods rich in vitamin E, indications; vitamin K– role, necessary intake, foods rich in vitamin K, indications; water-soluble vitamins (vitamin B1, B2, B6,B12, PP, F, P, C, pantothenic acid, folic acid) necessary intake, sources, indications

Food hygiene: main food groups: milk and dairy products: role in nutrition, epidemiological issues, hygienic and sanitary expertise; meat and fish: role in nutrition, epidemiological issues, hygienic and sanitary expertise; eggs: role in nutrition, epidemiological issues, hygienic and sanitary expertise; vegetables and fruits: role in nutrition, epidemiological issues, hygienic and sanitary expertise

Food hygiene: cereals and cereal products: role in nutrition, epidemiological issues, hygienic and sanitary expertise; sugar and sugary products: role in nutrition, epidemiological issues, hygienic and sanitary expertise; fats: role in nutrition, epidemiological issues, hygienic and sanitary expertise; alcoholic and non-alcoholic beverages: role in nutrition, epidemiological issues, hygienic and sanitary expertise, excessive alcohol consumption, chronic alcohol consumption, culinary food processing

Guiding lines for establishment of a nutritional profile for the patients having different pathologies

School hygiene: establishing the capacity for adaptation and social integration, daily activities of young pupils, weekly activities, rest programme, timetable, norms of hygiene in school communities, school buildings, school boarding, school medicine

Prevention and fighting against the risk comportments in children and adolescents

Medical practice hygiene: organizing a medical practice, hygienic and sanitary norms for a dental practice, preventing diseases related to medical activities, preventing infections acquired in the medical practice,

Soil hygiene in the community: generalities, physical, chemical, biological properties; soil pollution: epidemiological pollution: human-soil-human, animal-soil-human, soil-human contamination; chemical pollution, measures to combat and prevent soil pollution

Seminar/laboratory

Methodology of assessing health state effects of air pollution

Assessment of community health state in relation to water.

Radiation hygiene: determination, research on influence on the organism

Methodology of assessing the effects of urban noise on the human body

Determination of food safety from the main food groups

Risk management systems regarding food safety based on HACCP principles

Food investigation. Epidemiological investigation in food poisoning

Human-food relation research: nutritional case history, food ration, nutrition state

Organization of a medical unit, hygienic and sanitary norms for hospital units

Methodology of assessing physical development in children and adolescents. Methodology of assessing work and rest program in schools

Hygienic requirements regarding institutions for the protection, education and instruction of children and adolescents. Preventing risky behavior in groups of children and adolescents

Soil hygiene: determination of pollution, contamination and infestation

Internal Medicine

Course

The kidney, notions of anatomy and physiology, paraclinical exploration, some urinary syndromes: protenuria, hematuria

Acute glomerulonephritis, acute post-streptoccocal glomerulonephritis: etiology, diagnosis, treatment

Rapidly progressive glomerulonephritis; Chronic glomerulonephritis: etiology, classification, diagnosis, treatment

Nephrotic syndrome: etiology, diagnosis, treatment

Secondary Chronic glomerulonephritis: etiology, clinical and evolutionary aspects, diagnosis and treatment

Acute kidney injury: causes, clinical picture, diagnosis and treatment

Chronic Kidney Disease: Causes, clinical picture, diagnosis and treatment

Acute and chronic interstitial nephritis: etiology, clinical presentation, diagnosis and treatment

Vascular renal disease: classification, benign and malignant nephroangiosclerosis, renal hypertension

Etiopathogenic aspects of rheumatic fever, diagnosis, treatment

Rheumatoid arthritis: etiopathogenic aspects, diagnosis, treatment

Seronegative spondylarthropathies: classification, diagnosis, treatment, ankylosing spondylitis

Systemic lupus erythematosus and other major collagen diseases; etiology, diagnostic criteria and treatment

Chronic degenerative rheumatism, osteoporosis: pathogenesis, clinical and therapeutic aspects

Steroid and non-steroid anti-inflammatory treatment. Effectiveness, adverse events, indications and contraindications; new types of pathogenic treatments in systemic diseases

Seminar/laboratory

Clinical demonstration, cased presentations from the pathology discussed during courses

Oncology

Course

The epidemiology of cancer

Etiology. Risk factors for cancer.

Carcinogenesis

Tumor growth. The natural history of cancer.

Morphopathology of malignant tumors. Histological criteria of malignancy and prognosis

Precursor lesions. The importance of precancerous lesions in prevention

General principles of cancer diagnosis. Paraneoplastic syndromes.
Staging of malignant tumors. Pre-treatment review. Therapeutic strategies.
Cancer treatment methods. Surgery.
Cancer treatment methods. Radiotherapy
Cancer treatment methods. Chemotherapy
Cancer treatment methods. Hormone therapy
Biological treatments in cancer. Immunotherapy. Targeted therapies in cancer
Assessment of therapeutic response. Post-therapeutic follow-up. Prophylaxis. Palliative care.

Seminar/laboratory
The epidemiology of cancer
Etiology. Risk factors for cancer.
Carcinogenesis
Tumor growth. The natural history of cancer.
Morphopathology of malignant tumors. Histological criteria of malignancy and prognosis
Precursor lesions. The importance of precancerous lesions in prevention
General principles of cancer diagnosis. Paraneoplastic syndromes.
Staging of malignant tumors. Pre-treatment review. Therapeutic strategies.
Cancer treatment methods. Surgery.
Cancer treatment methods. Radiotherapy
Cancer treatment methods. Chemotherapy
Cancer treatment methods. Hormone therapy
Biological treatments in cancer. Immunotherapy. Targeted therapies in cancer
Assessment of therapeutic response. Post-therapeutic follow-up. Prophylaxis. Palliative care.

Child Rearing

Course
The concept of child rearing; particularities of childhood.
Child growth and development: growth factors; laws of growth.
Pre- and postnatal growth.
The newborn: adjustment to extra-uterine life; the morpho-physiological and psychomotor particularities of the infant born on term.
The morpho-physiological and psychomotor particularities of the premature/dysmature/postmature infant.
The infant and small child: morpho-physiological and psychomotor particularities.
The preschool and school-age child: morpho-physiological and psycho-intellectual particularities
The young school age. Puberty and adolescence.

Psycho-intellectual particularities of the child. The structure of personality. Integration into the human ecosystem and interrelation with psychosocial factors.

Elements of nutrition, metabolism and diet in children: general notions of nutrition and metabolism and their particularities according to age.

Newborn and infant diet: natural nutrition. Composition of mother milk, advantages and rules in promoting natural nutrition. Breastfeeding techniques, incidents. Frequent functional disorders

Artificial, mixed and diversified nutrition, techniques and elements for preventing nutrition errors. Choosing milk preparations in special clinical situations

Diet of the small child, preschool- and school-age child, technique, possible functional disorders

Diet of the adolescent; food portions, diets and balanced nutrition techniques, errors in nutrition of adolescents and ways to prevent them.

Disease prevention in children; passive immunization, vaccination, available preparations, vaccination techniques, risks, post-vaccine anaphylaxis and its treatment; informing parents on the beneficial effects of vaccination.

Seminar/laboratory

Child growth and development: highlighting and analyzing growth factors; case study, family counseling methods.

Pre- and postnatal growth; applying somatometry techniques and their interpretation.

