



Faculty of Medicine, Damascus University

Curriculum Syllabus

"" 2014 / 2015 ""



Curriculum Syllabus
Faculty of Medicine, Damascus University
First Year

<u>First Semester</u>	<u>Second Semester</u>
<ol style="list-style-type: none"> 1. Cytology. 2. Biology. 3. Medical Physics. 4. Arabic Language. 5. Foreign Language (1). 	<ol style="list-style-type: none"> 1. Genetics. 2. Medical Embryology. 3. Anatomy (1). 4. General & Organic Chemistry. 5. National Socialist Culture. 6. Foreign Language (2).

First Year - First Semester

<p><u>1 – Cytology:</u></p> <ol style="list-style-type: none"> 1. Methods of cell study 2. Tools of cell study 3. Chemical composition of cell. 4. Basic concepts in cytology, prokaryote and eukaryote. 5. Cytoskeleton: actin & myosin filaments, intermediate filaments, microtubules. 6. Cell envelope. 7. Cell membrane specializations. 8. Cells connections: tight & gap junctions, desmosomes, junctional complex. 9. Cell center: centrosome function & composition. 10. Cilia. 11. Endoplasmic reticulum. 12. Ribosomes. 13. Golgi apparatus. 14. Mitochondria. 15. Lysosomes. 	<ol style="list-style-type: none"> 16. Peroxisomes. 17. Interphase nucleus: main properties, nuclear envelope (nuclear laminae, nuclear pores), function, chemical composition & chromatin. 18. Nucleolus: structure, chemical composition, function & morphological changes, cancer cells nucleolus.
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<p><u>2 – Biology:</u></p> <ol style="list-style-type: none">1. Prokaryote cell.2. Properties of biological matter.3. Cell division.4. Cells differentiation.5. Cloning.6. Matrix.7. Stem cells (fetal & adult).8. Biological matter components.9. Cellular metabolism & energy replacement10. Male reproductive system.11. Female reproductive system.12. Maturation and puberty.	<p><u>3 – Medical Physics:</u></p> <ol style="list-style-type: none">1. Introduction to physics & human body exploration.2. Electromagnetic waves & modern physics:<ul style="list-style-type: none">– Introduction & basic principles.– Atom structure & properties.– Nucleus structure & properties.– Thermal (infrared) radiation & black body radiation.– Radiation units & biological effects.– Laser & fibre optics.3. Liquids mechanics & mechanical waves:<ul style="list-style-type: none">– Fluid mechanics.– Blood circulation physical principles.– Sound waves & their properties.– Audible sound waves & infrasonic waves.– Ultrasonic waves, echography & lithotripsy.4. Electricity & magnetism:<ul style="list-style-type: none">– Electric & magnetic field.– Magnetic properties of matter.– Magnetic resonance.– Superconductors, quantal aspects of magnetic field.
<p><u>4 – Arabic Language</u></p>	<p><u>5 – Foreign Language (1)</u></p>



First Year - Second Semester

1 – Genetics

1. Genetics concept & history.
2. Human genome, gene composition and expression.
3. Genetic transcription, translation & regulation.
4. Genomics methodologies.
5. Current situation of the human genome.
6. Monogenetic inheritance modules.
7. Genetic expression aspects & non-traditional models of monogenetic inheritance.
8. Genes & population.
9. Tests in clinical genetics.
10. Cytogenetic tests.
11. Chromosomal alteration & autosomal and sexual disturbances.
12. Sex determination, development and foetal changes with gonadal failure.
13. Sex-linked inheritance.
14. Autosomal dominant inheritance.
15. Autosomal recessive inheritance.
16. Polygenic & multifactorial inheritance.
17. Cancer.
18. Genes responsible for specific vital functions.
19. Prevention of genetic diseases & genetic counselling.
20. Genetic diseases & gene therapy.

2 – Medical Embryology:

1. Reproductive cycles.
2. Gametogenesis.
3. Embryonic development (1st week): fertilization & cleavage.
4. Embryonic development (2nd week): bilaminar embryonic disc.
5. Embryonic development (3rd week): trilaminar embryonic disc, gastrulation, primitive streak, notochord, neurula, allantois, chorionic villi, primitive cardiovascular system, somites & coelom.
6. Embryonic period (3rd – 8th week): embryonic folds, main embryo derms derivatives, embryonic development control.
7. Foetal period (9th week till pregnancy end): foetal development disturbances, intrauterine foetus, ultrasonography, amniocentesis & fetography.
8. Placenta & foetal membranes.
9. Congenital malformation: environmental factors, hormonal effects, malnutrition & hypoxia effects.
10. Body cavities: mesenteries & diaphragm, and malformation.
11. Respiratory system development.
12. Cardiovascular system development
13. Head & neck development.
14. Gastrointestinal system development.
15. Urogenital system development.



<p><u>3 – Anatomy (1) (Trunk & Extremities):</u></p> <ol style="list-style-type: none"> 1. Introduction to anatomy: anatomical position, anatomical axes & planes, skeletal system development, basics in bones, joints and muscles. 2. Skull bones: cranial bones, facial bones, cranium development & joints. 3. Upper limb: bones, joints, ligaments, muscles, fascias, arteries, veins, nerves, lymphatic drainage & clinical anatomy. 4. Lower limb: bones, joints, ligaments, muscles, fascias, arteries, veins, nerves, lymphatic drainage & clinical anatomy. 5. Vertebral column. 6. Thorax skeleton. 	<p><u>4 – General & Organic Chemistry:</u></p> <p>I. <u>General Chemistry:</u></p> <ol style="list-style-type: none"> 1. States & phases of matter. 2. Chemical equations. 3. Solutions. 4. Atom structure. 5. Periodic trends between metals. 6. Metals, non-metals & semimetals. 7. Chemical bonds. 8. Oxidation & reduction. 9. Chemical kinetics & equilibrium. <p>II. <u>Organic Chemistry:</u></p> <ol style="list-style-type: none"> 10. Functional groups. 11. Organic chemical reactions. 12. Saturated hydrocarbons. 13. Cyclic saturated hydrocarbons. 14. Unsaturated hydrocarbons. 15. Acetylenic hydrocarbons. 16. Aromatic hydrocarbons. 17. Isomerisation. 18. Halogenated hydrocarbons. 19. Alcohols & thiols. 20. Ethers & epoxides 21. Phenols. 22. Carbonic compounds (aldehydes & ketones). 23. Carboxylic acids & derivatives. 24. Amines. 25. Cyclic heterogeneous compounds.
<p><u>5 – Foreign Language (2)</u></p>	<p><u>6 – Social National Culture</u></p>



Curriculum Syllabus
Faculty of Medicine, Damascus University

Second Year

<u>First Semester</u>	<u>Second Semester</u>
<ol style="list-style-type: none"> 1. Physiology (1) 2. General histology 3. Anatomy (2) 4. Medical biochemistry (1) 5. Foreign language (3) 	<ol style="list-style-type: none"> 1. Physiology (2) 2. Medical biochemistry (2) 3. Systematic histology 4. Anatomy (3) 5. Foreign language (4)

