

SCHOOL OF MEDICINE

CURRICULUM

1st Semester

BIOLOGY I (500406) 65 hours

The course **BIOLOGY I** focuses on Cell Biology, including key cellular functions, such as regulation of cell cycle and death, differentiation, motility, intracellular signal transduction, metabolism, cell transport and malignant transformation, as well as description of different types of cells and their components. The course offers hands-on laboratory training in microscopy and basic protein biology methods.

EPISTEMIOLOGY, HISTORY AND ETHICS OF MEDICINE (500721) 52 hours

The course **EPISTEMIOLOGY, HISTORY AND ETHICS OF MEDICINE** introduces students to the evolution of medical thought and science over time and scientific developments that have influenced both medicine and culture, shaping social ethics. The student will be exposed to history, philosophy, sociology and epistemological concepts, will realize the connection between philosophy and medicine and will be able to deal successfully with ethical issues and misconceptions and to practice medicine according to humanitarian standards and rules of ethics.

MEDICAL CHEMISTRY (500722) 71,5 hours

The course **MEDICAL CHEMISTRY** introduces the basic principles of chemistry, focusing on biochemistry and main biomolecule's structure, such as atomic structure and bonding, thermodynamics, kinetics, acids and bases, reactions in organic chemistry, oxidation/reduction and bioenergetics, isomerism, functional groups in biomolecules. Classification of carbohydrates, glycoproteins, proteoglycans, lectin-carbohydrate interactions, amino acids, protein structure, types of proteins, keratin and collagen, myoglobin, structure and function of hemoglobin, ligand binding cooperativity, Bohr effect, protein denaturation, glycosylation, as well as classification of fatty acids, triglycerides, steroids, phospho- and sphingolipids and structure and function of DNA and RNA are also included.

MEDICAL PHYSICS (500723) 71,5 hours

The course **MEDICAL PHYSICS** provides an understanding of Physics pertinent to the human body, as well as the diagnostic and therapeutic applications of ionizing and non-ionizing radiations in Medicine and lays the physics foundation of different medical specialties. It covers topics including mechanics of the human body, such as pressure and the cardiovascular system, electric signals from the body, hearing and speech, interaction and biological effects of ionizing radiation, and their relationship to and basic principles of Radiation Protection, Diagnostic Radiology, Nuclear Medicine, Radiotherapy, Ultrasounds, Magnetic Resonance Imaging and medical Lasers.

MEDICAL STATISTICS (500314) 65 hours

The course **MEDICAL STATISTICS** provides the student with a comprehensive overview of modern statistical methods in medical research with emphasis on interpretation of results, thus forming the foundation of evidence-based medicine. A number of the most commonly used analyses linking them to study design, including descriptive statistics, estimation and hypothesis testing, t-test, chi-squared test, correlation, linear regression, logistic regression, non-parametric tests, introduction to probability theory and basic concepts in the evaluation of medical tests are presented. Practical exercises using the SPSS statistical software are also included.

2nd Semester

BIOLOGY II – GENETICS (500724) 91 hours

The course **BIOLOGY II - GENETICS** presents the fundamentals of molecular biology and medical genetics and practical skills in basic DNA technologies. The course offers an introduction to the cellular and molecular basis of inheritance, including genome structure, regulation of gene expression and patterns of inheritance pertinent to the monogenic and polygenic nature of human pathologies, as well as instruction of population and developmental genetics and applications of genetics in modern medical practice in pharmacogenetics, nutrigenetics, gene and stem cell therapies.

NEUROANATOMY AND NEUROPHYSIOLOGY (500725) 104 hours

The course **NEUROANATOMY AND NEUROPHYSIOLOGY** aims to provide a comprehensive presentation of the structure and function of the nervous system, from individual nerve cell properties to organized neuronal circuit functions that produce behavior. Neuroanatomy is covering the anatomy and organization of the nervous system, including brain anatomy, autonomic nervous system (ANS) and cerebral circulation, spinal cord, sensory and motor systems, while Neurophysiology is dealing with membrane potentials, synaptic transmission, neurotransmitters, spinal reflexes, ANS, somatosensory system, special senses control of voluntary movement, basal ganglia, cerebellum, cerebrospinal fluid, Blood Brain Barrier, sleep and wakefulness, electroencephalogram, learning and memory.

