



**ISTANBUL OKAN UNIVERSITY
FACULTY OF MEDICINE
STUDENT GUIDE**

Evrakin elektronik imzalı suretine <http://e-belge.okan.edu.tr> adresinden 88a27613-689a-47b8-89dc-cd5317c106dd kodu ile erisebilirsiniz.
Bu belge 5070 sayılı elektronik imza kanuna göre güvenli elektronik imza ile imzalanmıştır.

FACULTY OF MEDICINE

About Program

In this integrated medical curriculum, from cell to the human body, premedical sciences like behavioral sciences, medical biology and genetics together with core medical sciences such as anatomy, histology and embryology, physiology, medical microbiology, medical biochemistry are given to the medical student. After this basic medical courses, in the fourth year of medical education, students enter to the clinical rotations period. Students are encouraged by the faculty members for contact with the patients directly at the bedside. They have to work in out-patient, in-patient, laboratory, emergency room, operation theater facilities under supervision of the attendant physicians. These rotations are known as the clinical clerkship that includes pediatric health and diseases, internal medicine, gynecology and obstetrics, general surgery and other rotations necessary. In the sixth year, students before graduation, works as an “intern” for one year by a rotation schedule in the hospitals.

Objectives

At the end of the programme, the students will be able to;

- Describe the basic structure, development and normal mechanisms of the human in terms of molecules, cells, tissues, organs and systems
- Investigates the abnormal structures and mechanisms in the human body, explains with the information depending on high quality scientific research, evaluates the reason of the diseases regarding in the interaction of the individual with his environment
- Gain knowledge about basic and clinical medicine
- Apply the knowledge, skills and attitudes required by the patient management in accordance with the modern medical concept.
- Apply basic medical procedures necessary for diagnosis and treatment of diseases
- Perform first level treatment for common diseases in the community based on scientific data and by using highly effective methods
- Treat patients in emergency situations and transport the patient when needed
- Perform preventive medicine and forensic medicine applications
- Evaluate the effects of environmental factors on human health
- Critically evaluate the scientific basis of medical information, based on the principles of medical evidence-based medicine
- Gain knowledge about the structure and functioning of the National Health System
- Advocate for the health promotion, and development of health care services for the benefits of the individuals in the community
- Define legal responsibilities and ethical principles
- Act in accordance with professional values, ethical principles and legal regulations
- Take responsibility for lifelong learning and personal assessment
- Organize and attend to scientific meetings and conduct scientific projects
- Know at least one common foreign language sufficient to keep up with current medical literature and communicate with peers; and use statistics and computer programmes to evaluate scientific studies

Students are graduated after successful completion of courses through the six-year program. 360 credits are required for graduation.

Curriculum Phase I

1st SEMESTER COURSE PLAN

Code	Course Title	*C	**A	Duration (Week)	ECTC
MED101	Basic Sciences Committee I	Yes	Yes	8	10
MED103	Basic Sciences Committee II	Yes	Yes	8	10
ATA111	Atatürk Principles and History of Turkish Revolution I	No	No	15	2
TRD111 / TRD 105	Turkish Language I / Turkish For Foreigners I	No	No	15	2
ENG113	Academic Reading and Writing I	No	No	15	3
KYP001	Career and Life Planning	Yes	No	15	1
Total :					28

2nd SEMESTER COURSE PLAN

Code	Course Title	*C	**A	Duration (Week)	ECTC
MED102	Basic Sciences Committee III	Yes	Yes	8	12
MED104	Basic Sciences Committee IV	Yes	Yes	9	13
ATA112	Atatürk Principles and History of Turkish Revolution II	No	No	15	2
TRD112/ TRD106	Turkish Language II / Turkish For Foreigners II	No	No	15	2
ENG114	Academic English Reading and Writing II	No	No	15	3
Total :					32

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**A: Average

Curriculum Phase II

1st SEMESTER COURSE PLAN

Code	Course Title	*C	**A	Duration (Week)	ECTC
MED201	Cardiovascular and Respiratory Systems Committee	Yes	Yes	7	11
MED203	Gastrointestinal System and Metabolism Committee	Yes	Yes	8	12
ENG213	Academic Listening and Speaking I(for the faculty of medicine)	No	No	15	3
Total :					26

2nd SEMESTER COURSE PLAN

Code	Course Title	*C	**A	Duration (Week)	ECTC
MED202	Endocrine and Urogenital Systems Committee	Yes	Yes	5	10
MED204	Nervous System Committee	Yes	Yes	7	12
MED206	Biological Fundamentals of Diseases Committee	Yes	Yes	5	9
ENG214	Academic English Listening and Speaking II	No	No	15	3
Total :					34

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*C: Compulsory
**A: Average

Curriculum Phase III**1st SEMESTER COURSE PLAN**

Code	Course Title	*C	**A	Duration (Week)	ECTC
MED301	Neoplasia and Hematopoietic Systems Diseases Committee	Yes	Yes	4	8
MED303	Microorganism and Their Diseases Committee	Yes	Yes	4	8
MED305	Cardiovascular and Respiratory Systems Diseases Committee	Yes	Yes	5	9
MED307	Gastrointestinal System Diseases Committee	Yes	Yes	4	8
Total :					33

2nd SEMESTER COURSE PLAN

Code	Course Title	*C	**A	Duration (Week)	ECTC
MED302	Urogenital and Endocrine System Diseases Committee	Yes	Yes	6	9
MED304	Neuroscience, Psichiatri and Muscle Skeleton System Diseases Committee	Yes	Yes	6	10
MED306	Public Health, Forensic Medicine and Medical Ethics	Yes	Yes	4	8
Total :					27

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*C: Compulsory
**A: Average

Curriculum Phase IV**COURSE PLAN**

Code	Course Title	*C	**A	Duration (working day)	ECTC
MED401	Forensic Medicine	Yes	Yes	Fall Total 60 hours	4
MED402	Internal Medicine	Yes	Yes	36	11
MED403	General Surgery	Yes	Yes	36	11
MED404	Pediatrics	Yes	Yes	36	11
MED405	Gynecology and Obstetrics	Yes	Yes	36	11
MED406	Radiology	Yes	Yes	6	2
MED407	Anesthesiology and Reanimation	Yes	Yes	6	2
MED408	Rational Use of Drugs	Yes	Yes	6	2
MED409	Nuclear Medicine	Yes	Yes	6	2
MED410	Cardiology	Yes	Yes	12	4
Total :					60

Curriculum Phase V

COURSE PLAN

Code	Course Title	*C	**A	Duration (working day)	ECTC
MED501	Cardiovascular Surgery	Yes	Yes	12	4
MED502	Chest Diseases	Yes	Yes	12	4
MED503	Chest Surgery	Yes	Yes	12	4
MED504	Dermatology	Yes	Yes	12	4
MED505	Ear Nose and Throat	Yes	Yes	12	4
MED506	Infectious Diseases	Yes	Yes	12	4
MED507	Neurology	Yes	Yes	12	4
MED508	Neurosurgery	Yes	Yes	12	4
MED509	Ophthalmology	Yes	Yes	12	4
MED510	Orthopedics and Traumatology	Yes	Yes	12	4
MED511	Pediatric Surgery	Yes	Yes	12	4
MED512	Physical Medicine and Rehabilitation	Yes	Yes	12	4
MED513	Plastic and Reconstructive Surgery	Yes	Yes	12	4
MED514	Psychiatry	Yes	Yes	12	4
MED515	Urology	Yes	Yes	12	4
Total :					60

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*C: Credit
**A: Average

Curriculum Phase VI**COURSE PLAN**

Code	Course Title	*C	**A	Duration (Month)	ECTC
MED601	Internal Medicine	Yes	Yes	2	10
MED602	General Surgery	Yes	Yes	2	10
MED603	Gynecology and Obstetrics	Yes	Yes	2	10
MED604	Pediatric Health and Diseases	Yes	Yes	2	10
MED605	Public Health	Yes	Yes	2	10
MED606	Emergency Medicine	Yes	Yes	1	5
MED607	Elective Rotation	Yes	Yes	1	5
Total :					60
Grand Total:					360

*C: Compulsory

**A: Average

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Course Descriptions and Learning Objectives

MED101 Basic Science Committee I (10 credits)

The purpose of this course is to examine the main components of behavioural sciences by analysing the reason for human behavioural nature and providing general information about theoretical subjects of psychology as defence mechanisms, psychology of learning and attitude theorizes. Students understand the intended use of laser and ultrasound in medical treatment and surgery, applying the cybernetic principles in medical practices. They learn molecular structure and function of cellular membranes, permeability specialities. The general structure of the course is to describe the chemical foundations of the human organism; a brief knowledge of basic organic chemistry is given and the structures of proteins are worked out, the chief concern being the structure-function relation. Specific emphasize has been given to gain basic terminology and background information necessary for learning the history of medicine and ethical principles relating with the medical profession. It is also aimed to examine the main component of cell biology for establishing background for medical students. Through chapters, we will discuss issues related to both inside and outside of the cell, cell environment, molecular basis of some diseases, DNA, RNA structure, function and transcriptional regulation. Students gain a basic perspective to understand the cell biology concept including microscope, microscopy and histochemical techniques, cell and its content, nucleus and cell cycle. In addition, they learn different epithelial tissue types line the human body together with functions and locations of epithelium types.

At the end of this course the students will be able to:

- Identify the appropriate methods, technologies, and data that social and behavioural scientist use to investigate the human condition.
- Describe the main components of behavioural science.
- Understand the intended use of laser and ultrasound in medical treatment and surgery, applying the cybernetic principles in medical practices
- Explain the biophysical properties of blood gas and blood gas measurement methods
- Explain the molecular structure and function of cellular membranes, permeability specialities
- Describe covalent and noncovalent bonds; the functional groups in biomolecules; stereochemistry and the main types of biochemical reactions
- Define the path to being a doctor and continue to stay as a doctor; the principal features of the medical ethics, WHO regulations, the patients rights and regulations, the act of malpractice.
- Calculate basic descriptive statistics and understand the principles of hypothesis testing and the correct interpretation of results.
- Understand cell biology and genetics and the roles of cell components play in addressing the issues

related to cell physiology and diseases in medicine.

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- Explain types of microscopes that commonly used in histological studies, organelle structures in the cell and cell cycle.
- Understand cell-extracellular matrix interaction and different cell morphology.
- Define epithelial tissue types, characteristic features and their location in human body.