Case history data during pregnancy, birth, and potnatally; adjustment to extra-uterine life and long-term consequences; the morpho-physiological and neuro-psychomotor development particularities of the infant born on term, care methods and risk assessment.

The morpho-physiological and neuro-psychomotor development particularities of the premature/ postmature infant and newborns with intrauterine growth retardation; specific care methods and interdisciplinary orientation. Mother-child relationship and bonding analysis

The infant and small child: morpho-physiological and psychomotor particularities. Using growth curves and the Denver test to assess child development; care methods.

The preschool and school-age child: morpho-physiological and psycho-intellectual particularities and social adjustment. Care methods.

The young school age. Puberty and adolescence. Detecting sensory, writing, speech or behavioral anomalies

Child rearing techniques and particularities according to age: body hygiene, laundry, sleep, play, reading, TV/internet access, adjusting the rhythm of life, communication, information

Techniques of natural, artificial, mixed and diversified nutrition. Encouraging natural nutrition; calculating food ration and the number of meals

Nutrition techniques for small children, preschool- and school-age children. Nutrition for adolescents: food ration, analysis of elements preventing food imbalances, obesity or nutritional deficiency

Notions of disease prevention in children; vaccination technique. Anaphylaxis

Urology

Course

Clinical and paraclinical examination in urology
Congenital anomalies of the urogenital apparatus
Urinary lithiasis
Traumas of the urogenital apparatus
Specific urinary infections
Non-specific urinary infections
Renal cancer, Wilms' tumor, cystic renal tumors
Urothelial cancers
Pathology of male reproductive system and male sexology problems
Prostate adenoma and prostate cancer
Pediatric urological pathology. Aspects of gynecological urology
Acute and chronic kidney failure
Neurogenic bladder and overactive bladder
Urological problems in elderly people

Seminar/laboratory

Clinical and paraclinical examination in urology
Congenital anomalies of the urogenital apparatus
Urinary lithiasis
Traumas of the urogenital apparatus
Specific urinary infections
Non-specific urinary infections
Renal cancer, Wilms' tumor, cystic renal tumors
Urothelial cancers
Pathology of male reproductive system and male sexology problems
Prostate adenoma and prostate cancer
Pediatric urological pathology. Aspects of gynecological urology
Acute and chronic kidney failure
Neurogenic bladder and overactive bladder
Urological problems in elderly people
Recapitulation

Clinical Training on Medical and Surgical Subjects

Seminar/laboratory/clinical training

1. Presentation of section, data sheet, circuits
2. Examination of the digestive system, establishing the paraclinical investigation plan
3. Establishing the paraclinical investigation plan in a surgical service
4. Case history, positive diagnosis and exploration in hepato-biliary diseases
5. Case history, clinical examination and investigation plan in digestive tumors
6. Positive and differential diagnosis in digestive tumors
7. Positive diagnosis and establishing the paraclinical investigation plan in jaundice syndromes
8. Positive and differential diagnosis in jaundice
9. Positive and differential diagnosis in abdominal pain syndrome, establishing the paraclinical investigation plan
10. Positive diagnosis and establishing the paraclinical investigation plan in urological diseases
11. Positive and differential diagnosis in urological diseases
12. Positive diagnosis and exploration in urinary infection syndromes

5th year

1st semester

Cranio-Maxillofacial Surgery

Course

Traumatic dento-maxillofacial lesions. First aid in oro-maxillofacial traumatology

Traumatic lesions of the teeth and periodontium

Lesions of the soft parts of the face and oral cavity

Mandible fractures

Fractures of the middle part of the face and the zygomaticomaxillary complex

Infections of the perimaxillary soft parts – suppurations of the superficial lodges

Infections of the perimaxillary soft parts – suppurations of the deep lodges

Maxillary bone infections

Maxillary necrosis

Specific oro-maxillofacial infections

Maxillary sinus disorders of dental origin

Ganglion pathology in the oro-maxillofacial territory – specific and non-specific inflammatory conditions

Ganglion pathology in the oro-maxillofacial territory – tumors and ganglion damages in systemic diseases

Oro-maxillofacial lesions with malignization potential
Oro-maxillofacial pain syndrome

Seminar/laboratory
Methodology for preparing an observation sheet
Case history investigation; general examination of the patient
Exobuccal and endobuccal examination
Paraclinical, complementary and laboratory examinations
Summary of clinical observations, establishing positive and differential diagnosis, prognosis and treatment indications
Incision, opening and draining periosteal purulent collections
Caring for patients with infections: lavage, dressing, oral lavage, diet
Discussion of anti-infectious therapeutic methods
Application of monomaxillary and intermaxillary immobilization devices
Caring for patients with oro-maxillofacial trauma: hygiene and diet for patients with intermaxillary immobilization and associated lesions

Clinical Immunology and Allergology

Course
Organization of the immune system. Lymphoid organs. Antigen-presenting cells
Organization of the immune system. Cytokines. Mediators and modulators
Antigens
Antibodies
The serum complement
The major histocompatibility complex
The pathological immune response. Hypersensitivity reactions type I, II, III, IV. Autoimmunity.
Congenital immunodeficiency. Acquired immunodeficiency
Immunodeficiency and allergies. Immunodeficiency and infections
Pulmonary manifestations in immunological diseases
Cardiovascular manifestations in immunological diseases
Digestive manifestations in immunological diseases
Renal manifestations in immunological diseases
Skin manifestations in immunological diseases

Internal Medicine

Course

Approaching cardiac patients.
Diagnostic procedures in cardiovascular diseases.
Acute articular rheumatism. Infective endocarditis.
Valvular heart disease. Congenital heart diseases in adults.
Cardiomyopathy and myocarditis.
Atherogenesis and risk factors. Ischemic heart diseases.
Acute myocardial infarction.
Bradyarrhythmias. Tachyarrhythmias. Anomalies of the sinoatrial node function. Atrioventricular conduction disorders.
Hypertensive vascular diseases.
Pericardial disorders. Cardiac tumors. Cardiac manifestations in systemic disease.
Heart failure.
Diseases of the aorta.
Diseases of the veins. Vascular diseases of the extremities.
Heart transplant. Interpreting electrocardiograms.
Final test from cardiovascular apparatus

Seminar/laboratory

Approaching cardiac patients.
Diagnostic procedures in cardiovascular diseases.
Acute articular rheumatism. Infective endocarditis.
Valvular heart disease. Congenital heart diseases in adults.
Cardiomyopathy and myocarditis.
Atherogenesis and risk factors. Ischemic heart diseases.
Acute myocardial infarction.
Bradyarrhythmias. Tachyarrhythmias. Anomalies of the sinoatrial node function. Atrioventricular conduction disorders.
Hypertensive vascular diseases.
Pericardial disorders. Cardiac tumors. Cardiac manifestations in systemic disease.
Heart failure.
Diseases of the aorta.
Diseases of the veins. Vascular diseases of the extremities.
Heart transplant. Interpreting electrocardiograms.
Final test from cardiovascular apparatus

Emergency Medicine – Pre-hospital Emergencies

Course

Assessment of critical patients

Resuscitation techniques

Medication used in cardio-pulmonary resuscitation

Maneuvers used in the emergency medicine department

Neurology

Course

Introduction to neurology, Sensitivity and sensitive syndromes;

Pain. Cephalic extremity pain, headache and migraine

Voluntary and involuntary motility and its pathology. Motor syndromes; CMN, PMN

Cranial nerve pathology

Consciousness impairment, sleep pathology, comas.