BIOCHEMISTRY I (500355) 78 hours

The course **BIOCHEMISTRY I** presents the fundamental aspects of enzymes, including catalytic theory, mechanisms of catalysis, Michaelis-Menten equation, types of inhibition, coenzymes and cofactors, allosteric enzymes, the metabolic pathways of carbohydrates, lipids, amino acids, proteins and nucleotides (purines and pyrimidines), the hormonal regulation of the metabolic pathways and the molecular mechanisms underlying related diseases and their treatment. Mechanisms of energy production, the regulation of the reactions, as well as the consequences of any deficiency are thoroughly presented.

HISTOLOGY – EMBRYOLOGY I (500408) 71,5 hours

The course of **HISTOLOGY AND EMBRYOLOGY I** presents the structure and functions of the human cell, as well as the morphology and properties of the human tissues, including epithelial, connective, bone and cartilage, muscular, blood, neural, cardiovascular, immune and lymphoid, associated with familiarization of microscopic tissue recognition.

Mitosis and meiosis, spermatogenesis and ovarian follicle development, as well as the menstrual cycle, the process of reproduction and stages of embryo and placental development and associated congenital anomalies, together with the, main principles of crucial mechanisms such as cellular signaling and senescence, apoptosis and carcinogenesis are also presented.

3rd Semester

DESCRIPTIVE ANATOMY I (500322) 65 hours

The course **DESCRIPTIVE ANATOMY I** provides the student an in-depth knowledge of the anatomical areas of human body and its organs and functional systems, through cadaver dissection, lectures in the amphitheater and in Anatomage tables or Human Body Navigators. Abdominal Anatomy, Digestive System, Abdominal wall and groin, Peritoneum and omentum, Retroperitoneum, Abdominal aorta, Inferior vena cava, Nerves, Lymphatics/lymph nodes, Abdominal organs, Esophagus, Stomach, Small intestine, Appendix, Large intestine and anorectum, Liver, Extrahepatic biliary tract and gallbladder Pancreas, Spleen. Respiratory system, Genitourinary system, Kidneys and ureters, Adrenal glands, Urinary bladder, Male and Female genital system, Breast anatomy, Heart are the main topics included.

PHYSIOLOGY I (500727) 91 hours

The course **PHYSIOLOGY I** presents the operations and interactions of the main systems and processes of the human body, in order to keep it alive and functioning. Topics include basic knowledge on homeostatic mechanisms and cellular communication, endocrine physiology, metabolism, reproductive physiology, the muscular system, blood physiology and immunology, wound healing and thermoregulation, as well as experimental methodology and technological advances. Current developments on molecular and cellular mechanisms underlying these processes and their dysregulation leading to pathological processes are presented.

BIOCHEMISTRY II (500329) 39 hours

The course **BIOCHEMISTRY II** presents fundamental aspects of eukaryotic gene transcription, targeting of DNA repair mechanisms in cancer treatment, mechanisms of cell-cycle regulation and apoptosis, the role of hormones in mediating hormonal physiological outputs and the metabolic interrelationships between liver, adipose tissue, brain, skeletal muscles in the integration of metabolism. Cell signaling pathways in cancer, the hormone cascade pathways and the effector responses in hormone-regulated physiological processes, as well as the metabolic interrelationships during feeding-starvation cycle, exercise and the metabolic integration in diabetes are some of the covered topics.

HISTOLOGY – EMBRYOLOGY II (500409) 71,5 hours

In the course of **HISTOLOGY AND EMBRYOLOGY II** the organization of tissues in systems, such as the respiratory, digestive, liver and biliary, salivary glands and pancreas, exocrine and endocrine glands, urinary, male and female reproductive systems, skin and dermal appendages, mammary gland and sensory organs are presented, associated with laboratory training in detailed microscopic observation. The development of the respiratory system, the digestive system and its appendages, the endocrine, urinary and genital, nervous, circulatory and musculoskeletal systems, skin and appendages, face and palate and sensory organs are also discussed.

4rth Semester

DESCRIPTIVE ANATOMY II (500728) 65 hours

The course of **DESCRIPTIVE ANATOMY II** aims to present structures in head and neck anatomy, thoracic anatomy, the thoracic wall, axilla, mediastinum, the thoracic duct, the pericardium, diaphragm, abdominal wall and the abdominal cavity, the pelvis, perineum pelvic sidewall and pelvic floor, the spinal column, skull and its foramens, osteology, arthrology, syndesmology, peripheral vascular and nervous systems - plexus (brachial, lumbar-sacral) of the upper extremity (arm, forearm, hand) and lower extremity (thigh, leg and foot), as well as unilateral in-depth neck, thorax, axilla, abdomen, groin and pelvis cadaveric dissection. The latter is important in understanding the contribution of the deceased to the education of the living, while exhibiting appropriate professional behaviors, including compassion and respect for the dignity of the deceased.