MED102 Basic Science Committee III (12 credits)

The purpose of this course is to the field and provides a survey of data and data types. To acquire basic terminology necessary for studying anatomy, recognize the general patterns of muscles and bones is targeted. At the end of the course, student is able to describe the anatomical features of neurocranium, splanchnocranium, vertebral column, thoracic and rib bones, upper and lower extremities. It is also intended to increase students' knowledge of how social and behavioural scientists discover, describe, and explain the behaviours and interactions among individuals, groups, institutions, events and ideas. Such knowledge will better students to understand themselves and the roles they play in addressing the issues facing humanity. Biochemistry course is to give information on biochemical thermodynamics, the utilization of vitamins and minerals as cofactors of enzymes, acids, bases and buffers and the biochemical constituents of cellular membranes, their organization and dynamic features. Physiology course is to give a basic perspective to understand the cell biology concepts, introduce the major type of human tissues and explain the connection between morphology of particular cells and their functions. Understanding of basic terminology and background information necessary for learning the history of medicine and ethical principles relating with the medical profession is aimed. Examination of the genetic inheritance and molecular techniques and understanding of basic perspective of the cell biology concepts and the major type of human tissues is targeted. Connection between morphology of particular cells and their functions are emphasized. Embryology course is to give information on fertilization, implantation and continuous developmental processes in embryo including bilaminar germ disc formation, gastrulation, neurulation, and starting from 3rd month, monthly changes occur in fetus till birth. In addition, students will learn molecular mechanisms accompanying the developmental period and they gain clinically knowledge regarding developmental abnormalities, congenital birth defects and their main causes.

At the end of this course the students will be able to:

- Define termination of anatomy, general considerations of the bones and muscles, elements of neuro and splanchnocranium, elements of thorax and ribs, upper and lower extremities.
- Understanding the normal structures and functions of human body
- Discuss the cultural and sexual effects on creativity and the degradation method of negative effects on this concept. At the end of this course the student will be able to describe the chemical and physical laws that govern biological processes; the biochemical functions of vitamins and bioelements and describe the concept of acids , bases and buffers and the composition, architecture and the dynamic features of membranes
- Explain gametogenesis period, the chromosomal and genetic factors that cause the birth defects and spontaneous abortions, fertilization, implantation, the first week of development, formation of

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endodermal-mesodermal-ectodermal germ layers and further development of them, the fetal period, monthly changes of fetus, fetal membranes and detailed structure and functions of placenta.

- Define the role of the physician as an expert witness in the court, contributions of Mazhar Osman Uzman and Hulusi Behçet, Paracelcus, La Mettrie, Sechenov, IP Semmelweiss, Metchnikov to medicine.
- Discuss issues related to both mendelian and non-mendelian genetics, biotechnological approaches used in genetics, population genetics, chromosome abnormalities, genetic counselling.
- Name the different fluid compartments, electrolytes and define diffusion, osmosis, and tonicity, the resting membrane potential in the human body.

MED103 Basic Science Committee II (10 credits)

The purpose of this course is to identify the most accurate method for imaging the internal structures of living organisms, describe atoms, molecules, matter and tissues. Students learn and gain the ability in practicing the electrical currents on tissue both in diagnosis and therapy. Exploration of the functioning of hemoglobin as an allosteric protein; collagen, a connective tissue protein that is subject to posttranslational modification; the enzymes and to describe the structures and biological functions of carbohydrates and lipids are aimed. The importance of basic terminology and background information necessary for learning the history of medicine and ethical principles relating with the medical professions are emphasized. Examination of the main component informational molecules of cell biology for establishing background for medical students are learned. From molecules to cells students learn tissue variations and their main histological component individually.

At the end of this course the students will be able to:

- Identify and understand differences and commonalities within diverse cultures
- Compare the structural and functional characteristics of myoglobin and hemoglobin; describe collagen and its post-translational modification; describe the structural and functional characteristics of enzymes; describe the structures and the physiological significances of various carbohydrates and lipids
- Define the Hipocrates as a physician and hipocratic medicine and also Galen of Pergammon., İbni Sina (Avicenna) and Razi, Pavlov and Beaumont on gastric physiology.
- Describe medicine after World War II, The Nuremberg Code and human experimentation.
- To discuss issues related to genetic code of mitochondria and cell, functional and non-functional RNA types, post-transcriptional regulation, protein synthesis steps occurring in cell, human genome organization, mutagenesis and main types, genetic control mechanisms.
- Describe atoms, molecules and matter
- Identify the most accurate method for imaging the internal structures of living organisms
- Explain the basic mechanisms of vision and hearing
- Learn and gain the ability in practicing the electrical currents on tissue both in diagnosis and therapy
- Gain ability in observing the biophysical mechanisms in circulatory system and the aroused problems
- Explain histological organizations regarding common tissue types, their distribution and functions.

Evrakın elektronik imza ile sunulmasıyla ilgili biyofiziksel mekanizmaların dolaşım sistemi ve diğer problemler hakkında bilgi edinmek için lütfen 5070 sayılı elektronik imza kanuna göre güvenli elektronik imza ile imzalanmıştır.

- Recognize fundamentals of biostatistics in health-related fields. Estimate population parameters from sample data and determine the appropriate test to use based on how the data was collected and outcome variable of interest.

MED104 Basic Science Committee IV (13 credits)

The purpose of this course is to gain basic terminology necessary for studying anatomy, recognize the general patterns of muscles and bones. At the end of the course, student is able to define the thoracic wall and the mediastinum and heart, arteries and veins, chambers and neural structures, pericardium and its relations. Students describe general features of pharynx, trachea, lungs, the root of neck and diaphragm. Students who complete course are expected to be able to understand and interpret all of the basic statistical methods used in scientific journals in their field of study, as well as use basic statistics in their own research. Information on the transport mechanisms through the cellular membranes, various signal transmission mechanisms, biologic oxidation and oxidative phosphorylation are emphasized. The embryology course is to provide sufficient information regarding prenatal development of human organism starting from fertilization through formation of blastocyst, neurulation, gastrulation, and organogenesis to the time of birth including monthly changes in development period, sensitivity of embryo and fetus to the common teratogenic factors. In addition, students will learn molecular mechanisms accompanying the developmental period and they gain clinically knowledge regarding developmental abnormalities, congenital birth defects and their main causes. Examination of the main component of cell biology and genetics for establishing background for medical students are underlined. The cell biology concepts and the major type of human tissues and their explanation with the connection between morphology of particular cells and their functions are learned.

At the end of this course the students will be able to:

- Define the thoracic wall and the mediastinum and heart, arteries and veins, chambers and neural structures, pericardium and its relations.
- Describe general features of pharynx, trachea, lungs, the root of neck and diaphragm.
- Analyse knowledge of human psychosocial development throughout the lifespan and the ways in which developmental stages can be used to understand the needs of a person whether in childhood, adolescence or in adulthood.
- Describe the solute transport mechanisms; the transmission of various signals across membranes; the enzymes functioning in biological oxidation; the elements of respiratory chain and the process of oxidative phosphorylation
- Explain gametogenesis period, the chromosomal and genetic factors that cause the birth defects and spontaneous abortions, fertilization, implantation, the first week of development, formation of endodermal-mesodermal-ectodermal germ layers and further development of them, the fetal period, monthly changes of fetus, fetal membranes and detailed structure and functions of placenta.
- Give idea about to genetic diseases, meiotic and mitotic cell division, cell cycle regulation, cell death

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Bu belge elektronik ortamda OKAN ÜNİVERSİTESİ tarafından imzalanmıştır. İmza bilgileri: OKAN ÜNİVERSİTESİ, OKAN ÜNİVERSİTESİ, OKAN ÜNİVERSİTESİ

- Name the parts of a neuron and their functions, the major classes of muscle in the body, the molecular and electrical makeup of muscle cell excitation-contraction coupling; differentiate the mechanisms for skeletal, cardiac, and smooth muscle contraction.

MED 201 Cardiovascular and Respiratory System Committee (11 credits)

The purpose of this course is to gain basic anatomical knowledge of cardiovascular and respiratory systems. Students recognize the general patterns of muscles and other structures of the roots of the neck. At the end of the course, student is able to describe the anatomical features of heart, lungs, visceral and parietal coverings, mediastinum, nose, diaphragm, pharynx, larynx and trachea. Sufficient information regarding the histology and embryology of cardiovascular and respiratory systems in human body are given. The roles of plasma proteins; the biochemical pathways for synthesis and degradation of heme; the biochemical characteristics of porphyrias and jaundices and the biochemistry of erythrocytes are emphasized. Basics of medical microbiology are given. Sufficient information regarding the physiology of organ systems in human body and explanations about the physiologic mechanisms of particular systems and their functions are described. *Prerequisites: MED101, MED102, MED103 and MED104.*

At the end of this course the students will be able to:

- Define the thoracic wall and the mediastinum, heart, arteries and veins, pharynx, trachea, lungs, the root of neck and diaphragm.
- Explain the histological layers in the wall of the heart, fibrous skeleton, conducting system components in the heart; histological wall structures for large arteries, medium arteries, small arteries, capillaries and veins; the content, cellular component, the histological features of blood cells (erythrocytes, leukocytes and thrombocytes), hemopoiesis; the diffuse lymphatic tissue, lymphatic nodules, lymph nodes and their associated reticular meshwork, the general histological architecture of thymus- spleen and the detailed histological structure of the lungs.
- Define plasma proteins; discuss the structure and function of immunoglobulins; describe the acute phase reactants; describe the biosynthesis of heme; and clinical significance of porphyrias; describe the degradation of hemoglobin and the main types of jaundice; describe the cytoskeleton and the metabolic characteristics of erythrocytes
- Define the classification of microorganisms, the morphology, structure, physiology, genetics of bacteria, culture media, stains, sterilization and disinfection, antimicrobial agents, normal microbial flora and interactions of the microbe and the host.
- Describe the structure and function of the conduction system of the heart and compare the action potentials in each part, the way the electrocardiogram (ECG) is recorded, the waves of the ECG, and the relationship of the ECG to the electrical axis of the heart; understand the pressure, volume, and flow changes that occur during the cardiac cycle. And identify the components of blood and lymph, their origins, vascular, hemotological and immun system mechanisms

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MED202 Endocrine and Urogenital System Committee (10 credits)

The purpose of this course is to gain the necessary skill and knowledge on the anatomy of the endocrine and urogenital systems and to provide sufficient information regarding the histology and embryology of endocrine and urogenital systems in human body. Information on endocrine biochemistry, body water and electrolytes, acid-base control and acid-base disorders and renal function are explained. Sufficient information regarding the physiology of organ systems in human body and explanations on physiologic mechanisms of particular systems and their functions are emphasized. Immunology and some bacteria causing human disease are described. *Prerequisites: MED101, MED102, MED103 and MED104.*

At the end of this course the students will be able to:

- Define surface anatomy and topographical landmarks of the kidney and ureters, bladder and urethra, pelvis and perineum, female and male genital organs, suprarenal glands, the thymus, the thyroid gland, the parathyroid gland.
- Explain the histological structure, functions and development process for endocrine glands, kidney, urinary bladder, urethra, organs and accessory sex glands that constitute the male reproductive system and internal and external genital organs that constitute the female reproductive system.
- Explain the general characteristics of endocrine system, the mechanisms of hormone action; describe the production, storage, release transport, metabolism and effects of hormones, the clinical features of the excess and deficiency states for hormones
- List the main functions of the kidney; discuss the roles of kidney in electrolyte-water and acid-base balances, the abnormalities in renal function during the course of diabetes mellitus
- Define Actinomyces, Nocardia and Mycobacterium spp, Spirochetes, Rickettsia, Chlamydia, Mycoplasma and medically important fungi and diseases caused by these microorganisms.
- Describe the structure of hormonal system, mechanisms, male and female reproductive physiology and the basic mechanisms of urological mechanisms, renal and tubular physiology.