Second Year - First Semester

<p><u>1- Physiology (1): (Heart, Circulation, Digestion, Respiration)</u></p> <ol style="list-style-type: none"> 1. Heart: <ol style="list-style-type: none"> I. Cardiac muscle & properties. II. Heart rhythm. III. Heart sounds. IV. Cardiac output. V. Electrocardiograph. 2. Circulation: <ol style="list-style-type: none"> I. Blood pressure. II. Specific circulations. 3. Blood: <ol style="list-style-type: none"> I. Red & white blood cells II. Immunity, Blood groups III. Platelets & Coagulation IV. Plasma 	<ol style="list-style-type: none"> 4. Digestion: <ol style="list-style-type: none"> I. Motor & Secretory functions of digestive system II. Absorption. III. Nutrition & vitamins. 5. Respiration: <ol style="list-style-type: none"> I. Respiratory tracts. II. Respiration process. III. Compliance. IV. Respiratory volumes & capacities V. Oxygen transport. VI. Oxygen dissociation curve. VII. Carbon dioxide transport. VIII. Ventilation control. IX. High altitude breathing. X. Depths breathing.
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2 – General Histology

1. General Histology Definition, basic tissue classification & principles.
2. Epithelial tissue.
3. Connective tissue.
4. Blood.
5. Cartilage tissue.
6. Bone tissue.
7. Muscle tissue.
8. Nervous tissue.
9. Nervous System: Central Nervous System, Spinal Cord, Cerebrum, Cerebellum, Meninges, Blood-brain Barrier, Cerebrospinal Fluid, Autonomic Nervous System, Sympathetic System, Parasympathetic System, Nerve Ganglia, Cranial and Spinal Ganglia, Autonomic Ganglia.
10. Endocrine system:
 - I. Pituitary gland.
 - II. Hypothalamic - pituitary axis.
 - III. Thyroid gland.
 - IV. Parathyroid glands.
 - V. Adrenal glands.

3 –Anatomy(2) (Head and Neck & The Nervous System and Senses):

I. Head & neck

1. Head and neck fascias and muscles.
2. Head and neck joints, temporo-mandibular joint, occipito-nuchal joint
3. Salivary glands.
4. Blood vessels.
5. Nerves.
6. Regions of head, neck and face.

II. CNS & Senses

7. Telencephalon.
8. Diencephalon, basal ganglia.
9. Ascending and descending tracts, White matter, functional divisions.
10. CNS Vasculature.
11. Autonomic nervous system.
12. Spinal cord.
13. Brain stem & cranial nerves.
14. Ventricular system & CSF fluid.
15. Meninges of brain and spinal cord.
16. Orbit and its components.
17. Ear.



<p><u>4 – Medical Biochemistry (1):</u></p> <ol style="list-style-type: none"> Biochemistry and Medicine. Water and pH. Amino acids. Peptides & proteins: composition, applications & physiological importance. Globins: hemoglobin & myoglobin. Carbohydrates: composition, applications & physiological importance. Lipids: composition, applications & physiological importance. Enzymes. Metals. Water & fat soluble vitamins. Hormones. Nucleic acids. 	<p><u>5 – Foreign Language (3)</u></p>
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Second Year - Second Semester

<p><u>1 – Physiology (2) (Nervous System, Endocrine Glands & Kidneys):</u></p> <ol style="list-style-type: none"> Physiology of the nervous system: the neuron & nervous tissue, synapses, sensory receptors & neural circuits, senses, visual system, auditory system, vestibular apparatus, olfaction, gustation, spinal reflexes, motion & posture control, basal ganglia, thalamus, cerebral cortex, brain activation, limbic system & behaviors, hypothalamus, cerebellum, autonomic nervous system. Physiology of muscles. Physiology of skeletal muscles. Physiology of cardiac muscle. Physiology of smooth muscle. Physiology of the endocrine glands. Physiology of kidneys & urinary system. Reproductive physiology (Male & Female reproductive system) 	<p><u>2 – Medical Biochemistry (2):</u></p> <ol style="list-style-type: none"> Energy metabolism, respiratory chain, biological oxidation. Krebs cycle. Carbohydrate metabolism, glycolysis, gluconeogenesis & glycogen metabolism, pentose phosphate pathway. Lipid metabolism, digestion absorption, transport, and storage, lipoproteins. Amino acids metabolism, anabolism and catabolism, conversion amino acids into specific products, urea & creatinine cycle. Nucleic acids metabolism, anabolism, and catabolism, catabolism products. Porphyrins, heme, biliary pigments. Plasma proteins. Xenobiotics metabolism.
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<p><u>3 – Systemic Histology:</u></p> <ol style="list-style-type: none"> 1. <u>Cardiovascular system</u>: general structure of the heart, lymph vessels, veins and arteries. 2. <u>Lymphatic tissue and lymphoid organs</u>: immune cells, classification, immune response & antigens, diffuse lymphatic tissue, lymphatic nodules & organs (tonsils, nodes, thymus, spleen). 3. <u>Digestive system</u>: oral cavity structure, tongue, teeth, salivary glands, pharynx, esophagus, stomach, intestine, cecum, appendix, rectum, anus, peritoneal cavity, mesentery & digestive system glands (liver, gall bladder & pancreas). 4. <u>Respiratory system</u>: extra and intra pulmonary airways, lung and alveoli, lymph, blood vessels, nerves, pleural membrane, local defense mechanism. 5. <u>Urinary system</u>: kidneys, urinary tracts, bladder, urethra. 6. <u>Male reproductive system</u>: testis, intra and extra testicular ducts, accessory glands (cooper, seminal vesicle, prostate), influencing factors, blood supply and innervations, penis, semen. 7. <u>Female reproductive system</u>: ovary structure and development, fallopian tube, uterus, vagina, vulva, placenta, umbilical cord, breast. 8. <u>Skin and its appendages</u>: skin structure, accessory glands, nails, hair, skin's blood supply, nerves and sensory role. 9. <u>Eye</u>: components & transparent structures, accessory structures, lacrimal apparatus. 10. <u>Ear</u>: external, middle, inner ear and innervation of the inner ear. 	<p><u>4 – Anatomy (3) (Thorax, Abdomen, Pelvis):</u></p> <ol style="list-style-type: none"> 1. Head and neck appendix: nose, paranasal sinuses. 2. Mouth, tongue and teeth. 3. Pharynx and larynx. 4. Thyroid gland, parathyroid gland, cervical trachea and esophagus. 5. Thorax: thoracic wall (muscles, vessels, innervation, joints and surface anatomy). 6. Mediastinum, esophagus, trachea and bronchi. 7. Pleura and lungs. 8. Pericardium and heart. 9. Thoracic vessels and nerves, thoracic duct. 10. Abdomen anatomy: anterior abdominal wall (surface anatomy, abdomen regions, anterior abdominal wall structure). 11. Abdominal cavity: esophagus, stomach, small and large intestine, liver, biliary system, spleen, kidneys, ureters, adrenal glands). 12. Posterior abdominal wall: abdominal aorta, inferior vena cava, lymphatic nodes, nerves, posterior wall muscles. 13. Pelvis: pelvic bones, joints, walls. 14. Blood vessels, nerves and lymphatic drainage. 15. Bladder, ureters and urethra. 16. Male reproductive system. 17. Female reproductive system. 18. Pelvic diaphragm and pelvic fascia. 19. Rectum and anal canal. 20. Perineal region and male and female external sexual organs.
	<p><u>5 – Foreign Language (4)</u></p>