PHYSIOLOGY II (500729) 91 hours

The course **PHYSIOLOGY II** is an introduction to the structure and function of the cardiovascular, respiratory, urinary and digestive systems, linking basic medical sciences and clinical medicine, including cardiac rhythm, blood and lymph flow, circulation, mechanics of the heart and lungs, gas exchange, respiration, renal function, pH regulation, urination, digestion, absorption, gastrointestinal motility, physiology of the liver, gallbladder and pancreas. Molecular and cellular mechanisms underlying the function of these systems and their dysregulation, leading to generation of clinical syndromes, are presented.

PATHOLOGY I (500334) 52 hours

The course **PATHOLOGY I** disease processes are presented in association of malfunctions at the cellular and tissue level, offering a correlation of fundamental cellular pathology, pathophysiology and basic biomedicine. The current understanding of disease states at cellular and tissue levels are demonstrated, including cellular pathology, inflammation, immunopathology, tumor biology and genetic base of disease, as well as diseases of bone, joints, soft tissues, lymphoid tissue, neural tissue, special sense organs, endocrine glands and skin.

GENERAL MICROBIOLOGY – IMMUNOLOGY (500357) 52 hours

The course **GENERAL MICROBIOLOGY – IMMUNOLOGY** demonstrates the various disciplines within the field of Microbiology and Immunology, including bacteriology, virology, parasitology, mycology, microbial taxonomy, the interaction of normal flora and pathogens within the host, microbial genetics, basic immunology and immunology related to infectious diseases. Additionally, the basic principles of the action of antibiotics, disinfectants and antiseptics, as well as to the immunological assays. Tutoring and practical exercises related to various topics of basic microbiological methods, such as microscopy, culture, susceptibility testing, immunological and molecular assays are offered, together with special projects and/or research laboratory opportunities.

5th Semester

PATHOLOGY II (500337) 78 hours

The course **PATHOLOGY II** demonstrates the results of disease in different systems and, in the body as a whole. Genetic and environmental mechanisms underlying major diseases, and the systematic manifestations of diseases related to their macroscopic and microscopic lesions are presented, including the digestive tract and related organs, head and neck, respiratory system, circulatory system, nephropathology-genitourinary pathology, gynecological and breast pathology, disorders of pregnancy and fetus and polysystemic diseases. A case-based learning approach is followed, emphasizing clinico laboratory correlations.

PATHOPHYSIOLOGY (500335) 91 hours

The course **PATHOPHYSIOLOGY** demonstrates the mechanisms of diversion from normal and disease development, indicating the molecular mechanisms and functional changes of the human body that lead to disease clinical expression, displaying diagnostic and therapeutic approaches on an etiopathogenetic basis. Disease pathophysiology of the immune system, fluids - electrolytes and base-acid equilibrium, kidney, respiratory system, cardiovascular system, hematopoietic system, infections, endocrine glands and gastrointestinal tract, including liver and pancreas are presented.

PHARMACOLOGY I (500332) 52 hours

The course **PHARMACOLOGY I** indicates the general principles underlying the actions of drugs and their use in medical practice. Training highlights the properties of clinically relevant drug classes and prototypes, including molecular actions, pharmacokinetics, major therapeutic indications, side effects and interactions, while demonstrating data in experimental pharmacology.

MEDICAL MICROBIOLOGY (500339) 52 hours

The course **MEDICAL MICROBIOLOGY** is covering the medical and molecular aspects of bacteriology, virology, parasitology, mycology, epidemiology and management of infectious diseases. Morphology, biology, diagnosis, epidemiology, pathogenesis, therapy and prevention of infectious agents are presented in association with the role of the immune systems in defense against infection and disease, as well as in the immunopathogenesis of the disease entities. Laboratory practical experience, related to various topics of infections and diagnostic methods is offered.

