

**ISTINYE UNIVERSITY
FACULTY OF MEDICINE
DEPARTMENT OF MEDICINE (ENGLISH)
COURSE DESCRIPTIONS**

Istinye University, Faculty of Medicine has two separate education programs as Turkish and English Medicine. Aim of the education in both programs is to teach future doctors with all aspects of medicine, starting easy with the most basic subjects of medicine, evolving into complex systems and diseases. Education methods spirals upwards and enlarges starting from molecules to organelles, cells, tissues and finally organ systems. Most of the first two years comprise of normal structure and function of these systems. Later pathologies of all systems were introduced along with simple reminders of normal function which intensify the learning of students. During first three years of education, basic research is also introduced to encourage the students to do research.

Although small hospital tours and clinical committees were done within first three years, clinical internships start at the fourth year when the student has all the knowledge of basic medical sciences and related diseases. Three years internship covers all the branches of internal and surgical medicine and teaches the student how to be a good doctor with all aspects.

First three years comprise of three medical courses (MED101,201,301) each one is two semesters long and includes four committees. They are supplied with other obligatory and elective courses including English and research oriented and paramedical courses. Last three years comprise of independent internships of all clinical medicine branches.

1. MED101 First Year

MED101 course comprise 60% of the all first-year courses and composed of four committees which contents are given below:

1.1. Introduction to Medical Sciences

This committee aims to warm up students to the medical faculty. An introduction of basic subjects of disciplines such as Anatomy, Biochemistry, Histology & Embryology, Microbiology, Genetics and Biophysics is given within first weeks. Latin terminology for Anatomy; structures of organic compounds; water, solubility, acids, bases, buffers; structure and functions of biomolecules; structure of cell and organelles and nuclear components; histological methods as well as using many simple lab equipment, especially microscopes is thought during these committee.

1.2. Introduction to Medical Sciences

This committee gives detailed information about genetics, cells, tissues, biomolecules, microbes, and anatomy of bones is given. Acid-base titration, spectrophotometry experiments; cellular organization, evolution of the cell, structure and function of cell organelles and nucleus, detailed structure of nucleic acids, biologic macromolecules, physical and functional structure of cytoplasmic membrane, transport mechanisms, metabolic pathways in cell and cellular signalization. Also, the block includes DNA replication process and cellular division. The committee explains genetic inheritance, molecular basis of genetic

diseases, the principles of gene therapy. This committee also gives an introduction to stem cells and stem cell therapy.

1.3. Normal Structure and Function: Respiration, Circulation, Blood, Lymphatics and Excretion

This committee describes the cellular and non-cellular components of blood including erythrocytes, leukocytes and platelets, cells of immune system and their functions, also the composition and function of blood cells and body fluids and molecules. This committee describes the development and structural properties of blood cells, lymphoid organs, homeostatic mechanisms and disorders related to blood cells, also defines the circulatory system, its functions and related diseases. This committee defines the development of cardiovascular system, inner and outer surface of heart, location and projections of heart, cardiac skeleton, valves and locations and auscultation, images of the heart and the mediastinum, heart muscle, also defines the histology and anatomy of vessels of the heart, coronary circulation, nerves and cardiac conduction system. This committee defines the signal transduction in heart muscle, rhythmical excitation of the heart, heart cycle and heart sounds, cardiac output, regulation of the cardiac functions, biochemistry of muscle contraction, electrocardiography, smooth muscles, vascular system, regulation of blood flow, short- and long-term regulation of blood pressure, measurement of blood pressure and flow. The development of respiratory system and its components, cavum nasi, paranasal sinuses, pharynx, images and histology of the upper and lower respiratory system are given in this committee. This committee defines the structure, components and functions of larynx, trachea, lungs, pleura, mediastinum and its contents, diaphragm. The respiratory mechanics; lung volume and capacities, gas exchange and gas transport and regulation of respiration are given in this committee. This committee defines the genetic control of respiration and receptors in respiratory system. The physiology, histology and anatomy as well as the normal microbiota of the urinary system is given in this committee.

1.4. Normal Structure and Function: Digestion and Metabolism

In this committee, the aim is to explain the development of gastrointestinal system, its histologic and anatomical structure, its physiologic and biochemical operation and its imaging properties, besides to describe biochemical pathways and genetic regulation of the metabolism.