Impairments in higher cortical functions: aphasia, apraxia, agnosia, dementia syndrome, memory disturbances.

Epilepsy

Strokes

Pathology of the peripheral nervous system, neuropathy, radiculopathy, plexopathy, polyneuropathy, polyradiculoneuritis.

Medullar pathology, anatomy, acute and chronic myelitis, myelopathy. Multiple sclerosis.

Extrapyramidal syndromes, Parkinson's disease and Parkinson's syndromes, acute and chronic chorea. Cerebellar syndrome and cerebellum pathology

Intracranial hypertension. Brain tumors and vertebro-medullary compressions. Cranio-encephalic and vertebro-medullary traumas.

Encephalitis, neurological complications of HIV infection.

Metabolic and toxic encephalopathy, neurological complications of alcoholism

Infantile encephalopathy. Degenerative diseases [ALS, Charcot-Marie, Friedreich, progressive spinal amyotrophy, syringomyelia]

Muscle pathology, myasthenia, progressive muscular dystrophy, myotonia

Neurological manifestations of internal diseases [diabetes mellitus, collagenosis, paraneoplastic syndrome]. Neurocutaneous diseases, phakomatosis.

Pathology of the autonomic nervous system

Seminar/laboratory

Introduction to neurology, Sensitivity and sensitive syndromes; Pain. Cephalic extremity pain, headache and migraine

Voluntary and involuntary motility and its pathology. Motor syndromes; CMN, PMN
Cranial nerve pathology
Consciousness impairment, sleep pathology, comas.
Impairments in higher cortical functions: aphasia, apraxia, agnosia, dementia syndrome, memory disturbances.
Epilepsy
Strokes
Pathology of the peripheral nervous system, neuropathy, radiculopathy, plexopathy, polyneuropathy, polyradiculoneuritis.
Medullar pathology, anatomy, acute and chronic myelitis, myelopathy. Multiple sclerosis.
Extrapyramidal syndromes, Parkinson's disease and Parkinson's syndromes, acute and chronic chorea. Cerebellar syndrome and cerebellum pathology
Intracranial hypertension. Brain tumors and vertebro-medullary compressions. Cranio-encephalic and vertebro-medullary traumas.
Encephalitis, neurological complications of HIV infection.
Metabolic and toxic encephalopathy, neurological complications of alcoholism
Infantile encephalopathy. Degenerative diseases [ALS, Charcot-Marie, Friedreich, progressive spinal amyotrophy, syringomyelia]
Muscle pathology, myasthenia, progressive muscular dystrophy, myotonia
Neurological manifestations of internal diseases [diabetes mellitus, collagenosis, paraneoplastic syndrome]. Neurocutaneous diseases, phakomatosis.
Pathology of the autonomic nervous system

Ophthalmology

Course
The visual function and its impairments
Ocular refraction and its impairments
Binocular vision and its impairments
Pathology of the ocular annexes
Cornea and uvea
The pupil, lens, intraocular tension
The retina and optical nerve
Ocular traumatology

Seminar/laboratory
Notions of anatomy of the visual organ
Objective examination of the visual organ
Functional eye examination

Objective and functional examination of the tear ducts
Intraocular pressure examination
Examination of oculomotor and sensory imbalances
First aid in eye burns
Extraction of conjunctival and corneal foreign bodies
Interpretation of radiography with a localizer for intraocular foreign bodies
Techniques for local administration of ophthalmological medication
Presentation of clinical cases

Pediatrics

Course

Introduction to the study of pediatrics. Diagnosis in pediatrics
Newborn pathology
Notions of morpho-physiology and semiology of the respiratory sysemt
Acute rhinopharyngitis. Tonsillitis. Adenoiditis. Laryngitis. Bronchiolitis.
Asthma in children.
Bacterial and non-bacterial pneumonia
Tuberculosis in children. Pathology of the pleura.
Respiratory failure in children
Notions of morpho-physiology and semiology of the cardiovascular system in children. Congenital heart diseases.
Acquired heart diseases - endocarditis, myocarditis, pericarditis
Primitive heart diseases. Cardiac dysrhythmia.
Arterial hypertension
Acute cardiac circulatory collapse
Notions of morpho-physiology and semiology of the renal system in children. Glomerulopathy. Infections of the urinary tract. Acute renal injury and chronic kidney disease.

Seminar/laboratory

Introduction to the study of pediatrics. Diagnosis in pediatrics
Newborn pathology
Notions of morpho-physiology and semiology of the respiratory sysemt
Acute rhinopharyngitis. Tonsillitis. Adenoiditis. Laryngitis. Bronchiolitis.
Asthma in children.
Bacterial and non-bacterial pneumonia
Tuberculosis in children. Pathology of the pleura.
Respiratory failure in children

Notions of morpho-physiology and semiology of the cardiovascular system in children. Congenital heart diseases.

Acquired heart diseases - endocarditis, myocarditis, pericarditis

Primitive heart diseases. Cardiac dysrhythmia.

Arterial hypertension

Acute cardiac circulatory collapse

Notions of morpho-physiology and semiology of the renal system in children. Glomerulopathy. Infections of the urinary tract. Acute renal injury and chronic kidney disease.

Clinical Training on Medical and Surgical Subjects

Seminar/laboratory/clinical training

Presentation of section, data sheet, circuits

Examination of the respiratory system, paraclinical investigations

Examination of the respiratory system, paraclinical explorations

Positive and differential diagnosis in COPD

Positive and differential diagnosis in pneumonia

Positive and differential diagnosis in pulmonary tumors

Positive and differential diagnosis in cardiovascular diseases

Positive and differential diagnosis in heart failure

Positive and differential diagnosis in peripheral arterial diseases

Positive and differential diagnosis in valvular diseases

Positive and differential diagnosis in pleuropericardial diseases

2nd semester

Clinical Biochemistry

Course

The metabolism of lipoproteins and the plasmatic transport of lipoproteins. Lipoprotein classes. Apoproteins. Lipid components of lipoproteins

Primary deregulations in lipoprotein metabolism. Secondary hyperlipidemia

Lipoproteins and atherosclerosis. Clinical bases of hypolipidemic therapy

The metabolism of plasma proteins. The synthesis of plasma proteins. The catabolism of proteins. Types of plasma proteins.