Curriculum Syllabus
Faculty of Medicine, Damascus University

Third Year

<u>First Semester</u>	<u>Second Semester</u>
<ol style="list-style-type: none"> 1. Public Health 2. Medical Biostatistics 3. Pathophysiology 4. General Pharmacology 5. Microbiology (1) (Bacteriology & Virology) 6. Symptomology & Diagnosis 	<ol style="list-style-type: none"> 1. Immunology 2. Microbiology (2) (Parasitology, Mycology) 3. Clinical Chemistry 4. General Pathology 5. Surgery (1) (Introduction to Surgery) 6. Medical Ethics & Legislations

Third Year - First Semester

<p><u>1 – Public Health</u></p> <ol style="list-style-type: none"> 1. <u>General principles:</u> <ol style="list-style-type: none"> I. Definition of health and disease. II. Determinants of health and disease. III. Parameters of health and disease. 2. <u>Epidemiology:</u> <ol style="list-style-type: none"> I. Definition, importance & purposes. II. Concept of causation & main epidemiological models. III. Types of epidemiological designs. IV. Epidemics & methods of investigation V. Epidemiology of communicable diseases. VI. Screening & surveillance. 3. <u>Health management:</u> <ol style="list-style-type: none"> I. Physician and the science of health management II. Principals of health management 	<ol style="list-style-type: none"> III. Health planning. IV. Implementation. V. Health evaluation. VI. Health care systems. VII. Managing health programs and hospitals. 4. <u>Environmental health:</u> <ol style="list-style-type: none"> I. Environmental factors affecting health II. Water health. III. Air health. IV. Food health. V. Housing health. VI. Wastes disposal. VII. School health. VIII. Occupational health. IX. Other sectors and environmental health.
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2 – Medical Biostatistics:

I. Medical statistics:

1. Introduction to statistics & medicine.
2. Variables types & measurement scales
3. Methods of data gathering.
4. Methods of data presentation.
5. Methods of summarizing qualitative and quantitative data.
6. Relation between two variables
7. Data variation.
8. Populations & samples.
9. Probability & probability distribution.
10. Statistical inference & statistical hypothesis testing.
11. Means and ratios comparison.
12. Correlation and prediction.
13. Advanced statistical methods.

II. Biostatistics

1. Sources of health information: routine statistics
2. Sources of health information: health screenings.
3. Sources of measuring errors.
4. Population census and its methods.
5. Population dynamics.
6. Population and health indices.
7. Morbidity indices.
8. Mortality indices.
9. International classification of disease
10. Study designs and research methods
11. Ethics of research.
12. Medical records.
13. Use of computer in health and medical sciences.

3 – Pathophysiology:

1. Cardiovascular system pathophysiology: heart failure, myocardial infarction, arrhythmias, mitral stenosis & regurgitation, aortic stenosis & regurgitation, tricuspid stenosis and regurgitation, tetralogy of Fallot, systemic hypertension & hypotension.
2. Blood pathophysiology: anaemia, polycythaemia, white blood cells abnormalities, bleeding disorders.
3. Renal pathophysiology: acute renal failure, chronic renal failure, tubular disorders, urination abnormalities.
4. Respiratory system pathophysiology: pulmonary function tests, disorders of pulmonary ventilation, asthma, chronic emphysema, atelectasis, pulmonary embolism, acute respiratory failure.
5. Endocrine system pathophysiology: pituitary, thyroid, parathyroid, adrenal cortex, diabetes mellitus, over nutrition & obesity.
6. Nervous system pathophysiology: muscle tone & movement disorders, upper motor neuron lesion, lower motor neuron lesion, disorders of peripheral nerves & skeletal muscles, back pain & intervertebral disc damage, disorders of cerebellum & basal ganglia, spinal cord damage, altered brain function, brain infarction, transient brain infarction, convulsive disorders, dementia, Alzheimer's disease, Creutzfeldt- Jakob disease, Werincke- korsakoff syndrome, Huntigton's disease, altered pain sensation, neuralgia, alien limb, headache, migrane, cluster headache, tension headache, pain in older children and adults, pain in infants and younger children.