MEDICAL PSYCHOLOGY (500316) 26 hours

The course of **MEDICAL PSYCHOLOGY** familiarizes students with the fields of Psychology pertinent to the development and application of theoretical and applied medical skills. Cognitive and psychosocial functioning under conditions of health and illness, cognitive processes and the major factors contributing to their suboptimal performance in the context of medical thinking, decision making and problem solving, with a reduced probability of medical errors and basic principles of learning and memory in promoting the learning process of the theoretical and applied medical skills will be presented. Doctor – patient communication and its psychosocial determinants will be analyzed, as a vehicle of promoting health and adaptation to illness, with an emphasis on the prevention of professional burnout of health workers. Psychobiological, behavioral, psychodynamic, psychosocial models of health and illness, introductory elements of methodological issues, prevention and promotion of mental health, as well as doctor - patient communication are among the issues to be discussed. Additionally, the organic perspective with reference to the structure and functional organization of the Nervous System, correlating brain and behavior and the psychological factors affecting bodily systems, such as the cardiovascular, respiratory, endocrine, gastrointestinal, urogenital, immune will be demonstrated.

6th Semester

INTERNAL MEDICINE I: SYMPTOMS AND SIGNS/NOSOLOGY (500358) 156 hours

The course **INTERNAL MEDICINE I: SYMPTOMS AND SIGNS/NOSOLOGY** combines courses at the auditorium and clinical training in patients' wards, equally divided. Lectures introduce students in the nosology of major disorders of the respiratory, cardiovascular, digestive, urinary, endocrine, musculoskeletal and hematopoietic systems, as well as in common infectious diseases, focusing primarily on the recognition of indicative signs and symptoms. Training in the clinics follows an approach by body system, along with medical history taking and physical examination.

CLINICAL SURGERY I (500359) 78 hours

The course **CLINICAL SURGERY I** presents the basics of the surgical field, associated with the specific features of the surgical patients, regarding the pathophysiology and natural history of various surgical pathologies. Clinical history, performing clinical assessment of patients and differential diagnosis through patients' evaluation on grounds of clinical and complementary medical testing data are priorities of the course. Students will become acquainted with diseases of the neck and facial region (thyroid, parathyroid, parotid glands, metastatic tumors), breast diseases, thoracic trauma, benign and malignant diseases of the esophagus, stomach and duodenum, diaphragmatic hernias, peritonitis, hydatid disease of the liver and the lung, hepatic neoplasms, portal hypertension, ascites, cholelithiasis and neoplasms of the biliary tree, pancreatitis and pancreatic tumors, diseases of the appendix, intestinal obstruction, benign diseases of the large intestine and the rectum and colorectal tumors, hernias, adrenal glands, diseases of the arterial, venous and lymphatic system and neoplasms of the skin and soft tissues.

CLINICAL PHARMACOLOGY (500336) 52 hours

The course **CLINICAL PHARMACOLOGY** will focus on concepts of pharmacogenomics, precision pharmacotherapy, clinical trials and pharmacoconomics, offering knowledge and skills on the critical evaluation and use of drugs within a variety of commonly encountered medical settings, as well as in hospital environment.

RADIOLOGY I (501360) 78 hours

The course **RADIOLOGY I** is presenting basic techniques of all current imaging modalities, including plain X ray, ultrasonography, Computed tomography, Magnetic resonance imaging and angiography, as well as radiation protection, Radiation Therapy and Nuclear Medicine. Structured on a system-based approach, chest and mediastinum, gastrointestinal and urogenital imaging are covered through discussions on cross sectional anatomy, imaging patterns and imaging findings of specific pathologies. Indications for imaging and choice of appropriate imaging modalities in a patient's workup are analyzed, while interventional Radiology, Radiation therapy and Nuclear medicine are introduced, using both lectures and small group, case-based tutorials.

PREVENTIVE MEDICINE AND PUBLIC HEALTH (500365) 65 hours

The course **PREVENTIVE MEDICINE AND PUBLIC HEALTH** presents the basic principles and concepts of public health and primary and secondary prevention, including principles of screening and screening for specific conditions; hereditary conditions and principles of genetic counseling; vaccination of children and adults; basic concepts of infectious diseases and infectious disease epidemics and related vaccinations; prevention of HIV/AIDS, sexually transmitted diseases and iatrogenic infections; etiology and prevention of chronic conditions with emphasis on cardiovascular diseases and malignancies; public health nutrition; environment and public health; inequalities in access to prevention and primary health care; health services research and evaluation; health promotion; international organizations and collaborations in public health.