Main plasma proteins. Albumin. Plasmatic inhibitors of proteases. Immunoglobulins. Monoclonal hyperimmunoglobinopathy. Polyclonal hyperimmunoglobinopathy

Acute-phase proteins. C-reactive protein. Types of dysproteinemia

Basic concept in interpreting variations in serum enzymes. General data on enzymes. Structure and mechanism of action. Pathophysiological bases of the enzymatic diagnosis

Enzymatic alterations in different pathological states. The diagnostic value of enzyme determinations. Serum enzymes and myocardial infarction. Serum enzymes and muscular diseases. Enzymes in bone diseases. Enzymes in clinical hematology. Enzymes in pancreatic diseases

Icteric syndromes. The biochemical pathophysiology of bile secretions. Bilirubin metabolism. Bile acids

Pathophysiological bases of liver function exploration. Tests reflecting chronic interstice inflammation. Tests indicating an increase in hepatocyte membrane permeability

Iron, copper and zinc metabolism. Iron distribution in the organism. Copper distribution and function in the organism. Zinc deficiency

Calcium, phosphorus and magnesium metabolism. Calcium balance in the organism. Calcium metabolism disruption. Changes in magnesium metabolism. Phosphorus metabolism

Anomalies in the hydromineral balance

Hemostasis and thrombosis mechanism

Tumor markers

Tests

Seminar/laboratory

Work safety in a clinical laboratory. Sampling blood. Factors influencing test results. Quality in a medical laboratory

Exploration of lipid metabolism

Analysis of plasma proteins

Determination of enzymatic activity

Exploration of hemostasis

Methods to highlight tumor markers

Assessment/Practical exam

Endocrinology

Course

Fundamental concepts of endocrinology. The endocrine system. Neuroendocrinology

Hypothalamic pathology. The pituitary isolation syndrome. Diabetes insipidus.

The adiposogenital syndrome. Galactorrhea and the amenorrhea-galactorrhea syndrome.

Adeno-pituitary pathology. Pituitary tumors. Gigantism – acromegaly. Pituitary dwarfism.

Pituitary deficiency in adults. The empty sella syndrome. Nelson's syndrome.

Pathology of the thyroid gland. Endemic thyreopathic dystrophy. Hyperthyroidism.

Thyroid deficiency. Thyroiditis. Thyroid neoplasm.

Pathology of the parathyroid glands. Primary hyperparathyroidism. Hypoparathyroidism.
Pathology of the corticoadrenal glands. Stages of corticoadrenal hormone biosynthesis.
Primary chronic corticoadrenal deficiency. Acute corticoadrenal deficiency.
Corticoadrenal hyperfunction. Pathology of glands medulloadrenal glands.
Pathology of the ovary. Stages in the sexualization process. Dysgenesis. Hyperestrogenism. Female infertility of endocrine ovarian cause.
Pathology of the testicle. Orchitic dysgenesis. Cryptorchidism. Male infertility of endocrine cause.
Obesity.
Endocrine complications. Therapeutic attitudes.

Seminar/laboratory
Presentation of a clinical endocrinology observation sheet.
Anterior pituitary pathology.
Anterior pituitary pathology.
Thyroid pathology
Thyroid pathology
Parathyroid pathology
Parathyroid pathology
Adrenal cortex pathology
Adrenal cortex pathology
Adrenal medulla pathology
Adrenal medulla pathology
Ovarian pathology
Testicular pathology
Endocrine obesity pathology
Correlational endocrine pathology

Clinical Hematology

Course
Introduction to hematology, hematopoiesis
Iron-deficiency anemia
Megaloblastic and hemolytic anemia
Myelodysplastic syndromes
Acute leukemia
Chronic lymphatic/prolymphocytic/hairy cell leukemia
Hodgkin's disease

Non-Hodgkin Iymphomas
Chronic myeloproliferative syndrome. Chronic myeloid leukemia. Essential thrombocytemia
Chronic myeloproliferative syndrome. Polycythemia vera. Myeloid metaplasia with myelofibrosis
Multiple myeloma, monoclonal gammopathy
Hemorrhagic syndromes. Immune thrombocytopenia
Hemophilia, thalassemia. Medullar transplant
Final assessment test

Seminar/laboratory
Introduction to hematology, hematopoiesis, the structural, functional and embryological unit of the hematopoietic tissue
Iron-deficiency anemia, thalassemia
Megaloblastic and hemolytic anemia
Myelodysplastic syndromes
Acute leukemia
Chronic lymphatic/prolymphocytic/hairy cell leukemia
Hodgkin's disease
Non-Hodgkin Iymphomas
Chronic myeloproliferative syndrome
Multiple myeloma, monoclonal gammopathy
Hemorrhagic syndromes
Hemophilia
Medullar transplant
Final assessment test

Internal medicine

Course
Approaching patients with respiratory diseases.
Diagnostic procedures in respiratory diseases.
Acute tracheobronchitis. Pneumonia
Pneumonia
Hypersensitivity pneumonitis. Eosinophilic pneumonia
Chronic bronchitis. Emphysema and airway obstruction
Necrotizing lung infections. Bronchiectasis.
Asthma
Interstitial pulmonary diseases. Cystic fibrosis. Sarcoidosis

Pulmonary neoplasm
Pulmonary thromboembolism. Acute cor pulmonale
Pulmonary hypertension. Chronic cor pulmonale
Diseases of the pleura, mediastinum and diaphragm
Acute respiratory distress syndrome. Mechanic ventilation. Lung transplant
Final test from respiratory system

Seminar/laboratory
Approaching patients with respiratory diseases.
Diagnostic procedures in respiratory diseases.
Acute tracheobronchitis. Pneumonia
Pneumonia
Hypersensitivity pneumonitis. Eosinophilic pneumonia
Chronic bronchitis. Emphysema and airway obstruction
Necrotizing lung infections. Bronchiectasis.
Asthma
Interstitial pulmonary diseases. Cystic fibrosis. Sarcoidosis
Pulmonary neoplasm
Pulmonary thromboembolism. Acute cor pulmonale
Pulmonary hypertension. Chronic cor pulmonale
Diseases of the pleura, mediastinum and diaphragm
Acute respiratory distress syndrome. Mechanic ventilation. Lung transplant
Final test from respiratory system

Social Medicine, Public Health and Sanitary Management

Course
History. Generalities
Public health – purpose, objectives, methodology
Comparison between group and individual health analysis
Risk factors at community level - identification, specificity
Calculating relative risk and attributable risk
Incidence, prevalence of risk factors – ranking, multifactorial theory
Sanogenous factors and their importance
Blood culture. Periodical examinations, review tests, examinations, template in public health
Morbidity and classification of diseases. General morbidity. Types of classification. Indices
Chronic diseases – evaluation, analysis
Population research –public health issues

Descriptive analysis – in epidemiological surveys
Case-control studies at community level
Cohort studies in sanitary investigations
Sanitary education among the population – objectives, methods

Seminar/laboratory
History. Generalities
Public health – purpose, objectives, methodology
Comparison between group and individual health analysis
Risk factors at community level - identification, specificity
Calculating relative risk and attributable risk
Incidence, prevalence of risk factors – ranking, multifactorial theory
Sanogenous factors and their importance
Blood culture. Periodical examinations, review tests, examinations, template in public health
Morbidity and classification of diseases. General morbidity. Types of classification. Indices
Chronic diseases – evaluation, analysis
Population research –public health issues
Descriptive analysis – in epidemiological surveys
Case-control studies at community level
Cohort studies in sanitary investigations
Sanitary education among the population – objectives, methods

Otorhinolaryngology (ENT)