MED203 Gastrointestinal System and Metabolism Committee (12 credits)

The purpose of this course is to identify and illustrate the gastrointestinal system anatomy, recognize the patterns of mimic muscles and the parts of the gastrointestinal tract and to provide sufficient information regarding the histology and embryology of gastrointestinal system in human body. Metabolism of carbohydrates, lipids and proteins are given and the clinical situations that arise from the derangements are discussed. Sufficient information regarding the physiology of organ systems in human body and explanations about the physiologic mechanisms of particular systems and their functions are emphasized. Some bacteria and fungi causing infectious diseases are described. *Prerequisites: MED101, MED102, MED103 and MED104.*

At the end of this course the students will be able to:

- Define the mimic muscles, temporomandibular joints and muscles of mastication, abdominal wall, the great vessels and parts of the peritoneum, oesophagus, stomach, liver, gall bladder and the biliary ducts, pancreas, spleen
- Recognize the rectum, anal canal, the inguinal canal, vessels and the nerves of the digestive tract and the portal system,
- Explain the histological features, functions and difference of the organs located in oral cavity, major salivary glands and general histological stratification pattern for esophagus, stomach, small and large intestine and explain the functions-blood supply-structural organization of liver, gallbladder, exocrine and endocrine pancreas in accordance with detailed developmental process of digestive system.
- Discuss the digestion, absorption and the metabolism of carbohydrates, proteins, and fats
- To describe adaptive immunity, hypersensitivity reactions, immunological diagnostic tests, Gram(+)cocci, Gram(-)cocci, Gram (-)bacilli, Gram(+) bacilli and spor forming rods.
- Understand the functional significance of the gastrointestinal system, and in particular, its roles in nutrient assimilation, excretion, and immunity.

MED204 Nervous System Committee (12 credits)

The purpose of this course is to gain the necessary skill and knowledge on the anatomy of the nervous systems. Sufficient knowledge regarding the histology and embryology of nervous system in human body and information on cerebrospinal fluid and the neurotransmitter systems in the central nervous system including the functions of norepinephrine, dopamine, acetylcholine, serotonin, GABA and glutamate are discussed. General characteristics of viruses, classification of viruses and the infections caused by the viruses with clinical presentations, diagnosis and treatment are defined. Information regarding the physiology of organ systems in human body and explanations about the physiologic mechanisms of particular systems and their functions are emphasized.

Prerequisites: MED101, MED102, MED103 and MED104.

At the end of this course the students will be able to:

- Define subdivisions of the central nervous system, structure of spinal cord ascending and the descending tracts, brainstem and divisions; medulla oblongata, pons, mesencephalon, diencephalon, hypothalamus, hypophysis and the basal ganglia, thalamus, cerebral hemispheres, cerebral cortex areas, the brain ventricles, cerebrospinal fluids, vessels of the central nervous system, olfactory pathways, the limbic system and the rhinencephalon, cranial nerves. the orbit and the eyeball, the visual pathways, the ear and the vestibular system, the auditory and the vestibular pathways.
- Explain the neuron cells, supporting glial cell types, histological structure and developmental process of organs that comprise the central and peripheral nervous system, histological content of meninges and the blood-brain barrier together with the histology and embryology of integumentary system and sensory

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- Describe the biochemical characteristics of the blood-brain barrier in prevention of substances in blood from entering the CSF, the normal composition of cerebrospinal fluid; the relationship of CSF protein and glucose levels to their serum levels; appreciate that the high metabolic rate of the brain is dependent upon a constant supply of glucose and describe briefly the metabolism of primary neurotransmitters
- Define the characteristics of viruses and the diseases caused by DNA,RNA viruses and prions
- Describe the general organization of central and peripheric nevous sytem, senses, learning, memory formation, limbic sytem, basal ganglia, spinal cord, reflexes and general organization of peripheral nervous sytem, autonomic nervous system mechanisms.

MED206 Biological Fundamentals of Diseases Committee (9 credits)

The purpose of this course is to give information on inborn errors of metabolism; clinical application of enzymes; free radicals,antioxidants and oxidative stress; the effects of mitochondrial DNA mutations and the relationship of type 2 diabetes mellitus with obesity and the metabolic syndrome and finally a biochemical approach to aging is presented. Parasitic infections are described by reviewing the causes of human parasitic infections, their characteristics and the clinical manifestations. Basic perspective to understand the basic pathology concepts and introduce the basic type pathological proceses with basic pathological events and processes with and histopathological perspective are reviewed and supported with lab sessions. General epidemiological and pathophysiological aspects of cancer will be reviewed. Definitions regarding drug, pharmaceutical forms, routes of administration, the absorption of the applied changes on the body and the basic concepts related to excretion during the course of processing are discussed. In addition, the students gain knowledge about of the concept of receptor and post-receptor events and mechanisms of action of drugs. Students taking the course will learn the rules of pharmacokinetics and pharmacodynamics in general before examining specific groups of drugs. They will have information about principles of prescribing, the rational use of medicines, pharmacovigilance and pharmacogenetics. *Prerequisites: MED101, MED102, MED103 and MED104.*

At the end of this course the student will be able to:

- List disorders of metabolism of amino acids, fatty acids and carbohydrates including the laboratory investigations; state the biologic function of the clinically significant enzymes; identify the main sources of oxygen radicals in the body, describe the effects of ROS on biomolecules and the diseases associated; describe the defence mechanisms that protect against radical damage; discuss the biochemical features of type 2 diabetes mellitus, obesity, the metabolic syndrome and aging
- Define the general characteristics of parasites, classification, pathology, clinical presentations, diagnosis, treatment, prevention and epidemiology of infectious diseases caused by protozoa, helminths and arthropoda.
- Define cell injury and the mechanisms, hyperplasia, hypertrophia atrophia and metaplasia, hemostasis and thrombosis thromboembolism, ischemia and infarct hemorheologic considerations, acute and chronic inflammation, properties of benign and malign neoplasias, epithelial and nonepithelial tumors; steps of cancer generation

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- Classify the stages of drug development and naming, pharmaceutical forms of medications
- Explain pharmacokinetic, pharmacodynamic properties, pharmacovigilance, pharmacogenetics, toxicology and drug side effects
- Illustrate prescribing rules and the rational use of medicines
- Explain the principles of drug use in special situations such as pregnancy, lactation and old age.

MED301 Neoplasia and Hematopoietic Systems Diseases Committee (8 Credits)

The purpose of this course is to learn the genetic mechanisms and the clinical features of the neoplastic and hematologic system diseases; the pathologic basis of them; the diagnostic tools in radiology and nuclear medicine, and the medical (pharmacological) and surgical treatment modalities for these diseases. They gain clinical skills before entering the clinic rotations by performing examinations and procedures with simulated patient in the simulation center. *Prerequisites: MED201, MED202, MED203, MED204 and MED206.*

At the end of this course the student will be able to:

- Understand the normal structures and functions of human body
- Develop clinical problem solving, clinical reasoning and evaluation skills by integrating biomedical, clinical, social and humanities knowledge
- Describe the features of the medications used for the treatment of the neoplastic and the hematologic diseases.
- Learn laboratory techniques in hematology, special diagnostic methods and their interpretation.
- Understand the role and methods of biopsy in hematological and neoplastic diseases.
- Describes the medical and radiation oncology methods used in neoplastic and hematological diseases.
- Gain clinical skills before entering the clinic rotations by performing examinations and procedures with simulated patient in the simulation center.

MED 302 Urogenital and Endocrine System Diseases Committee (9 Credits)

The purpose of this course is to recognize endocrine and urogenital systems diseases, learn their pathogenesis and treatment. Students learn to take the story and the examination methods and develop their clinical skills on simulated patients. Diagnostic techniques related with endocrine and urogenital systems diseases and the application of these methods are discussed. Genetic screening issues, organ transplantation, approach to the renal insufficiency, malign and vascular diseases of the endocrine and genitourinary systems diseases; life threatening conditions like thyroid storm, miscarriages, complicated pregnancies are discussed. Long term maintenance of the pediatric renal or endocrine patients are discussed. Clinical problem solving in cases with acid-base imbalance are given. The pathological basis of these problems are reviewed in detail. A special emphasis is given to general principles of pathophysiological basis of diseases. Diagnostic modalities and different techniques of imaging methods related with the diseases entities are also learned. They gain clinical skills before entering the clinic

rotations by performing examinations and procedures with simulated patient in the simulation center.

Prerequisites: MED201, MED202, MED203, MED204 and MED206.

At the end of this course the student will be able to:

- Diagnosis normal and pathological structures of the urogenital system
- Knows the pathophysiology of endocrine and urogenital system diseases.
- Define Hypothalamo-Hypophysial System
- Explain the general characteristics of endocrine system, the mechanisms of hormone action; describe the production, storage, release transport, metabolism and effects of hormones, the clinical features of the excess and deficiency states for hormones
- Describe acute and chronic renal failure and their treatment
- Defines diabetes mellitus, knows the type of DM, diagnosis and treatment
- Describe obstetric and gynecological emergencies and explain diagnosis and treatment
- Explain family planning methods, pregnancy status and diagnosis, birth and puerperium.
- Explain the effects of drugs used in endocrine and urogenital system diseases, their side effects, doses and drug interactions.
- Gain clinical skills before entering the clinic rotations by performing examinations and procedures with simulated patient in the simulation center.