7th Semester

INTERNAL MEDICINE II – DIFERENTIAL DIAGNOSIS (500362) 104 hours

The course of **INTERNAL MEDICINE II – DIFERENTIAL DIAGNOSIS** aims to educate students of the 7th semester on differential diagnosis of several diseases. Half of the educational time of each day is devoted to theoretical lectures at the auditorium and the rest in clinical training in patients' wards. Clinical approach and differential diagnosis of patients with multiple conditions are taught in detail, including cough, hemoptysis, chest pain, pleural effusion, cyanosis, ascites, abdominal pain, diarrhea, gastrointestinal bleeding, jaundice, dyspnea, edema, shock, coma, electrolyte disorders, arthritis, fever of unknown etiology, headache, hepatosplenomegaly, lymphadenopathy, anemia, respiratory, heart and kidney failure, paraneoplastic syndromes, metabolic and hemostasis disorders.

CLINICAL SURGERY II (500363) 117 hours

The course of **CLINICAL SURGERY II** continues the education of the medical student with in depth presentation of surgical diseases. The same topics are presented, as in Clinical Surgery I, with emphasis in surgical and medical treatment of the diseases. In addition, the following general topics are further analyzed and presented: Fluid, electrolyte, and acid base disturbances, Cardiopulmonary resuscitation, Shock, Surgical metabolism and nutrition, Surgical infections, Wound healing, Burns, Pulmonary embolism, Retroperitoneal disease.

GENERAL EPIDEMIOLOGY AND METHODOLOGY OF RESEARCH (500333) 65 hours

The course of **GENERAL EPIDEMIOLOGY AND METHODOLOGY OF RESEARCH** is central to the practice of preventive and clinical medicine, as it allows the identification of disease causes, as well as the evaluation of diagnostic tools, prognostic indicators and treatments. This course aims to introduce students to basic concepts of epidemiology, familiarize them with the conduct of biomedical research and strengthen their ability to practice evidence-based medicine. Teaching includes plenary lectures and practical training in groups.

RADIOLOGY II (502360) 78 hours

The course of **RADIOLOGY II** includes Central nervous system, Musculoskeletal, Head and neck, Breast Cardiovascular, Interventional radiology, Trauma of the chest and abdomen, Oncologic and Pediatric imaging. Artificial intelligence in radiology is also introduced. Tutorials discuss cross sectional anatomy, imaging patterns and imaging findings of specific pathology. Indications for imaging and choice of appropriate imaging modalities in a patient's workup are analyzed. Interventional Radiology, Radiation therapy and Nuclear medicine diagnostic and therapeutic procedures are analyzed. Students attend lectures and small group case-based tutorials, where they are encouraged to present cases and discuss them. The curriculum concludes with a two-week rotation in the department of radiology.

8th Semester – 9th Semester

RESPIRATORY DISEASES – INTENSIVE CARE (500761) 124 hours

The course of **RESPIRATORY DISEASES – INTENSIVE CARE** aims to introduce students to the basic principles of critical care medicine. Core teaching topics include general approach to critical illness, sepsis, respiratory failure, circulatory shock, hemodynamics, blood gases, acid base, introduction to mechanical ventilation, trauma critical care, airway management. More specifically, lectures and small-group bedside teaching sessions emphasize among others on: Physiology and pathophysiology of breathing, Pulmonary Function Tests (interpretation), Breathing sleep disorders, Respiratory infections (community acquired pneumonia, tuberculosis), Chronic obstructive pulmonary disease, Pulmonary-renal syndromes, the lung in autoimmune rheumatic diseases, Occupational and Environmental lung diseases, Pleural diseases, Rare lung diseases, Lung cancer, Critical care, Covid-1.

CARDIOLOGY (500414) 56 hours

The course of **CARDIOLOGY** includes a series of lectures and sessions of clinical practice in wards /CCU and laboratories of echocardiography, cardiac catheterization, pacing and electrophysiology and analysis of interesting clinical cases. After the completion of the training program, students will be capable to perform a full clinical assessment of the cardiovascular system and to detect acute coronary syndromes and major abnormalities in the ECG readings. Furthermore, they will be familiarized with indications of echocardiography, cardiac catheterization and electrophysiology techniques as well as with the current therapeutic strategies in cardiac disease.

NEUROLOGY (500412) 100 hours

The course of **NEUROLOGY** includes formal daily lectures covering all aspects of clinical neurology, seminar type sessions, rotation in the inpatient hospital setting (which includes patient assignments and participation in everyday clinical management), and rotation in neurologic emergency calls. The course aims to teach students to get a relatively complete picture of most aspects of clinical

neurology, to familiarize with the initial steps of neurological history taking, neurological examination and in general neurological diagnostic approach, to recognize and treat neurological emergencies and to acquire knowledge regarding most common neurologic conditions and diseases.