Course
RHINOLOGY : Anatomy – Physiology – Pathophysiology - ; Malformations ; Nasal foreign bodies; Catarrhal infections; Acute rhinitis
Chronic allergic rhinitis; Nasal polyps; Sinusitis ; Tumors of the nose and nostrils
PHARYNGOLOGY : Syndromes ; Malformations; Foreign bodies; Traumas ; Acute angina + complications; Angina in blood diseases; AIDS; Chronic angina; Tumors.
LARYNGOLOGY : Anatomy – Physiology; Syndromes; Malformations; Traumas; Foreign bodies; Laryngitis ; Motor disorders; Tumors.
OTOLOGY Anatomy – Physiology; Syndromes; Malformations; Traumas; Foreign bodies; Inflammatory conditions; Parasitic diseases; Catarrhal otitis media
Suppurated otitis media, complications, sequelae, Labyrinthine syndromes, Ototoxic labyrinthitis, Ménière's disease, SOHL, Otosclerosis, Presbycusis, Hearing loss in children
Ear tumors, Prosthesis, Tracheobronchial and esophageal pathology, Pathology of the salivary glands

Seminar/laboratory

RHINOLOGY : Anatomy – Physiology – Pathophysiology - ; Malformations ; Nasal foreign bodies; Catarrhal infections; Acute rhinitis

Chronic allergic rhinitis; Nasal polyps; Sinusitis ; Tumors of the nose and nostrils

PHARYNGOLOGY : Syndromes ; Malformations; Foreign bodies; Traumas ; Acute angina + complications; Angina in blood diseases; AIDS; Chronic angina; Tumors.

LARYNGOLOGY : Anatomy – Physiology; Syndromes; Malformations; Traumas; Foreign bodies; Laryngitis ; Motor disorders; Tumors.

OTOLOGY Anatomy – Physiology; Syndromes; Malformations; Traumas; Foreign bodies; Inflammatory conditions; Parasitic diseases; Catarrhal otitis media

Suppurated otitis media, complications, sequelae, Labyrinthine syndromes, Ototoxic labyrinthitis, Ménière's disease, SOHL, Otosclerosis, Presbycusis, Hearing loss in children

Ear tumors, Prosthesis, Tracheobronchial and esophageal pathology, Pathology of the salivary glands

Recapitulation

Pediatrics

Course

Notions de morphophysiology and semiology of the digestive system in children. Gastritis and gastroduodenal ulcer

Acute diarrheal disease. Acute dehydration syndrome

Malabsorption syndrome. Chronic abdominal pain. Parasitoses.

Chronic hepatitis and hepatic cirrhosis.

Rickets. Tetanus. Malnutrition.

Diabetes mellitus in children

Hematological particularities in childhood. Anemia.

Leukemia

Bleeding diathesis in children

Congenital immunodeficiencies. AIDS in children.

Acute articular rheumatism. Minor post-streptococcal syndrome

Juvenile rheumatoid arthritis. Systemic lupus erythematosus.

Acute poisoning. Drug abuse.

Intracranial hypertension syndrome. Acute cerebral edema.

Seizures. Coma in children.

Seminar/laboratory

Notions de morphophysiology and semiology of the digestive system in children. Gastritis and gastroduodenal ulcer
Acute diarrheal disease. Acute dehydration syndrome
Malabsorption syndrome. Chronic abdominal pain. Parasitoses.
Chronic hepatitis and hepatic cirrhosis.
Rickets. Tetanus. Malnutrition.
Diabetes mellitus in children
Hematological particularities in childhood. Anemia.
Leukemia
Bleeding diathesis in children
Congenital immunodeficiencies. AIDS in children.
Acute articular rheumatism. Minor post-streptococcal syndrome
Juvenile rheumatoid arthritis. Systemic lupus erythematosus.
Acute poisoning. Drug abuse.
Intracranial hypertension syndrome. Acute cerebral edema.
Seizures. Coma in children.

Clinical Training on Medical and Surgical Subjects

Seminar/laboratory/clinical training in pediatric sections
Presentation of section, data sheet, circuits
Examination of the digestive system, paraclinical investigations
Examination of the digestive system in children, paraclinical explorations
Positive and differential diagnosis in painful dyspeptic syndrome in children
Positive and differential diagnosis in respiratory infections in children
Positive and differential diagnosis in tumors in children
Positive and differential diagnosis in hepato-biliary diseases in children
Positive and differential diagnosis in respiratory failure in children
Positive and differential diagnosis in pancreatic diseases in children
Positive and differential diagnosis in intestinal diseases in children
Positive and differential diagnosis in cardiovascular diseases in children

6^{th} year

1^{st} semester

Infectious Diseases

Course

Importance of infectious diseases in medical practice. Progresses achieved in infectious pathology. The infectious process.

Etiology of infectious diseases. Pathogenesis of infectious diseases. Treatment of infectious diseases.

Defense mechanisms against infections. Immunity.

Manifestations of the infectious process. Diagnosis and treatment of infectious diseases.

Immunodepression. Immunization in infections.

Treatment of infections: non-specific, immunologic, symptomatic, pathogenic.

Antibiotics and chemotherapeutic drugs: classification, description, mechanisms of action, pharmacokinetics, microbial resistance to antibiotics.

Antibiotic therapy: basic rules in antibiotic therapy, clinical and laboratory control methods in managing anti-infectious therapy, antibiotic associations, causes of failure in antimicrobial therapy.

Special issues in antibiotic therapy: indications of antibiotics and chemotherapeutic drugs in pregnant women, particularities of antibiotic therapy in infants and children, antibiotic therapy in renal failure.

Prophylaxis with antibiotics and chemotherapeutic drugs. Adverse reactions to antibiotics and chemotherapeutic drugs.

Streptococcal infections. Streptococcal angina.

Scarlet fever. Erysipelas.

Staphylococcal infections.

Measles. Rubella.

Varicella. Zoster. Diphtheria.

Seminar/laboratory

Importance of infectious diseases in medical practice. Progresses achieved in infectious pathology. The infectious process.

Etiology of infectious diseases. Pathogenesis of infectious diseases. Treatment of infectious diseases.

Defense mechanisms against infections. Immunity.

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Treatment of infections: non-specific, immunologic, symptomatic, pathogenic.

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Special issues in antibiotic therapy: indications of antibiotics and chemotherapeutic drugs in pregnant women, particularities of antibiotic therapy in infants and children, antibiotic therapy in renal failure.
Prophylaxis with antibiotics and chemotherapeutic drugs. Adverse reactions to antibiotics and chemotherapeutic drugs.
Streptococcal infections. Streptococcal angina.
Scarlet fever. Erysipelas.
Staphylococcal infections.
Measles. Rubella.
Varicella. Zoster. Diphtheria.