<p><u>4 – General Pharmacology:</u></p> <ol style="list-style-type: none"> 1. Basics, definitions, drug study stages, physiochemical properties study, experimental study(in animal), clinical study, pharmacology origin, classification & nomenclature of drugs. 2. Drugs mechanism of action(molecular level), general properties of molecules, necessary conditions for molecular interaction & its outcomes. 3. Drugs & messengers, intercellular signaling, receptors, synapses. 4. Pharmacokinetics: principal aspects, drug plasmic concentration according to method of administration, drug transport modethrougha membrane drug administration modes, distribution in an organism, biotransformation, excretion, & dosage, relationship between drug dose & pharmacological effect. 5. General characteristics of pharmacological effects: due to single or repetitive drug usage, due to multiple drugs usage, drugs interactions, side effects, toxic effects. 6. Drugs & autonomic nervous system 7. Drugs & hormones: hypothalamic & pituitary hormones, sexual hormones & inhibitors, adrenal cortex, thyroid & parathyroid hormones. 8. Drugs & the central nervous system. 9. Antimicrobial agents. 	<p><u>5 – Microbiology (1)</u> <u>(Bacteriology & Virology):</u></p> <ol style="list-style-type: none"> 1. <u>Basics in microbiology:</u> bacteria structure, metabolism, growth, & genetics, relationship between bacteria & host, bacterial pathogenicity, body defenses against bacteria, laboratory diagnosis, disinfection & sterilization, antibiotics. 2. <u>Cocci:</u> (gram +ive cocci) staphylococci, streptococci, pneumococci, (gram -ive cocci) neisseria. 3. <u>Bacilli:</u> (gram +ive bacilli) bacillus anthracis, corynebacterium diphtheriae, listeria, (gram -ive bacilli) enterobacteriaceae, Escherichia, klebsiella, serratia, hafnia, shigella, proteus, morganela, salmonella, yersinia, pseudomonas, pasteurella, brucella, haemophilus, bordetella, moraxella, acinetobacter, legionella, campylobacter, vibrio. 4. <u>Mycobacterium:</u> tuberculosis, bovis, leprae. 5. <u>Clostridium:</u> tetani, botulinum. 6. <u>Spirochetes:</u> treponema, borrelia, leptospira. 7. Mycoplasma, rickettesia, coxiella, chlamydiae. 8. <u>Virology:</u> basics in virology, viral structure,, replication, pathogenicity, viral infection diagnosis, & resolution. 9. Medical virology.
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6 - Symptomatology & Diagnosis:	
<p>1. <u>History taking & Physical examination basics</u>: first impression, main signs, face, jaundice, cyanosis, central cyanosis, pallor, hair, weight, hydration, hands, nails, temperature, types of fever, patient preparing for examination, past medical history.</p> <p>2. <u>Cardiovascular system</u>: history & clinical examination, heart sounds, ECG, cardiac pain, dyspnea, edema, syncope, cough, fatigue, cyanosis, intermittent claudication.</p> <p>3. <u>Respiratory system</u>: history & clinical examination, cough & sputum, dyspnea, wheezing, chest pain, flapping tremor, pulmonary function tests.</p> <p>4. <u>Gastrointestinal tract</u>: history & clinical examination, appetite disorder, halitosis, thirst & mouth dryness, drooling, dyspepsia, vertigo & vomiting, heartburn, hiccup, belching, esophageal pain, flatulence, diarrhea, constipation, gastrointestinal bleeding, abdominal pain, ascites, hepatomegaly, splenomegaly, jaundice.</p> <p>5. <u>Kidney disease</u>: history & clinical examination, urinalysis, proteinuria, glucosuria, hematuria, polyuria.</p> <p>6. <u>Hematologic diseases</u>: history & clinical examination, lymph nodes,</p>	<p>examination, anemia, pancytopenia blood smear.</p> <p>7. <u>Rheumatologic diseases</u>: history & clinical examination, monoarthritis, oligoarthritis, polyarthritis, back pain, limb pain, tendonitis.</p> <p>8. <u>Endocrine system</u>: history & clinical examination, appetite & weight changes, diaphoresis, hair distribution alterations, skin changes, hyperpigmentation, impotence, menstrual changes, gynecomastia.</p> <p>9. <u>Nervous system</u>: history & clinical examination, headache, vertigo, hearing & vision disorders, walking disorder, tremor & involuntary movements, speech & mental state, dysarthria, dysphonia, dysphasia, function of temporal lobe & parietal lobe, examination and disorders of the cranial nerves, spinal cord compression, muscle weakness, level of consciousness, Glasgow coma score.</p> <p>10. <u>Psychiatry</u>: history taking, psychiatry questions, psychiatric state examination, mental state exam, personal history, family history, psychiatric disease screening questions, psychiatric symptoms.</p> <p>11. <u>Infectious diseases</u>: history & clinical examination, fever & its patterns.</p>



Third Year - Second Semester

<p><u>1- Immunology:</u></p> <ol style="list-style-type: none"> 1. Immune system overview: main components &, normal immune response. 2. Cellular basis of immunity: primary & secondary lymphoid organs, various immune cells. 3. Immune system molecules: antibodies, immunoglobulins, major histocompatibility complex, T-cell receptors, adhesion molecules, accessory molecules, complement, cytokines. 4. Immune response regulation: development & maturation, antigen presentation mechanisms, molecular basis of T-cell & B-cell activation, effector mechanisms of lymphocytes and phagocytes, immune response regulation. 5. Immunity & disease states: immune response to bacterial, viral, parasitic infections, immunodeficiency, hypersensitivity, autoimmunity, organ transplantation immunity, cancer immunity 	<p><u>2- Microbiology (2) (Parasitology, Mycology):</u></p> <ol style="list-style-type: none"> 1. Introduction to parasitology & mycology. 2. Basics & parasite-hostrelation. 3. <u>Helminthes & Protozoa:</u> flat worms, trematodes (liver, intestinal & lung flukes), schistosomes, cestodes (tapeworms), diphyllbothrium latum, hymenolepis, dipylidiasis, taenia, echinococcus, nematodes (roundworms), intestinal nematodes, trichinella. plasmodium, toxoplasma, leishmania, amebas, giardia, trichomonas, balantidium, human coccidiosis, pneumocystis. 4. <u>Mycology:</u> Candida, Cryptococcus, pityriasis versicolor, dermatophytes, aspergillus, tropical fungi, mycetoma. 5. <u>Medical entomology:</u> introduction, insects, pediculus, fleas, glossina, myiasis, sarcophagidae, tabanidae, mosquito, phlebotomus, simulium.
<p><u>3- Clinical Chemistry:</u></p> <ol style="list-style-type: none"> 1. chemical tests principals & results interpretation. 2. Plasma proteins & enzymes. 3. Lipids & lipoproteins disorders. 4. Carbohydrate metabolism disorders. 5. Disorders of iron & porphyrins metabolism 6. Disorders of purines metabolism. 7. Diseases of the nervous system 8. Diseases of liver. 9. Endocrine disorders. 10. Kidney & electrolyte balance disorders. 11. Calcium metabolism disorders 12. Clinical biochemistry in special cases (senile, childhood). 	<p><u>4- General Pathology:</u></p> <ol style="list-style-type: none"> 1. Introduction to pathology. 2. Cellular damage, adaptation and death. 3. Inflammation, phagocytosis, killing, 4. Chemical intermediates & cytokines. 5. Healing and repair, bone fractures repair. 6. Infectious diseases: tuberculosis, syphilis, leprosy 7. sarcoidosis. 8. Oncology, pathogenicity, carcinogenesis, & clinical manifestations. 9. Carcinogenesis cellular & molecular events 10. increased vascular permeability, hyperemia, congestion, coagulation. 11. Diseases & tumors of childhood. 12. Genetic and chromosomal disorders. 13. Inclusions, pigmentations & amyloidosis.



<u>5- Surgery (1) (Introduction to Surgery):</u>	<u>6- Medical Ethics & Legislations:</u>
<ol style="list-style-type: none"> 1. Vital signs checking. 2. Clinical examination from surgical perspective: general, cardiothoracic surgery, neurosurgery, urology & orthopedic surgery. 3. Disinfection and sterilization 4. Surgical investigations: <ul style="list-style-type: none"> – <u>Cardiothoracic surgery investigations:</u> thoracocentesis, pericardiocentesis chest drain, emergency tracheotomy – <u>General surgery investigations:</u> upper gastrointestinal endoscopy, abdominocentesis, enema & biopsies. – <u>Neurosurgery investigations:</u> Lumbar puncture. – <u>Urology investigations:</u> Bladder catheterization and cystocentesis 5. Drug administration via injection: <ul style="list-style-type: none"> – Intramuscular, intravenous, subcutaneous & intradermal. – Phlebotomy. – Types of venous catheters. 6. Main surgical instruments. 7. Types of surgical threads & surgical suturing. 8. Wound approach. 9. Casts, scarves, cloth & pressing bands. 10. First aid for arterial and venous bleedings, physician duties towards a bleeding patient. 11. Bandages: <ul style="list-style-type: none"> – Clean wounds and open wounds. – Burns. 	<ol style="list-style-type: none"> 1. General principals: <ol style="list-style-type: none"> I. General ethical principles. II. Medical ethics related documents. III. Physician- patient relationship. IV. Medical recommendation. 2. Medical ethics in certain groups (children, handicapped). 3. Medical technology & medical ethics: <ol style="list-style-type: none"> I. Cloning & stem cell research. II. Contraception, abortion. III. Sterilization, surrogate mother. IV. Organ transplantation. V. Life, ICU & caring for the dying. VI. Treatment cessation DNR & death. VII. Suicide & euthanasia. VIII. Religious beliefs ethical issues. 4. relationship between physicians: <ol style="list-style-type: none"> I. Sexual- verbal- psychological abuse between physicians. II. Colleague reporting- ethical issues III. Relationship between members of the health profession. 5. Medical research ethics & ethical committees. 6. History of medicine. 7. Ethical consult. 8. Medical legislations: professional behavior code, planning, evaluation & change in medical practice, health economics & scarce resources allocation, medicine, health & legislation, legal aspects of health care, civil and criminal issues, prohibition based laws, damage measuring scale, felony law, contractual law, informed consent, patient's rights, allowing of care, Syrian medical legislations, continuous medical learning as a legislation, alternative medicine issues.