UROLOGY (500420) 48 hours

The course of **UROLOGY** aims to get the students' will familiar with: symptoms of urologic conditions (i.e., Urological Oncology, Lithiasis, Prostate Diseases, Urogynaecology), clinical evaluation and imaging. Students will be integrated as fully participating members of the urology team, participating in clinical rounds, patient evaluations, operative procedure, clinics and post-operative care, will be exposed in a wide of urological conditions and will have the opportunity to develop diagnostic and technical skills. Furthermore, students are encouraged to participate in various research projects. At the conclusion of the course, it is anticipated that students will have developed an understanding of the various domains of urology and become familiar with the initial stages of urologic evaluation and management.

OPHTHALMOLOGY (500422) 56 hours

The course of **OPHTHALMOLOGY** aims to enable students to acquire the theoretical knowledge of the basic principles of Ophthalmology, as well as to perform the basic clinical examination of patients with ocular disorders. The educational program is enriched with students' participation in the patients' examination various specialized ophthalmological departments (Glaucoma, Vitreoretinal, Medical Retina, Cornea e.tc) in outpatient clinics and hospitalized patients. Moreover, students attend surgical theater and observe several surgical ophthalmological procedures. Upon the completion of the course students must be able to understand the basic concepts and principles of ophthalmology as well as to distinguish basic ophthalmic diseases.

OTO-RINO-LARYNGOLOGY (500424) 50 hours

The course of **OTO-RINO-LARYNGOLOGY** introduces medical students to the diseases of ear, nose and paranasal sinuses, mouth, pharynx, larynx and upper esophagus as well as the diagnosis and treatment of diseases affecting the neck (primary and metastatic). Students will be exposed to all aspect of the specialty through the attendance of practical workshops, special clinics, and the operating theatre. At the end of their training medical students should be able to take a detailed history and perform a complete ENT examination; Interpret investigations and imaging; diagnose, assess and manage common ENT diseases, perform simple clinical procedures, including tracheostomy tube change, nasal cautery with silver nitrate and nasal packing.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

ORTHOPEDICS – TRAUMATOLOGY (500426) 52 hours

The course of **ORTHOPEDICS – TRAUMATOLOGY** introduces medical students to basic principles of Orthopedic Surgery and Traumatology that extend from bone biochemistry and physiology to the modern imaging and surgical techniques of complex orthopedic issues; it also aims to familiarize students with the clinical manifestations, diagnosis, medical and surgical management and prevention of the diseases and trauma of the Musculoskeletal System. Students will participate in department's clinical activities concerning clinical examination and treatment of orthopedic patients (basic trauma as well degenerative lesions and tumors), will observe basic surgical procedures, will attend the department's outpatient clinics and rounds and will participate in all the on-call duties of the emergency department with the supervision of the senior residents.

ANAESTHESIOLOGY – EMERGENCY MEDICINE (500731) 50 hours

The course of **ANAESTHESIOLOGY – EMERGENCY MEDICINE** aims to provide medical students with the knowledge and ability to formulate a basic anesthetic management plan, understand the risks and benefits associated with general and regional anesthesia, develop an approach to perioperative pain management and acute resuscitation. Emergency Medicine: will be to provide medical students with the knowledge and skills required for the prevention, diagnosis and management of urgent and emergency aspects of illness and injury, affecting patients of all age groups with a full spectrum of undifferentiated physical and behavioral disorders, the in-hospital as well as out-of-hospital triage, resuscitation, initial assessment and telemedicine.

DERMATOLOGY (500418) 50 hours

The course of **DERMATOLOGY-VENEREOLOGY** consists of a theoretical part during which students attend lectures covering several topics in dermatology and a clinical part during which students observe the clinical examination, the decision-making process and the treatment of patients. After completion of the course, students are expected to be familiar with: Dermatology-related history taking, Basic dermatological nomenclature, Basic topics of cutaneous and venereal diseases, Specific diagnostic and therapeutic techniques and approaches used in Dermatology-Venereology. They will also be able to: successfully perform a complete dermatological examination, evaluate various clinical and laboratory findings, and associate them with an appropriate differential diagnose, and recognize the possibility of systemic comorbidity associated with cutaneous disease.