Medical Deontology

Course
Ethics and its branches
Medical deontology
Definition of terms
Generalities
Rights and obligations of the patient (consent, confidentiality, information, medical care of the highest quality)
Legislation
Particular aspects: outpatient consultation, bribery
Malpractice
European patient rights
Acts contravening to medical deontology
Practical cases, discussions

Epidemiology

Course
Definition, purposes, fields of application, methods of study in epidemiology
Epidemiological investigations; fundamental concepts of medical statistics
General epidemiology. Determining and conditional factors of the epidemiological process
Manifestations of the epidemiological process, criteria and forms of manifestation
Epidemiology of airborne infectious diseases: measles, influenza
Chickenpox, mumps (epidemic parotitis), mononucleosis, atypical pneumonia
Streptococcal infections, scarlet fever, diphtheria, pertussis, meningitis
Poliomyelitis, Coxsackie and ECHO viral infections, rotavirus gastroenteritis
Viral hepatitis

Typhoid fever, bacillary dysentery
Food poisoning, cholera
Malaria, encephalitis, rickettsiosis, plague (vector-borne diseases)
Zoonoses: anthrax, rabies, brucellosis, leptospirosis
Hospital-acquired infections, HIV/AIDS infection

Seminar/laboratory
Definition, purposes, fields of application, methods of study in epidemiology
Epidemiological investigations; fundamental concepts of medical statistics
General epidemiology. Determining and conditional factors of the epidemiological process
Manifestations of the epidemiological process, criteria and forms of manifestation
Epidemiology of airborne infectious diseases: measles, influenza
Chickenpox, mumps (epidemic parotitis), mononucleosis, atypical pneumonia
Streptococcal infections, scarlet fever, diphtheria, pertussis, meningitis
Poliomyelitis, Coxsackie and ECHO viral infections, rotavirus gastroenteritis
Viral hepatitis
Typhoid fever, bacillary dysentery
Food poisoning, cholera
Malaria, encephalitis, rickettsiosis, plague (vector-borne diseases)
Zoonoses: anthrax, rabies, brucellosis, leptospirosis
Hospital-acquired infections, HIV/AIDS infection

Family Medicine

Course
FM definition, principles, role
FM methodology, competences, functions
Family, structure, need
Family health
Classification of a family according to competence
Family life cycle, young adult, marriage
The family extension stage
Newborn monitoring by the family physician
Family stage: young pupil
Family stage: adolescent
Family stage: middle-aged parents
Family stage: elderly people
Medical communication

Family planning

Seminar/laboratory
FM definition, principles, role
FM methodology, competences, functions
Family, structure, need
Family health
Classification of a family according to competence
Family life cycle, young adult, marriage
The family extension stage
Newborn monitoring by the family physician
Family stage: young pupil
Family stage: adolescent
Family stage: middle-aged parents
Family stage: elderly people
Medical communication
Family planning

Forensic Medicine

Course
Forensic Medicine: history, concerns; legislation and organization of forensic medicine, forensic medical report
Forensic thanatology
Sudden death
Forensic traumatology
Mechanical topographical traumatology
How mechanical trauma occurs: road accidents, hetero and self-aggression, fall and precipitation, traumas caused by firearms.
Battered child syndrome
Mechanical asphyxiation
Traumas caused by physical agents
Forensic toxicology
Traumatology of biological agents
Infanticide
Forensic sexology: rape, sexual pathology, aberrant sexuality
Forensic psychiatric expertise

Forensic serology – genetic expertise, forensic genetics – DNA profiling. Elements of medical deontology and liability

Seminar/laboratory

Tasks of the physician regarding patients with forensic pathology
How to correctly prepare medical documents
Forensic medical reports: classification, methodology
Forensic examination in case of hitting and bodily harm
Preparing a forensic medical report
Aspects regarding days for medical healthcare
Exemplification of forensic medical reports
Particular aspects of bodily harm – child abuse
Forensic medical examination in cases of sex crimes
Clinical examination and biological sampling to determine blood alcohol
Examining the person in case of drug use and biological sampling
Forensic medical autopsy technique
Death diagnosis. Signs of real death
Objectives of forensic medical expertise on a cadaver
Writing an autopsy report
Writing a medical death certificate
Autopsy case exemplifications
Forensic medical laboratory – pathological anatomy
Forensic medical laboratory – toxicology
Forensic medical laboratory – bioserology and forensic science
Medical malpractice

Obstetrics and Gynecology

Course

Anatomy and physiology of the female reproductive system.
Gametogenesis, embryogenesis, organogenesis
Pregnancy diagnosis. Pregnancy hygiene. Changes in the mother's body during pregnancy.
High obstetrical risk pregnancy. Fetal physiology. The on-term fetus from an obstetrical point of view.
Labor-starting mechanisms. The clinical examination of the pregnant woman in the delivery room.
The mechanism of birth in various presentations. Delivery. Maternal trauma.
Dystocic birth. Fetal obstetrical trauma.

Physiological and pathological postpartum period. Lactation. Gemellary pregnancy.
Premature birth. Premature rupture of membranes.
Post-term pregnancy. Feto-maternal isoimmunization.
Hemorrhages in the first and second half of the pregnancy.
Preeclampsia. Arterial hypertension in pregnancy.
Diabetes mellitus and pregnancy. Pregnancy-associated diseases.
Fetal distress. Intrauterine fetal demise. Explorations in obstetrics.

Seminar/laboratory
The pregnancy diagnosis. Monitoring a pregnant woman.
Case history and clinical examination for pregnant women, with case presentations (1).
Case history and clinical examination for pregnant women, with case presentations (2).
Case history, clinical examination and monitoring for puerperal women, with case presentations (1).
Case history, clinical examination and monitoring for puerperal women, with case presentations (2).
Hemorrhage in pregnancy, with case presentations.
Premature birth and premature rupture of membranes, with case presentations.
Pre-eclampsia and eclampsia, with case presentations.
Birth by cesarean section.
Dystocic birth.
Maternal and fetal obstetrical trauma.
Fetal distress. Intrauterine fetal demise.
Pregnancy-related diseases, with case presentations.
Case history and clinical examination for pregnant women, with case presentations (3).
Case history, clinical examination and monitoring for healthy puerperal women, with case presentations (3).

Psychiatry

Course
Psychiatry: generalities, definition, place within the general framework of medicine.
Particularities of the physician (psychiatrist) – patient relationship, methods, specific patient interviewing techniques
Signs and symptoms of mental disorders. Troubles of perception, memory, attention and concentration.
Special types of abnormal thinking (delusions, obsessions).
Thought flow disturbances (speed and volume).
Formal thought disturbances (thought association anomalies).

Changes in the nature of affectivity (anxiety, depression, euphoria, etc).

Abnormal changes in mood (apathy, blunted or flattened moods, mood swings, emotional incontinence, discordant affective dissociation).

Phobias.

Depersonalization and derealization.

Motor symptoms and signs (tics, mannerisms, stereotypes, posture, ambitendency, waxy flexibility), negativism.

Body scheme disorders (phantom limb, unawareness and unilateral neglect, hemiasomatognosia, anosognosia, autotopagnosia, size and shape awareness perpetuation, reduplication phenomenon, cenestopathic states).

Awareness disorders (coma, sopor, obtundation, stupor, confusion, torpor).

Illness awareness.

Classification of psychiatric disorders.

The concept of mental illness.

Personality disorders (the concept of abnormal personality, classification of abnormal personalities); clinical features of certain types of abnormal personalities: histrionic personality, affective paranoid personality (dysthymic personality), antisocial schizoid personality, borderline personality, impulsive personality; prognosis and management of treatment for personality disorders.

Neuroses (terminology, classification, etiology, treatment management).

Anxiety disorders (clinical features, positive and differential diagnosis, treatment).

Phobic anxiety disorders (classification: simple phobia, social phobia, agoraphobia; clinical features, positive and differential diagnosis, etiology, treatment).

Panic attacks (clinical features, positive and differential diagnosis, etiology, progression, prognosis, treatment).

Obsessive-compulsive disorder (clinical features, positive and differential diagnosis, epidemiology, etiology, drug treatment and psychotherapy).

Conversion and dissociative disorders (clinical features, positive and differential diagnosis, etiology, prognosis, treatment).