Curriculum Syllabus
Faculty of Medicine, Damascus University

Fourth Year

<u>First Semester</u>	<u>Second Semester</u>
<ol style="list-style-type: none"> 1. Systemic Pathology. 2. Otolaryngology (ENT). 3. Internal Medicine (1). (Rheumatology & Gastroenterology) 4. Surgery (2) (General & Abdominal Surgery). 5. Pediatrics (1). 6. Dermatology & Venereal Diseases. 	<ol style="list-style-type: none"> 1. Forensic Medicine. 2. Internal Medicine (2) (Cardiovascular & pulmonary diseases). 3. Surgery (3) (Cardiovascular & Chest Surgery). 4. Pediatrics (2). 5. Obstetrics.

Fourth Year - First Semester

<p><u>1 – Systemic Pathology:</u></p> <ol style="list-style-type: none"> 1. Gastrointestinal tract pathology. 2. Liver, biliary tracts & pancreas pathology. 3. Congenital heart defects, venous lesions, angiomas, inflammatory heart diseases, endocardium lesions & heart tumors. 4. Lung lesions, pneumoconiosis. 5. Small & large cell lung cancer. 6. Breast pathology. 7. Pituitary, adrenal glands, thyroid & parathyroid lesions, diabetes mellitus. 8. Lymphomas, hemopoietic tissue, leukemias & myeloproliferative diseases. 9. Central & peripheral nervous system. 10. Soft tissues, skin & oromucosa. 11. Renal & urinary tracts pathology. 12. Male & female reproductive pathology 13. Bones and joints pathology. 	<p><u>2 – Otolaryngology (ENT):</u></p> <ol style="list-style-type: none"> 1. History, clinical examination & investigations in ENT. 2. Mouth, tonsils, adenoids & pharynx diseases. 3. Salivary glands diseases. 4. Larynx diseases. 5. Neck diseases. 6. Thyroid diseases. 7. Dysphagia and esophageal diseases. 8. Ear diseases. 9. Nasal and nasopharyngeal diseases. 10. Paranasal sinuses diseases. 11. ENT manifestations of AIDS. 12. Therapeutic procedures in ENT. 13. Pharmacology in ENT. 14. Glossary of common terms in ENT practice.
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3 – Internal Medicine (1)

Rheumatology & Gastroenterology:

- I. Digestive system diseases: epidemiology, pathophysiology, diagnosis, laboratory, radiological investigations & treatment in:
 1. Esophageal diseases.
 2. Stomach diseases.
 3. Small intestine & Colon disease
 4. Anus diseases.
 5. Pancreas diseases.
 6. Liver diseases, liver and medication, liver and pregnancy.
 7. Biliary tracts diseases.
 8. Peritoneal diseases.
- II. Joints and bones diseases: epidemiology, pathophysiology, diagnosis, laboratory, radiological investigations & treatment in:
 1. Osteoarthritis & rheumatoid arthritis.
 2. Systemic lupus erythematosus.
 3. Systemic scleroderma.
 4. Sjogren's syndrome.
 5. Polymyositis.
 6. Vasculitis.
 7. Sepsis related arthritis.
 8. Rheumatic fever.
 9. Low back pain.
 10. Reactive arthritis & reiter's syndrome.
 11. Ankylosing spondylitis & psoriatic arthritis
 12. Spondylopathy and arthropathy in inflammatory bowel disease.
 13. Crystal arthropathy.
 14. Non articular rheumatic diseases.
 15. Internal diseases articular manifestations
 16. Entrance to metabolic bone diseases: osteoporosis, vitamin D deficiency, osteitis fibrosa, renal osteodystrophy.
 17. Tumors infiltration bones, Paget's disease.
 18. General view of genetic connective tissue diseases.

4 – Surgery (2)

(General & Abdominal Surgery):

1. Principles of general surgery: nutrition, patient care, fluid & electrolytes, parenteral nutrition, infections, shock, preoperative preparation, postoperative care, surgical wounds.
2. Surgical lesions of stomach & duodenum.
3. Lesion of small intestine & omentum: inflammatory, tumorous and obstructive.
4. Lesions of colon and rectum.
5. Lesions of anal canal.
6. Lesions of pancreas.
7. Lesions of liver & biliary tracts.
8. Surgical lesions of spleen.
9. Surgical infections.
10. Abdominal trauma.
11. Acute surgical abdomen.
12. Upper & lower gastrointestinal bleeding.
13. Lesions of breast.
14. Hernias and eventrations.
15. Skin and soft tissue tumors.
16. Thyroid diseases and surgery.
17. Parathyroid diseases.
18. Minimally invasive surgery "laparoscopic surgery", its principles, conditions, changes resulting from laparoscopic surgery, indications, complications, possible operations with laparoscopic surgery, its characteristics, contraindications.
19. Principles of organ transplantation.
20. Cancer sciences.
21. Crush syndrome & systemic inflammatory response.



<u>5 – Pediatrics (1) (healthy child):</u>	<u>6 – Dermatology & Venereal Diseases</u>
<ol style="list-style-type: none"> 1. Cognitive & motor development in children. 2. Social & psychiatric development in children. 3. Physical growth & development, sexual development, puberty. 4. Evaluation of growth and normal physical measurements. 5. Indicators of bone maturation & dentation. 6. Properties of digestive system in children and its examination method. 7. Properties of digestion & metabolism of essential nutrients. 8. Nutrition in children and its regulation. 9. Properties of cardiovascular system in children and its examination method. 10. Properties of blood and hematopoietic system in children and method of blood examination, hemostasis in children. 11. Properties of respiratory system in children and its examination method. 12. Properties of immunity in children. 13. Immunization and vaccination in children. 14. Thermoregulation in children. 15. Properties of skin in children. 16. Prematurity, intrauterine growth retardation and low birth weight. 17. Gestational age estimation and classification of newborns. 18. Delivery and adaptation with extrauterine life. 19. Normal newborn, his/her examination and taking care of him/her. 20. Functions of systems, normal findings in newborns and newborn nutrition.. 	<ol style="list-style-type: none"> 1. Skin structure and function. 2. Diagnosis of skin diseases. 3. Infectious skin diseases (bacterial, fungal, viral and parasitic). 4. Sexually transmitted diseases. 5. Eczema, prurigo, pruritus. 6. Erythematous & papulosquamous diseases. 7. Disorders of keratinization. 8. Pharmaceutical skin reactions. 9. Urticaria. 10. Mechanophysical dermatoses and dermatitis artefacta. 11. Bullous dermatoses. 12. Idiopathic connective tissue disorders. 13. Vascular diseases. 14. Genodermatoses. 15. Diseases of oromucosa and genital region. 16. Pigmentation disorders. 17. Sebaceous and sweat glands disorders. 18. Hair and nail diseases. 19. Skin and other systems. 20. Skin tumors. 21. Medical treatment and physical forms of treatment in skin diseases.