MED303 Microorganism and Their Diseases Committee (8 Credits)

The purpose of this course is to learn the genetic mechanisms of the infectious diseases in children and adults; the clinical and pathological features of them and the correlation of them with the microorganisms. Each student gains knowledge about the medical (pharmacological) and surgical treatments of these diseases and certain laboratory techniques. This course also describes some infectious diseases with their pathogenesis, clinical characteristics, diagnosis, treatment, prevention. Clinical skills are gained before entering the clinic rotations by performing examinations and procedures with simulated patient in the simulation center. *Prerequisites: MED201, MED202, MED203, MED204 and MED206.*

At the end of this course the student will be able to:

- Define the pathogenesis of infections, approach to the patient, interpret the laboratory results and some clinically important infections.
- Define normal floras of the human body and describe changings of normal flora in pathological conditions.
- Explain parasitologic infestations and regional distribution and specifications of them; diagnostic inquiry and treatment of parasitic conditions.

- Describe viral infections and preventary measures in viral infections. Treatment of viral conditions.

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- Define sterilization and other hygiene methods.

- Explain effects and side effects of antibiotics and other treatment modalities.
- Explain the surgical methods used in the treatment of infectious diseases.
- Gain clinical skills before entering the clinic rotations by performing examinations and procedures with simulated patient in the simulation center.

MED 304 Neuroscience, Psychiatry and Muscle Skeleton System Diseases Committee (10 Credits)

The purpose of this course is to gain the necessary skills and knowledge on the clinical anatomy of the nervous system, skeleton, articulations and bones. Disease mechanisms and histopathological considerations in these systems are discussed in details in pathophysiology and pathology courses. Diagnostic information on cerebrospinal fluid and the neurotransmitter systems in the central nervous system including the functions of neurotransmitters are discussed. Genetic diagnose of neurological diseases are given. Mental disorders and examination of the psychiatric patient summarized in general. Principles of examination and approach to the patients with musculoskeletal problems and their special treatment methods are summarized also. Special issues of internal medicine related with neurology, orthopedics, physical medicine and the psychiatry are discussed. Approach to the child patient and their special treatment differences are given. They gain clinical skills before entering the clinic rotations by performing examinations and procedures with simulated patient in the simulation center. *Prerequisites: MED201, MED202, MED203, MED204 and MED206.*

At the end of this course the student will be able to:

- Describe the composition and functions of the nervous system.
- Describe the composition and functions of the Musculoskeletal system
- Define mental activities, behavioral aspects of human.
- Describe the pathology and histopathological findings of nerve and musculoskeletal system diseases.
- Describe examination methods in clinical neurology, psychiatry, orthopedics and physical medicine and rehabilitation. Know diagnosis methods, interpret biochemical and radiological examination results.
- Define diagnostic modalities in these pathological processes, application of techniques and interpretation of the results.
- Describe special therapeutic interventions in musculoskeletal diseases.
- Define pathophysiological mechanisms of the issues and histopathological findings in diseases.
- Explain effects and side effects of pharmacological agents related with central nervous system, mood altering drugs, pain treatment and anesthetics.
- Gain clinical skills before entering the clinic rotations by performing examinations and procedures with simulated patient in the simulation center.

MED 305 Cardiovascular and Respiratory System Diseases Committee (9 Credits)

The purpose of this course is to explain the genetic mechanisms and etiology of the cardiovascular system diseases of the children and adults, besides their clinical and pathological features. Questioning of the patient and

examination methods are shown to the students. Students also learn how to use medical and surgical treatments and diagnostic tools. They gain clinical skills before entering the clinic rotations by performing examinations and procedures with simulated patient in the simulation center. *Prerequisites: MED201, MED202, MED203, MED204 and MED206.*

At the end of this course the student will be able to:

- Explain main cardiac and lung diseases, and their physiopathological mechanism
- Learn anamnesis, and examination methods of Cardiovascular and respiratory system related illnesses and can examine this patient
- Define examination methods in cardiovascular and respiratory system diseases.
- Describe diagnostic methods in cardiovascular and respiratory system diseases
- Define examination methods and different specifications other than adult population of children in cardiovascular and respiratory diseases.
- Explain the medical and surgical treatment of cardiovascular and respiratory system diseases.
- Explain the effects, side effects, mechanism of actions, dosages and drug interactions of drugs used in cardiovascular and respiratory system diseases
- Understand and explain the main principles of radiodiagnostics, nuclear medicine and radiation oncology
- Gain clinical skills before entering the clinic rotations by performing examinations and procedures with simulated patient in the simulation center.

MED 306 Public Health, Forensic Medicine and Medical Ethics Subject Committee (8 Credits)

Informations about the introductory forensic issues are given. General principles of public health, epidemiology and medical ethics are discussed. Information on general knowledge about disease prevention, immunization programmes, sanitary preventions, clear water and purification systems, principles of quarantine and controlling of epidemics, general principles of community health, and biostatistical issues are learned. General pharmacology and environmental toxicology issues are discussed. They gain clinical skills before entering the clinic rotations by performing examinations and procedures with simulated patient in the simulation center. *Prerequisites: MED201, MED202, MED203, MED204 and MED206.*

At the end of this course the student will be able to:

- Have knowledge about the forensic medicine, the location of the subject in the World and Turkey, forensic autopsy, the definition of death.
- Describe the primary health care, preventive medicine and also the principles of health education, applications in health care and health insurance and also critically analyze current medical issues and future advances

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professional and ethical values

- Explain general knowledge about disease prevention, immunization programs, sanitary preventions, clear water and purification systems, principles of quarantine and controlling of epidemics, general principles of community health, and biostatistical issues are learned.
- Explain the treatment principles in dermatological diseases and explain the mechanisms, effects, side effects, dosages and drug interactions of drugs used in dermatological diseases
- Discuss information on general pharmacology, toxicology and environmental toxicology issues.
- Explain features of blood banking and transfusions, blood transfusion products and storage, transfusion reactions and their treatments.

MED 307 Gastrointestinal System Diseases Committee (8 Credits)

The purpose of this course is to recognize gastrointestinal system diseases, learn pathogenesis, biochemical pattern and treatment. Students learn to take the story and the examination methods and develop their clinical skills on simulated patients. Diagnostic techniques related with gastrointestinal system diseases and the application of these methods are discussed. Organ transplanted issues, approach to the acute abdomen, malign and vascular diseases of the gastrointestinal disease; life threatening conditions like hepatic coma are discussed. They gain clinical skills before entering the clinic rotations by performing examinations and procedures with simulated patient in the simulation center. *Prerequisites: MED201, MED202, MED203, MED204 and MED206.*

At the end of this course the student will be able to:

- Know and explain pathogenesis, biochemical pattern and treatment of gastrointestinal system diseases.
- Learn to take the story and the examination methods of gastrointestinal system diseases.
- Discuss diagnostic techniques related with gastrointestinal system diseases and the application of these methods.
- Explain to the acute abdomen, malign and vascular diseases of the gastrointestinal disease; life threatening conditions like hepatic coma. Describe medical and surgical treatments in these situation.
- Explain the effects, side effects, dosages and drug interactions of drugs used in gastrointestinal system diseases
- Develop their clinical skills on simulated patients.

MED401 Forensic Medicine (4 credits)

The purpose of this course is to gain information on the forensic medicine and the criminal issues. This program includes introduction to thanatology, methods of autopsy, basic forensic toxicology, basic forensic pathology, basic criminal diagnostics, methods of forensic examination and medical examiner reporting and basic knowledge on Turkish law and legislations related with the forensic issues. In accordance with the Turkish Criminal Code and the legislations related with the practice of medicine in Türkiye, student has to recognize the legal limitations

of the medical practice in the face of medical malpractice. *Prerequisites: MED301, MED302, MED303, MED304, MED305, MED306, MED307 and For foreign students; pass The Turkish Language Exam.*

At the end of this course the student will be able to:

- Know better the terminology of forensic medicine in medical practice
- Recognize the types of clinical forensic case
- Perform forensic examination
- Can edit a forensic report
- Can autopsy
- Organize forensic autopsy
- Know the health legislation
- Discuss the concepts of health law

MED402 Internal Medicine (11 credits)

The purpose of this course is to gain information on the internal medicine and related skills of internal medicine clinics. This rotation theoretical battery is in line with the previously given clinical course information; to synthesize, update and consolidate the internal medicine information obtained from different branches, teach and practice history taking and basic physical exam rules in the clinic, ensure that the students can formulate an appropriate differential diagnosis and effective treatment plans, teach how to reach necessary resources to combine the symptoms and clinical findings. *Prerequisites: MED301, MED302, MED303, MED304, MED305, MED306, MED307 and For foreign students; pass The Turkish Language Exam.*

At the end of this course the student will be able to:

- To develop the physical examination and clinical skills required of a medical student in general internal medicine practice, including the ability interpret information relative to normal and abnormal structure, function and physiology.
- To apply historical and clinical information for problems solving to advance the health of the patient.
- To develop the psycho-social and communication skills and competencies that are required to communicate with, and treat a wide diversity of patients in acute, outpatient and institutional settings.
- To develop the ability to research medical literature and scientific resources for information that affects the patient's condition, treatment and outcomes and the ability to evaluate and apply scientifically valid information to maximize the outcome of the patient.
- Performing a physical examination for a patient in a logical, organized, respectful, and thorough manner, giving attention to the patient's general appearance, vital signs, and pertinent body regions.

MED403 General Surgery (11 credits)

The purpose of this course is to gain information on the general surgical disease and related issues. It Provides general information about general surgery, explains the pathophysiological basis of diseases, their diagnosis and surgical treatments, teaches the treatment principles for the pre-operative, post-operative and injured individuals.

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Prerequisites: MED301, MED302, MED303, MED304, MED305, MED306, MED307 and For foreign students; pass The Turkish Language Exam.

At the end of this course the students will be able to:

- Demonstrate the ability to obtain an accurate surgical history.
- Demonstrate knowledge and understanding of common surgical problems.
- Understand the indications for, and the limitations of, essential diagnostic studies used to evaluate patients with surgical problems.
- Evaluate and assess patients with surgical diseases.
- Understand and possibly perform various basic procedures, such as: venipuncture, placement of intravenous catheter, insertion of urethral (Foley) catheter, insertion of nasogastric tube, removal of surgical drains, closure of surgical incisions, removal of suture/staples, dressing changes
- Understand how to and possibly apply specific protocol in the operating room (scrubbing, gowning, gloving, prepping and draping)

MED404 Pediatric Health and Diseases (11 credits)

The purpose of this course is to gain information on the pediatrics and related issues. It provide basic knowledge and skills of pediatrics. The purpose of the pediatric clerkship is to provide the medical student with the knowledge and clinical experience necessary to develop basic skills in the evaluation and management of health and disease in infants, children and adolescents. The core pediatric clerkship is an introduction to the care of healthy children and emphasizes those aspects of pediatrics which should be understood and mastered by all physicians, regardless of ultimate career goals. *Prerequisites: MED301, MED302, MED303, MED304, MED305, MED306, MED307 and For foreign students; pass The Turkish Language Exam.*

At the end of this course the students will be able to:

- Demonstrate the ability to generate an age-appropriate differential diagnosis based on the interview and physical examination.
- Describe the components of a pediatric health supervision visit including health promotion and disease and injury prevention, the use of screening tools, and immunizations for newborns, infants, toddlers, school aged children, and adolescents.
- List the differential diagnosis for common symptoms or patient presentations such as abdominal pain, abnormal growth pattern, ALTE, respiratory distress, jaundice, vomiting, diarrhea, wheezing, and seizures.
- Describe the clinical features of common acute and chronic medical conditions such as asthma, anemia, atopic dermatitis, AD/HD, bronchiolitis, Kawasaki disease, otitis media, meningitis, cerebral palsy, child abuse, croup,

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dehydration, diabetes, strep pharyngitis, meningitis, epilepsy, urinary tract infection, osteomyelitis, gastroenteritis, gastroesophageal reflux, otitis media, viral URI.