Affective disorders.

Depressive syndrome (clinical features, classification: severe depressive disorder, agitated depression, inhibited depression, mild depressive disorder).

Manic syndrome (positive and differential diagnosis, etiology of the affective disorder, progression and prognosis).

Treatment of affective disorders (drugs and antidepressants, lithium, carbamazepine, electroconvulsive therapy, psychotherapy).

Suicide.

Schizophrenia and schizophrenia spectrum disorders (clinical features, positive diagnosis, diagnosis criteria, types of schizophrenia, differential diagnosis, etiology, progression, prognosis).

Treatment of schizophrenia, treatment management (antipsychotic treatment, etc.), psychotherapy, paranoid symptoms and syndromes (paranoid symptoms, classification, historical aspects, special paranoid states, progression and prognosis, treatment).

Organic psychiatry.

Psycho-organic syndromes; definition, classification, clinical features, progression, prognosis, treatment.

Dementia: clinical features, etiology, evaluation (special investigations, cranial radiography, CT, EEG, psychological testing), differential diagnosis, treatment management.

Alcohol and drug abuse.

Classification, definitions, alcohol addiction syndrome, epidemiological aspects of alcohol abuse, recognizing a drinker, his/her problem and treatment, alcohol addiction relapse.

Recapitulation.

Seminar/laboratory

Particularities of clinical examination in psychiatric patients (case presentation). Preparing a clinical observation sheet. Clinical examination.

Psychological examination of current state. Integration of explorations by apparatuses and systems into the psychiatric clinical examination. Interview with the patient.

Particularities of clinical examination in patients with motivational-affective disorders. Interview with the patient.

Particularities of clinical examination in organic psychological disorders: dementia, organic amnestic syndrome, delirium, organic hallucinosis, organic affective disorder, organic cognitive disorder, organic personality disorder. Interview with the patient.

Particularities of clinical examination in psychological disorders due to psychoactive substances: alcohol, drugs, volatile solvents. Interview with the patient.

Interview with the patient. Case presentation.

Particularities of clinical examination in schizophrenia and schizopathic and delirious disorders. Interview with the patient.

Particularities of clinical examination in affective disorders, maniacal episode, depressive episode, bipolar affective disorder and recurrent depressive disorder. Interview with the patient.

Particularities of clinical examination in stress-related and somatoform neurotic disorders, phobic and anxious disorders, obsessive-compulsive disorders, post-traumatic stress reaction, adjustment disorders, dissociative disorders. Interview with the patient.

Particularities of clinical examination in personality disorders. Interview with the patient.

Particularities of clinical examination in eating disorders and non-organic sleep disorders. Interview with the patient.
Interview with the patient. Case presentation.
Intervention procedures in psychiatric emergencies; practical elements of the competence of forensic psychiatric expertise. Interview with the patient.
Interview with the patient. Case presentation.
Recapitulation

Clinical Training in Emergency Services

Seminar/laboratory/clinical training in obstetric and gynecological emergency services
Examination of the female reproductive system, paraclinical investigations
Contraception, principles and methods
Diagnosis in vascular emergencies, HTN
Positive and differential diagnosis in gynecologic acute abdominal pain
Diagnosis, management of hemorrhages in pregnancy, birth and puerperium, abortion
Diagnosis and management in normal pregnancy
Diagnosis and management in emergencies in pathological pregnancy
Diagnostic and management in pre-eclampsia
Screening and early diagnosis in cervical cancer
Diagnosis and management in emergencies – ectopic pregnancy

2nd Semester

AIC and Emergency Medicine

Course
Pain: pathophysiology of pain, treatment . Goals of anesthesia
Shock. Pathophysiology.
Clinical forms of shock. General treatment principles.
Pathophysiology and pharmacology of the autonomic nervous system
Acid-base and hydro-electrolytic equilibrium.
The cardio-respiratory system.
Cardiovascular emergencies: diagnosis and treatment.
Respiratory failure. Renal failure.
Digestive failure. The coagulolytic system. Blood transfusion. The emergency attitude.
Polytraumas. First aid. Surveillance during transportation
Surgical acute abdomen. Positive and differential diagnosis. Emergency therapeutic attitude.
Burns. Emergency treatments.

Poisonings. Diagnosis. Emergency treatments.
Comas. Diagnosis, etiology and emergency treatment.
Monitoring patients in medico – surgical emergencies.

Seminar/laboratory
Medical ambulance. Organization of activity. Equipment
Surgical ambulance. Organization of activity. Equipment
Peripheral and central venous access
Tracheal intubation, cricothyrotomy, tracheostomy
Cardiorespiratory arrest. Exercises on a mannequin. Discussions
Perfusable solutions
Hydro-electrolytic and acido-basic re-balancing. Calculation of basal requirements. Correction formulas
Anesthesia techniques
Monitoring in cardiovascular, respiratory, renal, neurological emergency
Installing tubes: urinary, nasogastric. Gastric lavage. Enemas
Determination of blood type
Substances utilized in anesthesia
Pre-anesthetic and post-anesthetic examination
Recapitulation

Balneophysiotherapy and Medical Rehabilitation

Course
Classification and content of balneo-physiotherapy branches and mechanisms of action.
Peloidotherapy. Classification, physical and chemical properties, action, indications and contraindications.
Climatotherapy. Classification, action, indications. Acclimatization, meteosensitivity, reactionary types.
General balneology. Preconditions and classification of mineral waters. Physical factors, chemical composition.
Action of mineral waters in external and internal treatments. Indications, spas, contraindications.
Hydro-thermotherapy. Classification, action of cold/hot procedures, paraffin pack.
Electrotherapy. Low-frequency currents. Physical properties, physiological and biological effects, forms and mode of application.
Low-frequency electromagnetic currents and medium-frequency (interferential) currents
High-frequency currents. Physiological action, devices, indications, contraindications.

Ultrasound therapy. Physical properties, biological actions, rules of application, indications and contraindications.
Phototherapy and actinotherapy. Physical, chemical, biological and physiological action. Devices, indications, contraindications.
Manual massage and forms of massage. Definition, action, techniques, indications, contraindications.
Kinesiotherapy. Classification, general techniques, indications, contraindications.
Respiratory, cardiovascular, posttraumatic, neurological rehabilitation methods.
Rehabilitation methods in rheumatic diseases.

Seminar/laboratory
Low-frequency electrotherapy equipment. Ionization, galvanization, galvanic baths, galvanic massage.
Low-frequency impulse currents. Diadynamic currents, Träbert, Leduc, exponential, TENS, neo-faradic.
Magnetic therapy. Equipment, action, indications, contraindications.
Short waves. Description of equipment, application. Indications, contraindications.
Ultrasound - therapeutic application, ultrasonophoresis, dosage. Indications, contraindications.
Hydrotherapy. Classification of baths according to temperature, baths with chemical ingredients, kinetic showers and bats.
Heat therapy. Classification, paraffin/mud wraps. Indications, contraindications.
Classic manual massage. Application time points, forms. Indications, contraindications.
Kinesiotherapy. Objectives, classification, action.
General kinesiotherapy technique. Physical exercise.
Evaluation methods in kinesiotherapy.
Articular examination. Generalities and application according to joint (goniometry).
Muscular examination. Evaluation method and practical applicability.
Kinesiotherapy techniques applied to neurological conditions. Bobath, Kabat.
Special kinesiotherapy methods. Mechanotherapy.