Fourth Year - Second Semester

1 – Forensic Medicine:

1. Introduction to forensic medicine, specialists & crime scene investigation.
2. Thanatology, stages, types and signs:
 - Physical & chemical changes occurring in corpse, early & late post-mortem signs.
 - Time of death estimation.
 - Corpse examination and autopsy principles
3. Suspicious death & sudden death.
4. Wounds & acute trauma.
 - Wounds & blunt trauma.
 - Fractures.
5. Head wounds and trauma, brain haemorrhages.
6. Neck, chest, abdomen and pelvis wounds & trauma.
7. Gunshots wounds.
8. Traffic accidents wounds & road vehicles injuries.
9. Physical factor Injuries, & burns.
10. Electricity & lightning Injuries, acute and chronic radiation injuries.
11. Suffocation, drowning & immersion
12. Sexual assaults:
 - Rape, indecency, sodomy.
 - Homosexuality, paraphilia.
13. Pregnancy & childbirth:
 - Infertility & impotence.
 - Abortion.
14. Infanticide.
15. Child abuse and violence.
16. Domestic violence & women abuse.
17. Identification in general, DNA fingerprint
18. Poisonings & intoxication, signs symptoms, excretion and management.
19. Metallic, semi-metallic and corrosive poisons.
20. Gaseous poisons.
21. Alcoholic intoxication.
22. Drug abuse intoxication.
23. Medication intoxication.
24. Pesticides poisoning.
25. Impairment scale, healing & recovery periods, permanent disability estimation (forensic concept) for judiciary, social insurance, medical and health insurance companies.



2 – Internal Medicine (2)

(Cardiovascular & pulmonary diseases):

I. Cardiovascular Diseases:

1. Approach to cardiac patient.
2. Electrocardiography (ECG).
3. Coronary insufficiency.
4. Arrhythmias.
5. Heart Failure.
6. Basics of Ultrasonography.
7. Endocarditis. & pericardium diseases..
8. Valvular lesions.
9. Congenital heart defects.
10. Heart and Pregnancy.
11. Heart and internal diseases.
12. Arteries, veins & lymphatic vessels diseases.
13. Cardiomyopathy & myocarditis.
14. Systemic hypertension.
15. Pulmonary hypertension & pulmonary embolism.
16. Cardiovascular drugs.

II. Pulmonary Diseases:

17. Diagnosis of respiratory disease.
18. Tuberculosis.
19. Respiratory tract infections.
20. Chronic obstructive pulmonary diseases.
21. Bronchiectasis.
22. Lung tumors.
23. Diffuse pulmonary fibrosis.
24. Acute and chronic respiratory failure.
25. Sleep disorders.
26. Drug-Induced pulmonary diseases.
27. Pleural diseases.
28. Mediastinal diseases.
29. Pulmonary manifestations of systemic diseases.
30. Pulmonary embolism.
31. Acute pulmonary edema.
32. Pulmonary hypertension.
33. Respiratory rehabilitation.

3 –Surgery (3)

(Cardiovascular & Chest Surgery):

I. Cardiac Surgery

1. Introduction: artificial heart, myocardial protection, heart transfer.
2. Preoperative patient preparation, postoperative intensive care.
3. Ischemic heart disease surgery.
4. Rheumatic & degenerative valves surgery.
5. Congenital heart defects surgery.
6. Pericardial & heart tumors surgery.
7. Arrhythmias surgery.
8. Surgery in pulmonary embolism.
9. Aortic dissection and aneurysms.
10. Heart and great vessels trauma.
11. Shock.

II. Vascular Surgery:

12. Introduction to vascular surgery.
13. Vascular trauma.
14. Acute arterial occlusion.
15. Chronic obstructive Artery disease.
16. Congenital vascular defects & vascular tumors.
17. Arterial aneurysms.
18. Diabetic foot.
19. Diseases of the veins & lymph vessels.

III. Thoracic Surgery:

20. Diagnostic tools in thoracic surgery.
21. Chest wall & pleural surgical lesions.
22. lung Lesions(tumorous & non-tumorous)
23. Surgical treatment of pulmonary tuberculosis.
24. Mediastinal & Esophageal lesions.
25. Diaphragm surgical lesions.
26. Penetrating & blunt chest trauma.
27. Principles and applications of endoscopic thoracic surgery.
28. Lung transplantation & thoracic surgery update.



4 – Pediatrics (2):

1. Approach to the sick child.
2. Diseases of the newborn & premature.
3. Growth & puberty disorders.
4. Congenital & genetic diseases.
5. Nutritional problems, water-electrolyte imbalance
6. Common digestive diseases in children.
7. Common respiratory diseases in children
8. Common congenital & acquired cardiovascular diseases.
9. Common malignant & benign hematological diseases.
10. Common urogenital tract diseases.
11. Common renal diseases.
12. Common musculoskeletal diseases.
13. Common nervous diseases.
14. Developmental disorders.
15. Common endocrine diseases.
16. Metabolic diseases & nutrition.
17. Immune disorders & immune deficiency
18. Common infectious diseases.
19. Childhood accidents, poisonings.
20. Sudden child death syndrome.
21. Battered child syndrome, child neglect.

5 –Obstetrics:

1. Physiology of pregnancy
2. Normal pregnancy, diagnosis, clinical signs and diagnostic tests.
3. Pregnancy care, follow-up & intrauterine growth.
4. Medication & pregnancy.
5. Pregnancy & Internal and surgical diseases
6. Abnormal pregnancy, ectopic pregnancy, miscarriages & Hydatidiform mole.
7. High-risk pregnancies, hemorrhages, preterm labor, post term pregnancy.
8. Labor & natural childbirth.
9. Abnormal labor: fetal-pelvic disproportion, abnormal presentations, premature rupture of membranes.
10. Labor induction.
11. Obstetric interventions.
12. Surgical termination of pregnancy, cesarean section & obstetric hysterectomy.
13. Natural puerperium.
14. Abnormal puerperium, puerperal sepsis.
15. Rhesus incompatibility in pregnancy.
16. Fetal monitoring during pregnancy and labor
17. Fetal diagnosis and treatment during pregnancy.
18. Newborn injury.