- Demonstrate an ability to perform an age-appropriate history and physical examination in children of all ages.
- Interpret the results of common diagnostic tests with an emphasis on age related norms.
- Understand and possibly perform various basic procedures, such as: venipuncture, placement of intravenous catheterinsertion of urethral (Foley) catheterinsertion of nasogastric tuberemoval of surgical drains, placement of nasogastric tube.

MED405 Gynecology and Obstetrics (11 credits)

The purpose of this course is to gain information on the gynecology, obtetrics and related issues. It provides sufficient knowledge and skills to diagnose and treat gynecological and obstetrics diseases as expected from a medical doctor. The student will recognize the value of routine health surveillance as part of health promotion and disease prevention. Student demonstrate the ability to perform an accurate pelvic exam in a sensitive manner and properly obtain specimens to detect sexually transmitted infections. *Prerequisites: MED301, MED302, MED303, MED304, MED305, MED306, MED307 and For foreign students; pass The Turkish Language Exam.*

At the end of this course the students will be able to:

- Develop competence in the medical interview and physical examination of women and incorporate ethical, social, and diverse perspectives to provide culturally competent health care.
- Explain the normal physiologic changes of pregnancy including interpretation of common diagnostic studies.
- Know the methods of protection against infectious diseases
- Describe examination techniques and common problems in obstetrics.
- Demonstrate knowledge of intrapartum care.
- Demonstrate knowledge of postpartum care of the mother and newborn.
- Describe menstrual cycle physiology, discuss puberty and menopause and explain normal and abnormal bleeding.
- Demonstrate knowledge of common benign gynecological conditions.
- Formulate a differential diagnosis of the acute abdomen and chronic pelvic pain.
- Demonstrate knowledge of perioperative care and familiarity with gynecological procedures.

MED406 Radiology (2 credits)

The purpose of this course is to give a basic information about the radiological methods and radiological procedure used in general radiology and prepare the student to the internship. Utilization of radiology as an educational resource carries great potential. Accreditation bodies, physicians and medical students deem it important for a well rounded medical curriculum. An overview of clerkship objectives and structure is followed

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by discussion on lessons learnt during the initial three years of institution. Development of assessable objectives, integration of radiology with other specialties, and supervised radiological learning tailored for undergraduate students are emphasized. *Prerequisites: MED301, MED302, MED303, MED304, MED305, MED306, MED307 and For foreign students; pass The Turkish Language Exam.*

At the end of this course the students will be able to:

- To define the working principles of devices used in basic radiological imaging
- In emergency clinic, define which radiological imaging and where to use it.
- Learn to interpret radiographs of lung, abdomen and bone.
- Describe radiological imaging and findings in pediatric patients.
- Describe where and how interventional radiology is used.
- Describe how interventional radiology procedures are done.

MED407 Anesthesiology and Reanimation (2 credits)

The purpose of this course is to teach trainees the basic theoretical knowledge and practical applications on anesthesia, intensive care and pain issues. *Prerequisites: MED301, MED302, MED303, MED304, MED305, MED306, MED307 and For foreign students; pass The Turkish Language Exam.*

At the end of this course the students will be able to:

- Demonstrate the ability to assess a patient in the preoperative period and formulate a basic management plan
- Demonstrate the ability to take a focused history and physical examination, including anesthetic history and airway exam
- Develop a plan for preoperative investigations and interpret these investigations
- Understand and explain the risks and benefits associated with regional versus general anesthesia
- Develop an approach to acute resuscitation including appropriate fluid therapy
- Develop an approach to perioperative pain management, intensive care patients and the care of the post-op patients.
- Demonstrate competency in airway management and other procedural skills relevant to the perioperative period

MED408 Rational Use of Drugs (2 credits)

The purpose of this course is to teach students how to write out a prescription in accordance with the rules of pharmacology and that is supported by rational data; to teach detecting patient's problem (communicating with patients and their relatives and provide them with the right information), explaining the rational pharmacotherapy, examining the effectiveness of drugs and how to apply the drug doses (IM, IV, injection, IV infusion, subcutaneous

Examining the effectiveness of drugs and how to apply the drug doses (IM, IV, injection, IV infusion, subcutaneous

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injection and local administration applications). *Prerequisites: MED301, MED302, MED303, MED304, MED305, MED306, MED307 and For foreign students; pass The Turkish Language Exam.*

At the end of this course the students will be able to:

- Write a prescription in accordance with the rules of pharmacology and that is supported by rational data
- Grasp the patient's problem (communicating with patients and their relatives and provide them with the right information),
- Explaining the pharmacotherapy (decide on a rational pharmacotherapy),
- Examining the effectiveness of drugs, how to apply the drug doses (IV. Injection, IV. Infusion, subcutaneous injection and local administration applications).
- Write a complete and correct prescription by using personal drug list.

MED409 Nuclear Medicine (2 credits)

This course will cover most of the well-known diagnostic and therapeutic applications of nuclear medicine. The essential purpose of this course is to give sufficient knowledge on fundamental principles of commonly used nuclear medicine tests and therapeutic applications followed by their most relevant indications in routine clinical use. In addition, the basic knowledge about radiation protection and also some information of nuclear medicine imaging instrumentation will be given to the students. *Prerequisites: MED301, MED302, MED303, MED304, MED305, MED306, MED307 and For foreign students; pass The Turkish Language Exam.*

At the end of this course the students will be able to:

- Distinguish between the major forms of radioactive decay.
- Have an understanding of radiation protection basics in related to different types of radiation.
- Have an understanding of the principle of developing radiopharmaceuticals, i.e labeling radionuclides with different chemicals.
- Have an understanding of underlined pathophysiological processes of commonly used diagnostic and therapeutical nuclear medicine applications.
- Describe common nuclear medicine tests and their indications in the most relevant diseases.
- Describe the main features and mode of operation of gamma cameras and PET scanner.

MED410 Cardiology (4 credits)

The purpose of this course is to gain information on the cardiology and related skills of cardiology clinics. This course aims to improve student's understanding of the essentials of basic clinical cardiology and cardiovascular conditions such as acute coronary syndromes, heart failures, valvular heart disease, cardiomyopathy, arrhythmias,

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hypertension, dyslipidemia and peripheral vascular diseases. Students will also be exposed to a wide-range of non-invasive and invasive cardiac tests, and procedures in the evaluation and management of patients with known or suspected cardiovascular diseases. *Prerequisites: MED301, MED302, MED303, MED304, MED305, MED306, MED307 and For foreign students; pass The Turkish Language Exam.*

At the end of this course the student will be able to:

- Gain the necessary clinical skills in general cardiology practice
- Develop the psycho-social and communication skills and competencies that are required to communicate with, and treat a wide diversity of patients in acute, outpatient and institutional settings.
- Develop the ability to research medical literature and scientific resources for information that affects the patient's condition, treatment and outcomes and the ability to evaluate and apply scientifically valid information to maximize the outcome of the patient.
- Conduct a cardiology history
- Conduct a cardiovascular physical examination
- Assess patients with coronary artery disease, valvular heart disease, congenital heart disease, hypertension, cardiac arrhythmias, and congestive heart failure
- Demonstrate proficiency in the following: recording the electrocardiogram, venipuncture, intravenous therapy
- Demonstrate skill in medical record keeping by recording the case histories of inpatients and writing progress notes at an appropriate frequency.
- Explain the diagnosis and treatment of cardiovascular diseases.
- To develop skills in verbal presentation by presenting cases at ward rounds, in the clinic and on occasion at formal teaching conferences.

MED501 Cardiovascular Surgery (4 credits)

The purpose of this course is to learn of cardiac valvulopathies, e.g. mitral valve disease, aortic insufficiency, etc. Students understand difference of biologic and mechanic valvular prosthesis. They learn cyanotic and acyanotic congenital heart disease e.g. ASD, VSD, TOF, TGA, etc. Students acquire essential knowledge on the cardiopulmonary bypass. They understand atherosclerotic heart disease, coronary artery bypass surgery and cardiovascular emergencies. Students learn general vascular problems including varicose veins, limb ischemia. *Prerequisites: MED401, MED402, MED403, MED404, MED405, MED406, MED407, MED408 and MED409.*

At the end of this course the students will be able to

- Learn of cardiac valvulopathies, e.g. mitral valve disease, aortic insufficiency, etc.

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- Describe the cyanotic and acyanotic congenital heart disease e.g. ASD, VSD, TOF, TGA, etc

- Describe the essential knowledge on the cardiopulmonary bypass.
- Describe atherosclerotic heart disease, coronary artery bypass surgery and cardiovascular emergencies
- Learn of general vascular problems including varicose veins, limb ischemia.

MED502 Chest Diseases (4 credits)

The purpose of this course is to learn diagnose and treatment of the respiratory diseases. Practical sessions aim to teach the evaluation of respiratory symptoms and findings, principles of physical examination so that a proper dialogue between the physician-to be and patient could establish. Respiratory diseases are the most common diseases that physician can come across during clinical practice. *Prerequisites: MED401, MED402, MED403, MED404, MED405, MED406, MED407, MED408 and MED409.*

At the end of this course the students will be able to

- Diagnose and treatment of the respiratory diseases.
- Understand the evaluation of respiratory symptoms and findings,
- Describe the principles of physical examination so that a proper dialogue between the physician-to be and patient could establish.
- Define and treatment respiratory diseases that are the most common diseases physician would come across during clinical practice.
- Define spirometric examination and evaluation of the results.