Infectious Diseases

Course
Influenza and other respiratory viroses.
Mumps. Infectious mononucleosis.
Bacterial meningitis, viral meningitis. Meningococcal infection.
Acute, infectious, post-infectious and post-vaccine encephalitis. Rabies.
Pertussis (whooping cough). Infectious pneumonia.
Poliomyelitis and other paralytic neuroviroses.

Acute digestive infections. Enterocolitis. Food poisoning.
Bacillary dysentery. Botulism.
Acute viral hepatitis. Trichinosis.
Acute viral hepatitis A, C, D, E.
Acute viral hepatitis type B.
Septicemia. Septic shock. Leptospirosis. Brucellosis. Rickettsiosis.
Tetanus. Anthrax.
HIV infection, natural history, epidemiology, screening methods and diagnosis.
HIV infection, opportunistic infections and neoplasms, structure of antiretroviral treatment, resistance to antiretroviral drugs. Attitude in case of exposure to the risk of HIV infection.

Seminar/laboratory
Influenza and other respiratory viroses.
Mumps. Infectious mononucleosis.
Bacterial meningitis, viral meningitis. Meningococcal infection.
Acute, infectious, post-infectious and post-vaccine encephalitis. Rabies.
Pertussis (whooping cough). Infectious pneumonia.
Poliomyelitis and other paralytic neuroviroses.
Acute digestive infections. Enterocolitis. Food poisoning.
Bacillary dysentery. Botulism.
Acute viral hepatitis. Trichinosis.
Acute viral hepatitis A, C, D, E.
Acute viral hepatitis type B.
Septicemia. Septic shock. Leptospirosis. Brucellosis. Rickettsiosis.
Tetanus. Anthrax.
HIV infection, natural history, epidemiology, screening methods and diagnosis.
HIV infection, opportunistic infections and neoplasms, structure of antiretroviral treatment, resistance to antiretroviral drugs. Attitude in case of exposure to the risk of HIV infection.

Dermatology

Course
Anatomy, physiology - Notions of histopathology
Semiology
Animal parasitic dermatoses
Mycotic dermatoses
Microbial dermatoses + Cutaneous tuberculosis
Viral dermatoses

Allergic dermatoses
Occupational dermatoses
Collagenoses
Bullous dermatoses
Erythematosquamous dermatoses
Tumors - Neoplastic (including pre-cancerous) processes
Seborrheic syndrome, rosacea
Syphilis
Gonorrhea, non-specific urethritis
Vascular complex of the calf
Monitoring patients in medico-surgical emergencies.

Seminar/laboratory
Elementary lesions – semiology
Typical dermatological medication
Dermatomycosis - Case presentations and discussions
Pyodermitis – discussions
Viral dermatosis – case presentation and discussions
Allergic dermatosis – discussions
Autoimmune cutaneous manifestations – discussions
Bullous dermatosis – case presentations and discussions
Erythemato-squamous dermatoses – discussions and case presentations
Cutaneous manifestations of chronic venous insufficiency – discussions and case presentations
Skin tumors (including precancerous) - discussions
Syphilis - clinical manifestations
Gonococcal infection and non-gonococcal urethritis
Anti-venereal education
Atlas with pathology that is absent in the section

Family Medicine

Course
Consultation in FM practice. Particularities: Addressing a clinical case
Particularities of symptomatic treatment. Treatment in different symptoms
Diagnostic and treatment algorithm in the most common respiratory diseases in FM practice
Diagnostic and treatment algorithm in the most common cardiovascular diseases in FM practice
Diagnostic and treatment algorithm in the most common digestive diseases in FM practice
Diagnostic and treatment algorithm in the most common rheumatologic diseases in FM practice

Diagnostic and treatment algorithm in the most common hematological diseases in FM practice
Diagnostic and treatment algorithm in the most common renal diseases in FM practice
Diagnostic and treatment algorithm in the most common neurological diseases in FM practice
Mental health in the practice of family physicians
Pre-hospital emergencies in orthopedics and traumatology
Surgical acute abdomen– diagnosis and pre-hospital treatment
Guidelines for monitoring pregnant women and infants
Smoking, excessive alcohol consumption, drug use

Seminar/laboratory
Consultation in FM practice. Particularities: Addressing a clinical case
Particularities of symptomatic treatment. Treatment in different symptoms
Diagnostic and treatment algorithm in the most common respiratory diseases in FM practice
Diagnostic and treatment algorithm in the most common cardiovascular diseases in FM practice
Diagnostic and treatment algorithm in the most common digestive diseases in FM practice
Diagnostic and treatment algorithm in the most common rheumatologic diseases in FM practice
Diagnostic and treatment algorithm in the most common hematological diseases in FM practice
Diagnostic and treatment algorithm in the most common renal diseases in FM practice
Diagnostic and treatment algorithm in the most common neurological diseases in FM practice
Mental health in the practice of family physicians
Pre-hospital emergencies in orthopedics and traumatology
Surgical acute abdomen– diagnosis and pre-hospital treatment
Guidelines for monitoring pregnant women and infants
Smoking, excessive alcohol consumption, drug use

Obstetrics and Gynecology

Course
Gynecological observation sheet.
Paraclinical investigations in gynecology (1).
Paraclinical investigations in gynecology (2).
Physiological stages of female reproductive life.
Menstrual flow disorders.
Vulvovaginitis.
Cervix pathology.
Uterine corpus pathology.
Ovarian pathology.

Uterine statics disorders: genital prolapse; effort urinary incontinence.
Pelvic inflammatory disease. Genital tuberculosis. Endometriosis.
Benign and malignant breast pathology.
Female sterility and infertility.
Contraception and family planning (1).

Seminar/laboratory
Case history and objective examination in gynecology, with case presentations (1).
Case history and objective examination in gynecology, with case presentations (2).
Physiological phases of female reproductive life.
Menstrual flow disorders, with case presentations (1).
Menstrual flow disorders, with case presentations (2).
Vulvovaginitis with case presentations.
Pathology of the corpus uteri, with case presentations (1).
Pathology of the corpus uteri, with case presentations (2).
Pathology of the cervix, with case presentations.
Ovarian pathology, with case presentations (1).
Ovarian pathology, with case presentations (2).
Pelvic inflammatory disease, genital tuberculosis, endometriosis, with case presentations.
Uterine static disorders: genital prolapse; effort-related urinary incontinence, with case presentations.
Benign and malignant breast pathology, with case presentations.
Female sterility and infertility, with case presentations.

Clinical Training in Emergency Services

Seminar/laboratory/clinical training in obstetric and gynecological emergency services
Presentation of section, data sheet, circuits
Examination of the respiratory system, paraclinical investigations
Examination of the cardiovascular system, paraclinical explorations
Diagnosis in vascular emergencies, HTN
Positive and differential diagnosis in pneumonia, pulmonary condensation syndrome, acute respiratory failure
Diagnosis and management in syncope, shock
Diagnosis and management in cardiovascular emergencies, cardiogenic shock
Diagnosis and management in emergencies in dehydration syndrome

Diagnosis and management in emergencies in children
Diagnosis and management in poisonings
Diagnosis and management in emergencies in pleuropericardic diseases