THERAPEUTICS (500428) 48 hours

The course of **CLINICAL THERAPEUTICS** is primarily concerned with therapeutic decision making in such areas as oncology, cardiology, nephrology, gastroenterology, pulmonology, infectious disease, endocrinology, neurology, and the critically ill. While the orientation of the course is clinical, such pharmacologic issues as receptor interaction, pharmacokinetics and dynamics, drug interactions, will be analyzed in the context of specific organ system involvement and treatment of disease states. Emphasis is placed on clinical case discussions supplemented by lectures and panel discussions. Moreover, the course provides an overview of key concepts and methods in therapeutic communication and the clinical relationship between therapist and patient.

10th – 11th – 12th Semesters

INTERNAL MEDICINE (500464) 560 hours

The course of **INTERNAL MEDICINE** aims to familiarize students with integration and practical implementation of the acquired knowledge of relevant lessons of 6th and 7th semester and of general principles of therapeutics. The educational program includes active involvement of students within the Departments of Internal Medicine regarding medical history, physical examination, interpretation of information in order to perform differential diagnosis, blood sample taking and performing other medical procedures, interpretation and follow up of laboratory tests and management of patients, participation in daily ward rounds performed by medical team, presentation and discussion of cases admitted in the Department of Medicine, attendance of scientific meetings within the Department, including literature updates and hospital inter-clinical meetings.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

PAEDIATRICS (500466) 440 hours

The course of **PAEDIATRICS** aims to familiarize students with normal neonatal, infant and child development and its deviations as well as the special approach of the child at different developmental stages during physical examination. Objectives will also include nutrition and feeding of the growing infant and child, vaccinations and child abuse. Moreover, the most common pediatric disease entities will be discussed such as infectious diseases, inborn errors of metabolism, endocrine disorders, neurological disorders, including neurodevelopmental delay, nephrological disorders, disorders of the gastrointestinal tract, pulmonary system, hematological and oncological diseases of the child and adolescent.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

SURGERY (500465) 320 hours

The course of **SURGERY** introduces medical students to the integration and practical implementation of the acquired knowledge of relevant lessons of 6th and 7th semester and of general principles of therapeutics. Medical students will be taught the care of the surgical patient, from initial admission, diagnostic evaluation, preoperative work up, operative treatment and postoperative care and will acquire basic skills. Students will participate in the daily and grand rounds, will observe basic surgical procedures and will participate in all the on-call duties of the emergency department with the supervision of the senior residents. After the successful completion of the course, students will be able to differentially approach the various clinical syndromes and evaluate the clinical signs and symptoms of patients with surgical diseases and the basic principles of their surgical treatment.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

GYNECOLOGY AND OBSTETRICS (500467) 328 hours

This course of **GYNECOLOGY AND OBSTETRICS** is an introductory experience in the provision of comprehensive medical care and counseling services to adult and adolescent female patients. The course aims to build the minimal foundation of knowledge and skills in obstetrics and gynecology, regardless of the specialty a medical student decides to enter. During this rotation in Obstetrics and Gynecology, medical students will be able to acquire knowledge about Ob/Gyn conditions and diseases, perform complete breast and pelvic exams on appropriate patients, demonstrate interpersonal communications skills and appropriate professional characteristics.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

PSYCHIATRY (500468) 175 hours

The course of **PSYCHIATRY** comprises theoretical seminars and internship and aims to familiarize students with psychiatric interview and history, psychiatric phenomenology, psychiatric nosology and psychiatric therapies.

The students examine inpatients at the Adult Psychiatry inpatients' wards, at the Outpatient Clinic and Emergency Care Service and attend psychiatric rounds with interns and consultants.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

FORENSIC MEDICINE AND TOXICOLOGY (500364) 68 hours

The course of **FORENSIC MEDICINE AND TOXICOLOGY** is a multidisciplinary subject, defined in brief as the body of medical scientific knowledge used for the application of law. It aims to familiarize students with Thanatology, Clinical Forensic Medicine, Forensic Toxicology, Forensic Histopathology, Forensic Anthropology, and Medical Deontology. Furthermore, it aims to instruct students the everyday forensic practice with specific attention to the proper completion of the death certificate.

CLINICAL ELECTIVES

Hematology or Anesthesiology or Gastroenterology or General Medicine or Endocrinology or Intensive Care or Thorako-Cardio-Vascular Surgery or Clinical Genetics or Neurosurgery or Nephrology or Medical Oncology or Child Psychiatry or Rheumatology.