MED503 Chest Surgery (4 credits)

The purpose of this course is to diagnose and treat diseased or injured organs in the thorax. It mainly includes the diseases of the lungs in which a general practitioner has to know and recall main pathologies. This clerkship aims to teach practical methods for diagnosis and major rules of clinical approach to a patient with thoracic trauma. *Prerequisites: MED401, MED402, MED403, MED404, MED405, MED406, MED407, MED408 and MED409.*

At the end of this course the students will be able to

- Diagnose and treat diseased or injured organs in the thorax.
- Describe diseases of the lungs in which a general practitioner has to know and recall main pathologies.
- Describe practical methods for diagnosis and major rules of clinical approach to a patient with thoracic trauma.
- Describe chest tube application
- Describe lung biopsy procedures

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MED504 Dermatology (4 credits)

infection control are described. Approach to critically ill patients and immunosuppressed patients, as well as an understanding of their specific spectrum of diseases are discussed. *Prerequisites: MED401, MED402, MED403, MED404, MED405, MED406, MED407, MED408 and MED409.*

At the end of this course the students will be able to:

- Recognize bacterial, viral, fungal or parasitic infections.
- Define regarding etiology, diagnosis, laboratory findings, clinical characteristics and treatment modalities of infectious diseases.
- Define differential diagnosis and management of infections, antibiotic selection and therapy in infectious diseases.
- Describe community and hospital-acquired pneumonia, infective endocarditis, cellulitis, urinary tract infections and the evaluation of fever,
- Describe appropriate use of diagnostic services including gram stain and culture, antimicrobial sensitivity testing and other standard microbiology lab techniques,
- Define basic principles of infection control such as contact or respiratory isolation and contact tracing, exposure to critically ill patients and immunosuppressed patients, as well as an understanding of their specific spectrum of diseases.

MED507 Neurology (4 credits)

The purpose of this course is to gain knowledge and skills about clinical neurology topics. A complete and reliable history, a complete neurological examination and some specific diagnostic tests (EEG, EMG) are necessary to evaluate neurological disease. Students acquire the ability to recognize and interpret neurological symptoms (such as disorders of consciousness, sense disorders, balance disorders, motor function and autonomic dysfunction) and they learn how to treat them. *Prerequisites: MED401, MED402, MED403, MED404, MED405, MED406, MED407, MED408 and MED409.*

At the end of this course the students will be able to:

- Recognize common neurological disease.
- Elicit a general and focused neurological history.
- Generate a differential diagnosis for common neurological complaints.
- Perform and interpret a neurological examination.
- Demonstrate a basic understanding of the common indications and interpretations for neurological diagnostics (e.g., EEG, EMG, lumbar puncture, CT and MR imaging).
- Recognize and treatment to neurological emergencies

MED508 Neurosurgery (4 credits)

The purpose of this course is to train medical student to become proficient in diagnosis and treating neurosurgical emergencies. The students shall also learn the general outline of neurosurgical pathologies, the diagnostic work up differential diagnosis and treatment options. *Prerequisites: MED401, MED402, MED403, MED404, MED405, MED406, MED407, MED408 and MED409.*

At the end of this course the students will be able to:

- Recognize common neurosurgical conditions presentations.
- Preparation of the neurosurgical patient for the operation
- Generate a differential diagnosis for common neurological complaints.
- Perform and interpret a neurological examination, localize a lesion based on clinical information and neurological examination.
- Demonstrate a basic understanding of the common indications and interpretations for neurological diagnostics (e.g., EEG, EMG, lumbar puncture, CT and MR imaging, angiology, pathological examinations).
- Develop a practical approach to the evaluation and management of common neurological complaints.
- Describe emergency neurosurgical conditions.

MED509 Ophthalmology (4 credits)

The purpose of this course is to teach medical students sufficient ophthalmology to enable recognition of common eye complaints and their etiology as well as recognition of less common but life or sight threatening emergencies presenting as eye findings. This course provides knowledge about various eye diseases, systemic diseases and their relationships with eye, basic medical and surgical treatments and ocular emergencies. *Prerequisites: MED401, MED402, MED403, MED404, MED405, MED406, MED407, MED408 and MED409.*

At the end of this course the students will be able to:

- Demonstrate the ability to initially assess and manage common ophthalmic problems
- Demonstrate the ability to rapidly recognize and initiate management of ocular emergencies and trauma.
- Describe a systematic, prioritized approach diagnosing common ophthalmic presentations.
- Distinguish those ophthalmic conditions requiring immediate referral to an ophthalmologist.
- Take a focused history and perform a physical examination for patients presenting with common ocular symptoms.
- Develop a working differential diagnosis and management plan.
- Develop plans for investigations and interpret these investigations.
- Explain the risks and benefits of investigations and treatments.

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MED510 Orthopaedics and Traumatology (4 credits)

The purpose of this course is to teach students the clinical symptoms of congenital diseases often encountered in Türkiye, infections of the bones and joints, diseases of the spine and general approach to fractures of the bones. Students have to recognize the diagnostic tests and basic principles of diagnosis and treatments of emergency patients with orthopedic problems. *Prerequisites: MED401, MED402, MED403, MED404, MED405, MED406, MED407, MED408 and MED409.*

At the end of this course the students will be able to:

- Apply main principles of approach to urgent patient and its stages and able to apply it.
- Apply triangular bandage and to fixate of lower extremities.
- Obtain patient history and to do physical examination.
- Inform students about taking patient history and performing physical examination and let the medical students to internalize the information by practicing it and be able to apply the information appropriately.
- Describe the diagnosis of fractures and dislocations and general approach to their treatment.
- Describe the causes, formation, clinical course and diagnosis of congenital and acquired diseases of musculoskeletal system.
- Describe the preventive approaches in congenital and acquired diseases of musculoskeletal system.
- Describe the particular approach to diseases which are problematic for public health in Turkey because of their frequency or economic burden
- Have some general information about surgical approach to certain orthopedics and traumatology conditions.

MED511 Pediatric Surgery(4 credits)

The purpose of this course is to integrate pediatric surgical knowledge, attitudes and skills already acquired in the first 4 years of medical school into the clinical discipline, follow-up of healthy children and practice current diagnostic and therapeutic approaches with guidance in common medical and surgical disease situations. Preoperative preparation, surgery and postoperative care (history, physical examination, laboratory, differential diagnosis) in children with pediatric surgical problems are discussed in overview. The principles of general surgery are discussed with emphasis on physiology of the pediatric population, especially in the neonatal period as a different model from those of adults. The necessity of a unique approach is underlined. Children with common congenital anomalies, surgical pathologies, especially those with associated anomalies requiring surgery are discussed focusing on treatment modalities. Students are encouraged to observe hospitalized children and outpatients, learn disease prevention, early diagnosis and treatment strategies and provide support for the patient and the family. *Prerequisites: MED401, MED402, MED403, MED404, MED405, MED406, MED407, MED408 and MED409.*

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At the end of this course the students will be able to:

- Integrate pediatric surgical knowledge, attitudes and skills already acquired in the first 4 years of medical school into the clinical discipline,
- Follow-up of healthy children and practice current diagnostic and therapeutic approaches with guidance in common medical and surgical disease situations.
- Describe preoperative preparation, surgery and postoperative care (history, physical examination, laboratory, differential diagnosis) in children with pediatric surgical problems are discussed in overview.
- Describe the principles of general surgery with emphasis on physiology of the pediatric population, especially in the neonatal period as a different model from those of adults.
- Describe children with common congenital anomalies, surgical pathologies, especially those with associated anomalies requiring surgery focusing on treatment modalities.

MED512 Physical Medicine and Rehabilitation (4 credits)

The purpose of this course is to acquire knowledge about physical medicine and rehabilitation. Students submit case reports and attend clinic inservices. In a clinical setting, students treat patients and work with experienced clinicians who provide mentoring and consultation for case reviews, physical therapy techniques, approach to a patient with head and spinal injury, connective tissue and rheumatic diseases, pain neurophysiology, electrodiagnosis, walking aids and other orthotic devices. *Prerequisites: MED401, MED402, MED403, MED404, MED405, MED406, MED407, MED408 and MED409.*

At the end of this course the students will be able to:

- Describe physical therapy techniques,
- Define approach to a patient with head and spinal injury, connective tissue and rheumatic diseases, pain neurophysiology, electrodiagnosis, walking aids and other orthotic devices.
- Describe critically ill from the diagnosis of the illness to the organization of the necessary treatment together and grasping the importance of this process.
- Develop basic knowledge and skills about concept of rehabilitation, concept of quality of life, neurologic and orthopaedic deficiencies and physical examination,
- Describe diagnosis and treatment of musculoskeletal pain and rheumatic diseases
- Define the methods of electrotherapy and massage.

MED513 Plastic and Reconstructive Surgery(4 credits)

The purpose of this course is to gain ability to identify and examine common problems of plastic surgery with emphasis on: basic techniques and principles of plastic surgery (i.e. obtaining a fine line scar closure of skin wounds, skin grafting, skin flaps, Z-plasty, reconstructive ladder); maxillofacial injuries (i.e. initial management,

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soft tissue injuries, facial fractures); congenital anomalies and pediatric plastic surgery (i.e. cleft lip and palate, congenital melanocytic nevi, vascular anomalies). *Prerequisites: MED401, MED402, MED403, MED404, MED405, MED406, MED407, MED408 and MED409.*

At the end of this course the students will be able to:

- Analyzing problems, understanding decision making and problem solving processes by integrating knowledge related with plastic surgical disorders in pediatric and adult periods.
- Gaining competencies in basic clinical and invasive skills
- Understanding patient, disease and health care process management
- Effective communication with patients, their relatives and health team; being open to collaboration and team work
- Taking care of professional, societal and individual values, and develop behaviors accordingly.

MED514 Psychiatry(4 credits)

The purpose of this course is to expose students to patients with mental illness and to prepare them to provide psychiatric care at a basic level. By the end of the rotation, students should be proficient at taking a psychiatric history and doing a mental status exam. They should also be able to formulate a biopsychosocial assessment, differential diagnosis, treatment plan, and referral to specialist and asking consultation. The clerkship places an emphasis on learning interviewing skills, team collaboration, and respect for psychiatric patients and their disorders. A special emphasis is given on psychiatric emergencies and concept of forensic psychiatry. *Prerequisites: MED401, MED402, MED403, MED404, MED405, MED406, MED407, MED408 and MED409.*

At the end of this course the students will be able to:

- Describe mental disorders and the “normality”of mental status.
- Taking a psychiatric history and doing a mental status exam and formulate a biopsychosocial assessment, differential diagnosis, and treatment plan.
- Define the necessary knowledge and skills to diagnose, perform differential diagnosis, examine and treat psychiatric disorders in adult population.
- Define the psychological characteristics of children and adolescents and prevalent psychiatric disorders, and to plan appropriate approaches to these problems also to make referral to specialist and asking consultation.
- Describe the psychological tests and diagnostic batteries.
- Define and plan psychiatric treatments methods and approaches.