Curriculum Syllabus
Faculty of Medicine, Damascus University

Fifth Year

<u>First Semester</u>	<u>Second Semester</u>
<ol style="list-style-type: none"> 1. Gynecology. 2. Anesthesiology & Emergency Medicine. 3. Internal Medicine (3) (Nephrology & Neurology). 4. Surgery (4) (Neurosurgery & Urology & Pediatrics Surgery) 5. Ophthalmology. 6. Psychiatry. 	<ol style="list-style-type: none"> 1. Clinical Pharmacology. 2. Radiology & Radiotherapy. 3. Preventive & Occupational Medicine. 4. Family Medicine. 5. Internal Medicine (4) (Endocrinology & Nutritional Medicine & Geriatrics). 6. Internal Medicine (5) (Hematology & Infectious Diseases). 7. Surgery (5) (Orthopedics & Cosmetic Surgery & Oncology and Neck Surgery).

Fifth Year - First Semester

<p><u>1 - Gynecology:</u></p> <ol style="list-style-type: none"> 1. History & physical exam in gynecology. 2. Embryological development and Anatomy of the female reproductive tract. 3. Normal/Abnormal sexual development & Puberty. 4. Normal menstrual cycle, its abnormalities. 5. Birth control & infertility. 6. Early disorders in pregnancy. 7. Benign lesions of uterus and cervix. 8. Endometriosis & Adenomyosis. 9. Ovary, uterus, cervix, vagina & vulva benign and malignant tumors. 10. Gynecologic infections. 11. Gynecologic urinary tract disorders. 12. Uterine & vaginal prolapse. 13. Menopause, psychological disorders. 	<p><u>2 - Anesthesiology & ER Medicine:</u></p> <ol style="list-style-type: none"> 1. Introduction, patient preparation for anesthesia, medication preparation. 2. Airway management, tracheal intubation. 3. Inhalation & Intravenous anesthesia and anesthetic agents. 4. Neurotransmission blockers, central analgesics, local & regional anesthesia. 5. Anesthesia machine, patient monitoring machines, anesthesia record. 6. Recovery room & CPR. 7. Respiratory dysfunction, oxygen therapy. 8. Acid-base balance, Water - electrolytes balance, disturbance & management. 9. Shock, blood transfusion & ICU. 10. Acute & chronic pain management.
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3 - Internal Medicine (3)
(Nephrology & Neurology):

I. Neurology:

1. Neurology clinical skills.
2. Cerebrovascular accidents.
3. Brain tumors, Raised intracranial pressure, Extrapyramidal disorders.
4. Spinal cord syndromes.
5. Multiple sclerosis.
6. Cranial nerves disorders.
7. Peripheral nervous system disorders.
8. Myasthenia gravis & muscle diseases.
9. Syncope: types & pathophysiology.
10. Evaluation & management of comatose patient.
11. Cerebral death & its diagnosis.
12. Epilepsy.
13. Headache & facial pain.
14. Dementia & Mental retardation.
15. Nervous system infections.

II. Nephrology:

16. Approach to nephrology patient.
17. Extracellular fluid volume disturbances.
18. Acid-base & water-electrolytes balance disturbances.
19. Acute & chronic renal failure.
20. Primary & secondary glomerular diseases.
21. Acute & chronic tubular and interstitial kidney diseases.
22. Urinary infections.
23. Renal lithiasis.
24. Essential & secondary hypertension.
25. Cystic kidney diseases.
26. Hereditary kidney diseases.
27. Hemodialysis & peritoneal dialysis.
28. Kidney transplant.
29. Kidney & pregnancy.
30. Kidney & medication.

4 - Surgery (4) (Neurosurgery & Urology & Pediatrics Surgery):

I. Neurosurgery:

1. Introduction in neurosurgery.
2. Head, brain, vertebral column & spinal cord traumas.
3. Plexuses & Peripheral nerves traumas.
4. Cervical & lumbar disc herniation, lumbar spinal stenosis & cervical spondylosis.
5. Hydrocephalus.
6. Nervous system tumors.
7. Nervous system aneurysms.
8. Nervous congenital malformations.
9. Nervous system vascular malformations.
10. Surgical treatment of pain.
11. Stereotactic radiosurgery.

II. Urosurgery:

12. Urinary retention & urine stagnation.
13. Vesicoureteral reflux.
14. Urogenital system bacterial infections.
15. Urinary lithiasis.
16. Urogenital system traumatic injuries.
17. Uroepithelial tumors, kidney tumors, prostate & genital tumors.
18. Neurogenic bladder disorders.
19. Adrenal gland disorders & Kidney congenital malformations.
20. Kidney transplant, pre/post operative care
21. Ureter & ureteropelvic junction disorders.
22. Bladder, prostate, seminal vesicles, testis, scrotum & spermatic cord disorders.
23. Male infertility, male sexual dysfunction.

III. Pediatrics surgery:

24. Congenital skeletal deformities.
25. Surgical gastrointestinal diseases in children.
26. Surgical urogenital diseases in children.
27. Abdominal wall defects in children.
28. Common tumors in children.
29. Acute abdomen in neonate.



5 - Ophthalmology:

1. Eyelids diseases.
2. Lacrimal apparatus diseases.
3. Corneal diseases.
4. Scleral diseases.
5. Glaucoma.
6. Uveal diseases.
7. Lens diseases.
8. Vitreous body diseases.
9. Retinal diseases.
10. Optic nerve diseases.
11. Orbital diseases.
12. Refractive errors.
13. Strabismus.
14. Trauma of the eye.
15. Ophthalmic symptoms:
 - I. Eye symptoms related to visual acuity: anopsia, visual defects.
 - II. Eye symptoms unrelated to visual acuity: painful eye symptoms, non painful eye symptoms.
16. Drugs affecting eye.
17. Drugs affecting autonomic nervous system.
18. Anti glaucoma drugs.
19. Anti inflammatory compounds.
20. Non steroidal anti inflammatory drugs.
21. Anti-infective drugs.
22. Drugs with systemic effects.
23. Local anesthetic eye drops.
24. Eye examination methods & tests.

6 - Psychiatry:

1. Approach to psychiatric patient.
2. Introduction in psychology, social science, learning & communication skills.
3. Basics in Neurophysiology.
4. Anxiety disorders.
5. Panic disorder & Phobias.
6. Obsessive compulsive disorder.
7. Conversion & dissociative disorder.
8. Reaction to severe stress & adjustment disorder.
9. Somatoform & Psychosomatic diseases.
10. Psychotherapy.
11. Schizophrenia, chronic non schizophrenic psychosis, schizoaffective disorder.
12. Persistent delusional disorders, acute & transient psychotic disorders.
13. Major depressive disorder.
14. Manic & bipolar affective disorder.
15. Pervasive developmental disorders in children, behavioral, emotional & psychiatric disorders in children.
16. Conduct disorders, hyperkinetic disorders & Tics disorder, child abuse & neglect, psychological effects of war.
17. Psychiatric disorders in adolescence.
18. Mental & behavioral disorders due to cannabis, opium and cocaine abuse.
19. Disorders due to sedatives, hypnotics & hallucinogens abuse.
20. Disorders due to caffeine, tobacco & solvents abuse.
21. Disorders due to alcohol abuse.
22. Personality disorders, impulse control disorders & malingering.
23. Eating disorders & sleep disturbances.
24. Sexuality disorders.
25. Psychoorganic disorders and Psychogeriatrics, mental retardation.
26. Pregnancy & labor psychological disorders
27. Emergency in psychiatry.