Hematology (500732) 320 hours

The educational program of **Hematology** consists of active involvement of the students in all clinical activities of the Department of Hematology. The course covers diagnosis and management of the main hematological conditions.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

Anesthesiology (500733) 320 hours

The educational program of **Anesthesiology** consists of active involvement of the students in all clinical activities of the Department of Anesthesiology.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

Gastroenterology (500734) 320 hours

The educational program of **Gastroenterology** consists of active involvement of the students in all clinical activities of the Department of Gastroenterology.

The course offers diagnostic and therapeutic approach to the most common and important symptoms and diseases of the digestive system and an introduction to diagnostic-therapeutic endoscopies.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

General Medicine (500735) 320 hours

The educational program of **General Medicine** introduces the students to primary care. The course includes patient management with acute and chronic problems in primary care, provision of comprehensive care to the population elderly patient assessment plan, preventive interventions, coordination of different health services, and application of the guidelines to optimize the cost/benefit ratio for the patient and the health system

Endocrinology (500736) 320 hours

The educational program of **Endocrinology** consists of active involvement of the students in all clinical activities of the Department of Endocrinology. The course offers diagnostic and therapeutic approach to the most common and important symptoms of endocrinological conditions.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

Intensive Care (500737) 320 hours

The educational program of **Intensive Care** consists of active involvement of the students in all clinical activities of the Department of Intensive Care. Objective of this course is the integration and practical implementation of the acquired knowledge of relevant lessons of Intensive Care taught in the 8th semester.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

Thorako-Cardio-Vascular Surgery (500738) 320 hours

The educational program of **Thorako-Cardio-Vascular Surgery** aims to familiarize students with the diseases of the arteries, veins and lymphatics. Furthermore, students will participate in ward rounds and will be taught the vascular clinical examination and the use of hand-held Doppler, to assess arterial and venous circulation, and will get familiarized with angiography and CTs. In addition, students will be taught ex-vivo on vascular grafts how to perform a vascular anastomosis.

Clinical Genetics (500739) 320 hours

The educational program of **Clinical Genetics** aims in teaching students prevention and diagnosis of genetic diseases, chromosomal diseases, application of new technologies in the clinical practice of genetic diseases, clinical and diagnostic approach of the patient with dysmorphologies – syndromes, monogenic diseases – multifactorial diseases, the importance of genetic testing in neuromuscular diseases, the possibilities of prenatal and preimplantation genetic diagnosis, the role of genetic counseling in patients with genetic diseases – congenital anomalies. The course also includes laboratory exercises in key areas of clinical genetics.

Neurosurgery (500740) 320 hours

The educational program of **Neurosurgery** consists of active involvement of the students in all clinical activities of the Department of Neurosurgery.

The course covers issues on traumatic brain injury, tumors of the central nervous system, functional neurosurgery, spine diseases.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

Nephrology (500741) 320 hours

The educational program of **Nephrology** consists of active involvement of the students in all clinical activities of the Department of Nephrology. The course covers diagnostic approach to kidney diseases - Kidney biopsy, main nephrological conditions, hereditary kidney diseases, cardiorenal syndrome, Kidney transplant, hemodialysis - peritoneal dialysis, acid-base balance - practice in general urine test.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

Medical Oncology (500742) 320 hours

The educational program of **Medical Oncology** aims to teach the basic principles of molecular biology, epidemiology, diagnosis and treatment of malignant neoplastic diseases. It functions as a necessary complement primarily to the course of Pathology, but also to other courses such as Epidemiology, Surgery and more specialized subjects. Lectures are on general topics and only a few of them focus on specific tumors, which are particularly common and are public health problems. The educational program consists of active involvement of the students in all clinical activities of the Department of Medical Oncology.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

Child Psychiatry (500743) 320 hours

The educational program of **Child Psychiatry** consists of active involvement of the students in all clinical activities of the Department of Psychiatry. The course, except for the main psychiatric conditions, covers other topics including, Organization of child psychiatric services, Divorce and child, Child abuse, School phobia - School refusal, Family psychotherapy, Organization of child psychiatric services.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.

Rheumatology (500744) 320 hours

The educational program of **Rheumatology** consists of active involvement of the students in all clinical activities of the Department of Rheumatology. The course familiarizes students with the Diagnostic approach of a patient with musculoskeletal pain, the Basic laboratory testing in patients with musculoskeletal and/or systemic rheumatic manifestations and the diagnosis and management of main rheumatological conditions.

Students function by shadowing medical residence within the Department between 8.00 – 16.00 every working day and participate in night shifts at least once a week.