MED515 Urology(4 credits)

The purpose of this course is to make students an integral part of the adult urology service, including both inpatient and outpatient activities, under the direction of the physicians. They will be expected to take part in diagnostic and therapeutic endeavors under staff direction. This is a survey clerkship of urology that exposes a student to general and specialty based urology (genitourinary oncology, female neurourology, pediatric urology, endourology, and minimally invasive surgery, infertility, erectile dysfunction and pediatric urology). During the clerkship, students learn the evaluation, diagnosis, and treatment of the common diseases of the genitourinary tract. *Prerequisites: MED401, MED402, MED403, MED404, MED405, MED406, MED407, MED408 and MED409.*

At the end of this course the students will be able to:

- Define diagnosis, and management of the common diseases of the genitourinary tract and surgical interventions related with them.
- Describe urological diseases and perform urologic examination,
- Describe and evaluate urological symptoms and signs, to plan diagnostic laboratory and radiologic investigations,
- Explain the basic treatment algorithms,
- Define the urologic emergencies and basic treatment approaches.

MED601 Internal Medicine(10 credits)

The purpose of this course is to develop skills relating with the internal medicine and learn the essential clinical knowledge necessary to evaluate and care for adult patients. During the clerkship, the students will acquire and be able to demonstrate the clinical skills necessary to independently evaluate (with appropriate supervision) and care for adult patients with common medical problems. Student has to learn to prepare and maintain in an accepted format the medical record of the evaluation and care of inpatients and outpatients, including written or electronic entry of a complete history and physical examination, progress notes, procedure notes, clinic visit notes, physician's orders, and prescriptions for medications. Become familiar with routine procedures commonly required for the evaluation and care of patients, including venipuncture, bladder catheterization, arterial puncture, insertion of peripheral intravenous catheters, fecal occult blood tests, electrocardiograms, insertion of nasogastric tubes. *Prerequisites: MED501, MED502, MED503, MED504, MED505, MED506, MED507, MED508, MED509, MED510, MED511, MED512, MED513, MED514 and MED515.*

At the end of this course the students will be able to:

- Effectively take a history and physical exam

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• Become familiar with routine procedures commonly required for the evaluation and care of patients, including venipuncture, bladder catheterization, arterial puncture, insertion of peripheral intravenous

catheters, fecal occult blood tests, electrocardiograms, insertion of nasogastric tubes, use of sterile technique, and use of universal precautions.

- Explain knowledge of the pathophysiologic principles behind the manifestations of the disease conditions
- Demonstrate knowledge of the indications, contraindications and benefits of the common procedures such as: arterial blood gas, thoracentesis, paracentesis, lumbar puncture, and joint aspiration.
- Perform and record a thorough physical examination, and review the physical findings
- Develop an appropriate differential diagnosis based on history and physical examination findings, laboratory and diagnostic tests results.
- Orally present a complete, well-organized summary of the patient's history and physical examination findings, including an assessment and plan, modifying the presentation to fit the clinical situation.
- Formulate a diagnostic and therapeutic plan for the patient based on gathered clinical information and laboratory data.

MED602 General Surgery (10 credits)

The purpose of this course is to learn basic knowledge of surgery and develop skills necessary for sufficient surgical clerkship. Students learn common surgical problems and understand the indications for essential diagnostic studies used to evaluate patients with surgical problems. They understand and possibly perform various basic procedures, such as: venipuncture, placement of intravenous catheter, insertion of urethral (Foley) catheter, insertion of nasogastric tube, removal of surgical drains, closure of surgical incisions, removal of suture/staples, dressing changes. Students understand how to and possibly apply specific protocol in the operating room (scrubbing, gowning, gloving, prepping and draping), interpret common laboratory tests, common radiologic tests. *Prerequisites: MED501, MED502, MED503, MED504, MED505, MED506, MED507, MED508, MED509, MED510, MED511, MED512, MED513, MED514 and MED515.*

At the end of this course the students will be able to:

- Describe basic knowledge of surgery and develop skills necessary for sufficient surgical clerkship.
- Define knowledge and understanding of common surgical problems.
- Describe the indications for, and the limitations of, essential diagnostic studies used to evaluate patients with surgical problems.
- Evaluate and assess patients with surgical diseases.
- Perform various basic procedures, such as: •venipuncture, placement of intravenous catheter, insertion of urethral (foley) catheter, insertion of nasogastric tube, removal of surgical drains, closure of surgical incisions, removal of suture/staples, dressing changes, understand how to and possibly apply specific protocol in the operating room (scrubbing, gowning, gloving, prepping and draping), interpret common laboratory tests (cbc, electrolytes, blood gases, urinalysis, coags),
- Interpret common radiologic tests, understand how to obtain and interpret ECG.

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MED603 Pediatric Health and Diseases (10 credits)

The purpose of this course is to provide the medical student with the knowledge and clinical experience necessary to develop basic skills in the evaluation and management of health and disease in infants, children and adolescents. The core pediatric clerkship is an introduction to the care of children and emphasizes those aspects of pediatrics which should be understood and mastered by all physicians, regardless of ultimate career goals. The clerkship will address issues unique to childhood and adolescence by focusing on human developmental biology, and by emphasizing the impact of family, community and society on child health and well-being. It is within this framework of normal growth and development that the student will learn the mechanism of disease processes and develop the ability to formulate appropriate diagnostic and therapeutic plans. Additionally, the clerkship focuses on the impact of disease and its treatment on the developing human, and emphasizes growth and development, principles of health supervision and recognition of common health problems. The role of the pediatrician in prevention of disease and injury and the importance of collaboration between the pediatrician and other health professionals is stressed. *Prerequisites: MED501, MED502, MED503, MED504, MED505, MED506, MED507, MED508, MED509, MED510, MED511, MED512, MED513, MED514 and MED515.*

At the end of this course the students will be able to:

- Describe knowledge and clinical experience necessary to develop basic skills in the evaluation and management of health and disease in infants, children and adolescents.
- Demonstrate an ability to perform an age-appropriate history and physical examination in children of all ages
- To conduct an interview, perform a physical examination, manage medical data, communicate written and oral information, integrate basic science knowledge, search and read the literature critically, and teach.
- Describe problems in the newborn period, such as prematurity, respiratory distress, jaundice, and infections. Immunizations, previous hospitalizations, surgeries, medications and medication allergies, chronic medical conditions, growth and development, and nutrition. Family History Age and health of family members to include acute and chronic medical conditions.
- Demonstrate an ability to perform the following examination skills. Appearance Interpret the general appearance of the child, including size, morphologic features, development, behaviors and interaction of the child with the parent and examiner. Vital Signs Identify variations in vital signs based on age of the patient, the presence or absence of disease, and testing modalities (e.g. Blood pressure cuff size).
- Describe the normal growth and development of the child,
- Define disease processes in general pediatrics. Describe the clinical features of chronic medical conditions seen in children such as: asthma, atopic dermatitis, cerebral palsy, cystic fibrosis, diabetes mellitus, epilepsy, malignancy (e.g. Acute lymphocytic leukemia and Wilms tumor), obesity, seasonal allergies, and sickle cell disease.

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- Describe the rationale for childhood immunizations and current recommendations

- Describe variants of normal growth in health children,
- Describe the epidemiology, clinical, laboratory, and radiographic findings, of each of the core pediatric level conditions listed for each presenting complaints.
- Identify normal pattern of behaviors in the developing child such as: newborn/infants: development and evolution of social skills toddler: autonomy school age: independence adolescence: abstract thinking
- Describe the signs and symptoms of common nutritional deficiencies in infants and children (e.g. Iron, vitamin D, fluoride, and inappropriate caloric volume) and how to prevent them.
- Demonstrate the ‘ABC’ assessment as a means for identifying who requires immediate medical attention and intervention.

MED604 Gynecology and Obstetrics (10 credits)

The purpose of this course is to provide the clinical experiences and knowledge to familiarize you with the core competencies of obstetrical and gynecologic care. The obstetrics and gynecology is not only the physician for the reproductive needs of patients but often the sole provider of primary and preventive care needs of women. During this clerkship students acquire knowledge and skills to manage the health care needs of women. *Prerequisites: MED501, MED502, MED503, MED504, MED505, MED506, MED507, MED508, MED509, MED510, MED511, MED512, MED513, MED514 and MED515.*

At the end of this course the students will be able to:

- Define and apply basic examination procedures in gynecology and obstetrics
- Describe screening of the pregnant mother, using diagnostic methods, normal and complicated pregnancy
- Describe antenatal testing procedures of the mother
- Define a normal delivery and follow-up of the mother postnatally
- Describe common gynecological problems and their treatments
- Describe preparation of the patient to the surgery in gynecology, and post-op care.
- Describe emergency problems of obstetrics and gynecology

MED605 Public Health (10 credits)

The purpose of this course is to teach the interns health care system and organization in Turkey, how evaluate the health status and identify the health problems of the community, how to design and implement plans for controlling these problems, how to promote the health status of the community and the general principles of preventive, curative and rehabilitative health services. The students will be introduced to the principles and methods of epidemiologic investigation, including describing the patterns of health and illness in populations, quantitative measures to determine risk, association and procedures for standardization of rates, application of basic principles

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Prerequisites: MED501, MED502, MED503,

MED504, MED505, MED506, MED507, MED508, MED509, MED510, MED511, MED512, MED513, MED514 and MED515.

At the end of this course the students will be able to:

- Define health care system and organization in Turkey generally
 - Define techniques for evaluation of the health status and identification of the health problems of the community,
 - Design and implement plans for controlling these problems, how to promote the health status of the community and the general principles of preventive, curative and rehabilitative health services.
 - Define quarantine status and governing a local epidemic
 - Define immunization programs in the community setting
 - Define water purification and prevention of waterborne disease in the community settings
 - Apply the basic terminology and definitions of epidemiology.
 - Describe a public health problem in terms of magnitude, person, time and place.
 - Calculate basic epidemiology measures
 - Identify key sources of data for epidemiologic purposes.
 - Explain the importance of epidemiology for informing scientific, ethical, economic and political discussion of health issues.
 - Draw appropriate inferences from epidemiologic data.
 - Identify the principles and limitations of public health screening programs.
- Comprehend basic ethical and legal principles pertaining to the collection, maintenance, use and dissemination of epidemiologic data.

MED606 Emergency Medicine (5 credits)

The purpose of this course is to gain essential emergency medicine knowledge. Students should integrate the knowledge they have obtained in medical school so far to focus on evaluation and treatment of acute presentations. Students describe the importance of effective communication at all levels for patient care in the emergency department, and demonstrate effective communication skills. Students appreciate the clinical challenge of managing multiple patients simultaneously, each at different stages of evaluation and treatment.