2. MED 201 Second Year

MED201 course covers the 70-75% of the second year and composed of four committees which contents are given below:

2.1. Normal Structure and Function: Locomotor System

The musculoskeletal anatomy and physiology of the human body is covered in this committee. Medical genetics clarifies genetic regulation of motion and behavior. Medical pharmacology and medical immunology give their introduction lectures. Medical microbiology teaches sterilization and disinfection. Histology and physiology lectures cover the micro-structure and function of muscles and related organs. The students who have succeeded in this committee;

- ✓ Count all the muscles of human body together with their anatomic location, nerves

- and vessels
- ✓ Count all the muscles of human body together with their anatomic location, nerves and vessels
- ✓ List which muscle causes which movement
- ✓ Explain the physiology of skeletal muscle
- ✓ Explain radiologic features of muscles

2.2. Normal Structure and Function: Nerves, Senses and Behaviour

Anatomy, histology, physiology and biophysical aspects of nervous tissues and sensory organs is given within this committee. Lectures covering the micro and macro structure and function of nervous tissues, cranium, medulla spinalis, peripheral nerves and sensory organs is given along with behavioral and clinical aspects of neurophysiology.

2.3. Normal Structure and Function: Stages of Life

In this committee, detailed information of human development will be given under Embryology lectures. Starting from the structure of genital organs and formation of germ cells until the end of the development of all organs will be evaluated. The physiology of human growth covering hormonal changes and anatomy of newly forming organs as well as aging are going to be explained. The ethical approach to pediatric and geriatric care as well as adult care is going to be covered with the detail. The basic subjects of obstetrics and pediatrics are going to be given.

2.4. Pathogens and Introduction to Pathologies and Clinical Sciences

In this committee, major mechanisms of cellular, tissue and organ damage and disorders; microbiological, pathologic, biochemical, genetic and other diagnostic tools and imaging techniques that are used for the diagnosis of the diseases and basic pharmacological principals will be covered. The students who have succeeded in this committee will be able to

- ✓ describe components, function and the disorders of immune system
- ✓ describe morphologic, biochemical and epidemiologic features of bacteria, their pathogenicity, the infection they cause, their diagnosis and treatment
- ✓ explain classification of viruses, the diseases they are associated with, the prevention, diagnosis and treatment of these infections
- ✓ classify medically important fungi and explain their morphology, the diseases they cause, the diagnosis and treatment of these diseases
- ✓ describe structure, life cycle, and epidemiology of parasites and the clinical manifestations, laboratory diagnosis and the treatment of the diseases they cause
- ✓ list the mode of infectious disease transmission and laboratory test to diagnose the microorganisms
- ✓ explain the importance of sterilization and disinfection in human health
- ✓ perform basic staining techniques in microbiology
- ✓ explain and perform how to culture microorganisms
- ✓ interpret a laboratory report and realize the importance of clinics and laboratory communication

3. MED 301 Third Year

The third committee is composed of four committees which content is given below:

3.1. System Pathologies: Respiration, Circulation, Blood, Lymphatics and Excretion

Pathogenesis of hematopoietic system disorders, principles of cancer biology; clinical and radiological diagnosis; prevention and therapeutic approaches of this system disorders will be introduced in this committee.

3.2. System Pathologies: Digestion and Metabolism

The content of this committee includes defining the molecular, genetic and pathological mechanisms underlying pathogenesis of gastrointestinal system and metabolic disorders, clinical and radiological diagnosis and therapeutic approaches.

3.3. System Pathologies: Nerves, Senses, Motion and Behaviour

The content of this committee includes defining the molecular mechanisms underlying pathogenesis of musculoskeletal system disorders, epidemiology of these type of disorders, clinical and radiological diagnosis and therapeutic approaches. Pharmacologic properties of drugs used in these groups of disorders will be introduced. Pathophysiology of nervous system disorders; clinical and radiological diagnosis; differential diagnosis; prevention of nervous system disorders; and therapeutic and rehabilitation approaches will be introduced. Introduction to psychological basis will be done.

3.4. System Pathologies: Stages of Life

The pathophysiological basis of the diseases related to the growth and aging is to be covered. The pharmacological and dietary basics for the proper growth and aging are covered in this committee.