Fifth Year - Second Semester

1 – Clinical Pharmacology:

1. Diabetes therapeutic management.
2. Corticoids clinical usages.
3. Cardiovascular diseases therapeutic management.
4. Clinical usages of drugs affecting coagulation.
5. Clinical usages of diuretics.
6. Asthma therapeutic management.
7. Digestive system diseases therapeutic management,
8. Liver & biliary tract drugs.
9. Chemotherapy.
10. Antimicrobial & antibiotics
11. Antiviral drugs.
12. Antifungal drugs.
13. Antiprotozoal drugs.
14. Antihelminthic drugs.
15. Antineoplastic drugs
16. Analgesics clinical usages,
17. Opioid & non opioid analgesics.
18. Antiparkinson drugs.
19. Anticonvulsants drugs.
20. Sedative hypnotics.
21. Antidepressants.
22. Drug – food interactions.
23. Drugs interactions.
24. Drug toxicity.
25. Acute & chronic intoxication.
26. Drug abuse.
27. Psychoactive drugs.
28. Antidotes

2 – Radiology & Radiotherapy:

1. Radiodiagnostics & medical imaging physical principles.
2. Central nervous system imaging.
3. Head & neck imaging.
4. Digestive system & accessory organs medical imaging.
5. Urogenital system medical imaging.
6. Thorax medical imaging.
7. Cardiovascular lesions & mediastinum medical imaging.
8. Bones & joints medical imaging.
9. Introduction to interventional radiology.
10. Radiotherapy & radioisotopes.



3 – Preventive & Occupational Medicine:

1. General principles:
 - Preventive medicine aims & applications
 - Prevention levels, methods in each level
 - Preventive medicine & public health definition.
2. Communicable diseases control & preventive principles:
 - Air-borne & direct contact diseases.
 - Sexually transmitted diseases.
 - Vector-borne & zoonotic diseases.
 - Hospital acquired diseases.
3. Non communicable diseases control & preventive principles:
 - Cancer, cardiovascular disease, diabetes
 - Chronic obstructive pulmonary disease,
 - Digestive system diseases, malnutrition
 - Psychiatric diseases, accidents, trauma
4. Behavioural factors & prevention:
 - Healthy behaviour, health promotion
 - Health education.
 - Alcohol & substance abuse.
5. Special prevention programs (child, teenagers, reproductive, elderly, mental & international health.
6. Occupational health & medicine:
 - Occupation & health.
 - Occupational disease & occupation related disease & syndromes.
 - Dust, Physical factors & stress related occupational diseases.
 - Occupational cancer.
 - Occupational diseases surveillance.
 - Occupational diseases prevention.
 - Workers health legislations.
 - Special groups occupational health.

4 – Family Medicine:

1. Family medicine basics:
 - Primary health care, family & community health care.
 - Family medicine definition, principles.
 - Family physician properties.
 - Family role & dynamics.
 - Health record, family file & reference.
2. Clinical prevention & health maintenance
 - Evidence based Medicine & primary care
 - Clinical prevention & principles.
 - Infants, children, adults & seniors health maintenance.
3. Communication skills:
 - Family physician – patient relation.
 - Verbal & non-verbal communication skills
 - Doctor's visit ethics, privacy & confidentiality principles.
 - Relation with family members, medical team & other health authorities.
 - Motivate patients & families about health promotion.
4. Child protection & domestic violence prevention:
 - Child rights convention & health implications.
 - Violence epidemiology, child abuse & other forms of child rights violations.
 - Family function, interaction effect on child
 - High risk cases screening & proper interventions.
 - Physician responsibility in educating affected families & role in reference and information sharing.
 - Dealing with child in family & community
5. Working in a team & importance of other health workers assistance (nurses...) & non health workers assistance.



<p><u>5 – Internal Medicine (4) Nutritional Medicine, Endocrinology, Geriatrics)</u></p> <p>I. <u>Endocrinology:</u></p> <ol style="list-style-type: none"> 1. Approach to endocrinology patient. 2. Endocrinological disorders evaluation. 3. Endocrinology & hormones. 4. Pituitary – hypothalamic disorders. 5. Thyroid diseases. 6. Parathyroid diseases. 7. Metabolic bone diseases. 8. Adrenal diseases. 9. Gonads diseases. 10. Diabetes, complications & hypoglycemia <p>II. <u>Nutritional Medicine:</u></p> <ol style="list-style-type: none"> 11. Introduction in nutrition. 12. Nutrients classification & food cycle. 13. Nutrition physiology. 14. Nutrition related diseases. 15. Hydrocarbons, proteins & lipids disorders 16. Obesity & metabolic syndrome. 17. Weight loss & healthy diet. 18. Nutritional equations. 19. Nutrition in different age groups. 20. Artificial nutrition. <p>III. <u>Geriatrics Medicine:</u></p> <ol style="list-style-type: none"> 21. Geriatrics medicine principles. 22. Geriatric endocrinological disorders. 23. Drop attacks prevention in elderly. 	<p><u>6 – Internal Medicine (5) (Hematology & Infectious Diseases)</u></p> <p>I. <u>Haematology:</u></p> <ol style="list-style-type: none"> 1. Haematopoiesis & evaluation. 2. Microcytic & macrocytic anaemia. 3. Aplastic anaemia & myelodysplasia. 4. Acquired & hereditary haemolytic anemia 5. Hemoglobinopathy. 6. Autoimmune haemolytic anaemia. 7. Microangiopathic haemolytic anaemia (DIC, TTP). 8. Leukocytes & benign diseases. 9. Acute lymphoid / myeloid leukaemia. 10. Chronic lymphoid / myeloid leukaemia. 11. Myeloproliferative diseases. 12. Lymphoproliferative diseases, Hodgkin & non-Hodgkin lymphomas. 13. Plasma cell dyscrasia. 14. Bleeding disorders, vascular defects. 15. Platelets disorders (qualitative & quantitative) 16. Acquired & hereditary coagulation factors disorders, hypercoagulability. 17. Antiplatelets & anticoagulants, complications & management. 18. Blood transfusion & complications. <p>II. <u>Infectious Diseases:</u></p> <ol style="list-style-type: none"> 19. Septic shock. 20. Infectious diarrhea. 21. Fever of unknown origin. 22. Gram positive & negative bacteria, actinomyces & anaerobic infections. 23. Mycobacterium, spirochetes & rickettsia, mycoplasma & Chlamydia infections. 24. Viruses diseases. 25. Fungal infections. 26. Protozoal infections 27. Helminthic diseases.
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