Prerequisites: MED501, MED502, MED503, MED504, MED505, MED506, MED507, MED508, MED509, MED510, MED511, MED512, MED513, MED514 and MED515.

At the end of this course the students will be able to:

- Describe frequent medical presentations and their evaluation and treatment.

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- Perform emergency surgical procedures like placement of thoracal tube, tracheotomy, lumbar puncture, blood-gase analysis, and intubation.
- Applicate casting and bandages for common orthopedic problems
- Perform suturing of the wounds and their appropriate care,

MED607 Elective Rotation (Internal and Surgical Medicine) (5 credits)

The purpose of this course is to offer an extra opportunity of clinical rotation desired by the student in accordance with the future career planning in medical specialities. *Prerequisites: MED501, MED502, MED503, MED504, MED505, MED506, MED507, MED508, MED509, MED510, MED511, MED512, MED513, MED514 and MED515.*

Elective Rotation-Radiation Oncology

The purpose of this course is to gain information about what cancer is and how it occurs, common cancers and therapies, radiation and radiobiology of the radiation, stereotactic radiotherapy and clinical applications, brachytherapy and clinical applications, conformal radiotherapy and clinical applications, IMRT and clinical applications, VMAT and clinical applications.

At the end of this course the students will be able to:

- Distinguish basic concepts about radiation oncology and basic principles in clinical practice,
- Distinguish the basic concepts of Radiation Oncology,
- Gain theoretical and practical knowledge about Radiotherapy Field.
- Distinguishes clinical features of tumor and learn preparation of treatment,
- Interpret components of radiotherapy field and all related applications

ELECTIVES

KYP001 Career and Life Planning (1credits)

The purpose of this course is to ensure that students specify their expectations for university education, spend this process in a productive way and improve themselves. Make them get knowledge about occupational life and prepare for it during their education since the first years of university.

At the end of this course the students will be able to:

- Raise the self-consciousness of students ; assist them to discover their own strengths and weaknesses during the journey from being “high school student” to being “ university student and adult”

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- Lead the students to discover their own potentials,

- Make students realize the university life dynamics,
- Make them investigate and think about their department, make them begin specifying their career options,
- Inform them about actions to be taken before graduation to be ready for business world,
- Acquire a personal image and communication skills,
- Introducing the concepts of time and stress management

ATA111 History of Turkish Revolution (2 credits) (See General Education)

This course covers the analysis of the causes and the consequences of the First World War; the searches for independence of the Turkish nation in Anatolia and salvation of the Turkish lands that were occupied after the Armistice of Montrose; the development and activities of Nationalist militias and the societies against them; the evaluation of the congress administrations that were formed after 19 May, 1919 in terms of their form and content; the structure of the Grand National Assembly and the process through which it gained legitimacy; the leadership of Turkish War of Independence; Treaty of Lausanne, and the Establishment of the Republic.

ATA112 History of Turkish Revolution (2credits) (See General Education) Prerequisite:ATA111

Lausanne Peace Treaty resulting success that is being converted to a modern state via announcement of Republic, and being gained to this state a modern, convenient to development identity, and placing Ataturk's Thought System to the memories precisely by the following revolutions of this process, so that our young people are made conscious and durable against to the threats to their personalities and to their countries.

ENG 111 İngilizce I (3 credits)

The course offers a balanced mixed of language input, skills work and oral tasks. It enriches students' topic-based vocabulary and develops their awareness of lexical patterns. In this course students have functional language lessons which are useful to them in their daily lives. Besides Basic English. Medical Faculty and Dentistry Faculty students are given basic medical terminology supported by medical texts

ENG 112 İngilizce II (3 credits)

In this course students will be able to develop their language skills. They will be able to practice all four skills. The course is a follow up to ING 111, so students will continue to learn and enhance their existing knowledge on reading and writing techniques, various grammar points and participate in listening and speaking activities. Besides Basic English, Medical Faculty and Dentistry Faculty students

ENG113 Academic Reading and Writing I (3 credits)

This course is designed to help students develop specific skills required for academic reading, including skimming, scanning, intensive reading, topic sentences and prediction, as well as various writing skills. Students will be given guided practice in writing skills and tasks reflecting different types of academic texts. Students will also be taught vocabulary- building strategies and given guidance in undertaking basic research. Besides Academic Reading and Writing lessons. Medical Faculty and Dentistry Faculty students are given basic medical terminology supported by medical texts

Prerequisites: ENG111,ENG112

ENG114 Academic Reading and Writing II (3 credits)

This course is a follow-up to ENG 113. It focuses on the development of specific skills required for academic reading and writing. Students will be able to improve their writing skills through guided and free practice, planning, coherence and cohesive devices. In addition, students will learn various vocabulary- building techniques and be given guidance in undertaking research, recording and acknowledging sources. Besides Academic Reading and Writing lessons, Medical Faculty and Dentistry Faculty students are given basic medical terminology supported by medical texts. *Prerequisites: ENG113*

ENG213 Academic Listening and Speaking I (3credits)

This course is designed to develop essential listening and speaking skills. The listening selections and discussion activities cover a range of academic content areas such as communication, technology, business and the social sciences. Students can also develop effective learning strategies while practicing specific listening and speaking skills. The course also offers vocabulary and pronunciation practice such as stress, rhythm, and intonation to complement the instruction. Besides Academic Listening and Speaking lessons. Medical Faculty and Dentistry Faculty students are given basic medical terminology supported by medical texts. *Prerequisite:ENG113,ENG114*

ENG214 Academic Listening and Speaking II (3 credits)

This course is a follow-up to ING 213. It focuses on further development of specific skills required for academic speaking and listening. Diverse listening selections include radio interviews, news reports, monologues and lectures to ensure high-level engagement and encourage discussion. Discussion activities relate to a wide range of academic content areas, including business, communication and the social sciences. The course includes intensive vocabulary and pronunciation practice to complement the instruction. Besides Academic Listening and Speaking lessons. Medical Faculty and Dentistry Faculty students are given basic medical terminology supported by medical texts. *Prerequisite:ENG213*

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TRD105 Turkish For Foreigners I

The aim of the course is to explain to students with examples the characteristic and rules of Turkish. Provides examples for the written and spoken characteristics of the language. Develops students' receptive (listening/ reading/watching/ comprehension) and expressive (written and spoken expression) skills.

Learning Objectives

- To identify everyday expressions dealing with simple and concrete everyday needs, in clear, slow and repeated speech.
- To define speech which is very slow and carefully articulated with long pauses for me to get the meaning.
- To identify questions and instructions
- To repeat name numbers, prices and times.
- To analyze the general idea of simple informational texts and short simple descriptions, especially if they contain pictures which help to explain the text.
- To define very short, simple texts, putting together familiar names, words and basic phrases, by for example rereading parts of the text.
- To describe short, simple written instructions, especially if they contain pictures
- To recognize familiar names, words and very simple phrases on simple notices in the most common everyday situations.
- To write simple notes to friends.
- To describe where he/she lives.
- To complete forms with personal details.
- To write simple isolated phrases and sentences.
- To write short simple postcard.

TRD106 Turkish For Foreigners II

The aim of the course is to explain to students with examples the characteristic and rules of Turkish. Provides examples for the written and spoken characteristics of the language. Develops students' receptive (listening/ reading/watching/ comprehension) and expressive (written and spoken expression) skills.

Learning Objectives

- To explain enough to manage simple, routine exchanges without too much effort.
- To generally identify the topic of discussion around me which is conducted slowly and clearly.
- To handle simple business in shops, post offices or banks.
- To identify the main point of TV news items reporting events, accidents, etc, where the visual material supports the commentary.

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- To define short, simple messages, eg. on postcards.

- To explain short, simple texts containing the most common words, including some shared international words.
- To define texts that written in everyday language.
- To identify specific information in simple written material such as letters, brochures and short newspaper articles describing events.
- To use short letters and messages with the help of a dictionary.
- To analyze short, basic descriptions of events and activities.
- To summarize short, simple notes and messages relating to matters of everyday life.
- To describe plans and arrangements.
- To identify what he/she likes or dislikes about something.

TRD111 Turkish Language (2 credits) (See General Education)

The aim of this course is to study the features and grammar rules of Turkish language, to demonstrate writing and speaking abilities through samples, to improve students' understanding (reading and listening) and expression (oral and written expression) abilities, to provide familiarity with the Turkish literature as well as world literature and culture.

Learning Objectives

- Remembering running rules and features of Turkish.
- Repeating running rules and features of Turkish.
- Repeating notation and pronunciation features of Turkish.
- Students are expected to adapt notation and pronunciation features of Turkish to their abilities.
- Students are expected to identify basic concepts of languages.
- Analysis reading ability and restructuring
- Analysis listening ability and restructuring
- Analysis following ability and restructuring
- Analysis understanding ability and restructuring
- Analysis verbal lecture ability and restructuring
- Analysis written expression ability and restructuring
- Remembering historical development of Turkish language
- Discussing current problems of Turkish Language and estimating future problems.
- Using perfect and effective Turkish.
- Critical and creative reading and thinking through Turkish written texts.
- Realizing and questioning without prejudice through Turkish written texts.

TRD112Turkish Language (2credits) (See General Education) Prerequisite:TRD111

Course explains the features and functioning rules of Turkish language; shows writing and speaking features through samples. Course improves students' understanding (listening/reading/watching/understanding) and expression (oral ve written expression)abilities. Course provides to contact to students with the Turkish literature and World Literature and Culture.

The aim of this course is to continue to study the features and grammar rules of Turkish language, to demonstrate writing and speaking abilities through samples, to improve students' understanding (reading and listening) and expression (oral and written expression) abilities, to provide further familiarity with the Turkish literature as well as world literature and culture.

Learning Objectives

- Remembering running rules and features of Turkish.
- Repeating running rules and features of Turkish.
- Repeating notation and pronunciation features of Turkish.
- Students are expected to adapt notation and pronunciation features of Turkish to their abilities.
- Students are expected to identify basic concepts of languages.
- Analysis reading ability and restructuring
- Analysis listening ability and restructuring
- Analysis following ability and restructuring
- Analysis understanding ability and restructuring
- Analysis verbal lecture ability and restructuring
- Analysis written expression ability and restructuring
- Remembering historical development of Turkish language
- Discussing current problems of Turkish Language and estimating future problems.
- Using perfect and effective Turkish.
- Critical and creative reading and thinking through Turkish written texts.
- Realizing and questioning without prejudice through Turkish written texts.