4. FORTH YEAR

Starting from forth year, independent courses is given on clinical subjects and the student will continue their education with divided groups at related clinics.

4.1. MED411 Internal Medicine

The aim of this clerkship is to get and apply knowledge of medical diseases, skills of history taking and physical examination and attitudes in the area of Internal Medicine. The students who have succeeded in this committee will be able to:

- ✓ Evaluate the adult as a whole, obtain proper history, does the physical examination, creates preliminary and differential diagnoses.
- ✓ Order and evaluate tests with regard to their cost-effectiveness, performance and contribution to the work-up of the disease
- ✓ Diagnose and treat acute medical problems.
- ✓ Diagnose and treat chronic diseases.
- ✓ Applies preventive care measures
- ✓ The clerkship includes theoretical lectures and practices in the polyclinics and at the bed-side patient trainings.

4.2. MED412 Cardiopulmonary System and Infection

In this clerkship, the polyclinics, laboratories and bed-side educations at the cardiology and infection clinics are going to be performed.

4.3. MED413 General Surgery

This clinical clerkship aims to give general surgery basics together with practice sessions in the hospital on patients regarding simple surgical procedures. Operation room visits are going to be held, making students understand the routine work of surgical theatre. The students who have succeeded in this committee will

- ✓ Take history and perform physical examination in a surgical patient
- ✓ Perform basic treatment approaches to a trauma patient or a patient with shock,
- ✓ Classify burn wounds and perform proper wound healing
- ✓ Make differential diagnosis in a patient with acute abdomen and the necessary work-up
- ✓ Classify and diagnose and make differential diagnosis for frequently encountered surgical diseases
- ✓ Perform basic surgical procedures like abscess drainage, suturing. he clerkship is to be held in General Surgery Department, Emergency Department and operational rooms.

5. FIFTH YEAR

5.1. MED511 Nerves, Motion and Behaviour

This clinical clerkship the students will have lectures covering diagnostic and therapeutic approaches of musculoskeletal and psychiatric disorders in the neurology, neurosurgery and physical therapy and rehabilitation departments. The students will practice with their attendants in polyclinics, service visits and operational rooms.

5.2. MED512 Senses

In this clinical clerkship, the departments of otorhinolaryngology, ophtalmology, dermatology are going to be completed. The theoretical knowledge is going to be given during the lectures in the related departments and the clinical practice is to be given under the attendance of the working physician in the polyclinics and wards.

5.3. MED513 Pediatrics

This clinical clerkship is going to be held completely in the hospital, in the Pediatrics department. The aim is to teach how to evaluate pediatric patient with necessary regard on growth, nutrition and immunization status. The clerkship consists of class lectures giving general knowledge about pediatrics, routine rounds in different departments of pediatrics and night duties. At the end of the clerkship, the students will be able to:

- ✓ Take both comprehensive and focused history, perform physical examination and evaluate signs and symptoms according to the age of the patient, starting with newborn to the adolescent
- ✓ Evaluate mental and motor growth and nutrition
- ✓ Perform immunizations and evaluate immunization status
- ✓ Diagnose and treat common childhood diseases

6. SIXTH YEAR

6.1. MED611 Public Health

The internship is going to be held in the First Line Medical Care Center. The student is going to work as routine intern doctor.

6.2. MED612 Internal Medicine

The internship is going to be held in the Internal Medicine Department. The student is going to work as routine intern doctor.

6.3. MED613 Gynecology and Obstetrics

The internship is going to be held in the Gynecology and Obstetrics Department. The student is going to work as routine intern doctor.

6.4. MED614 Pediatrics

The internship is going to be held in the Pediatrics Department. The student is going to work as routine intern doctor.

6.5. MED615 General Surgery

The internship is going to be held in the General Surgery Department. The student is going to work as routine intern doctor.

6.6. MED616 Pulmonology and Cardiology

The internship is going to be held in the Pulmonology and Cardiology Department. The student is going to work as routine intern doctor.

6.7. MED617 Emergency Medicine

The internship is going to be held in the Emergency Medicine Department. The student is going to work as routine intern doctor.

6.8. MED618 Psychiatry

The internship is going to be held in the Psychiatry Department. The student is going to work as routine intern doctor.