T.C.

LOKMAN HEKIM UNIVERSITY

FACULTY OF MEDICINE

PHASE – II

2024 – 2025 EDUCATION TEACHING GUIDE

T.R.

LOKMAN HEKIM UNIVERSITY

FACULTY OF MEDICINE ENGLISH PROGRAMME

PHASE II COURSES and ECTS

CODE	COMPULSORY COURSES	T	P	C	ECTS
	Nervous System and Special Senses Course Board	93	24	117	10
	Cırculatory, Respıratory and Lymphatıc Systems Course Board	106	18	124	11
	Gastroıntestınal System and Metabolısm Course Board	98	16	114	9
	Urogenıtal and Endocrıne Systems Course Board	82	14	96	8
	Basıs of Dıseases Course Board	98	10	108	10
	Scıentıfıc and Clınıcal Approaches – 2 Course Board	88	14	102	4
	TOTAL ECTS COMPULSORY	**565**	**96**	**661**	**52**
CODE	**ELECTIVE COURSES**	**T**	**P**	**C**	**ECTS**
	Cinemedicine	2	0	2	4
	Nobel Prizes in Medicine and Their Inspiring Scientific Basis	2	0	2	4
	My Coffee Adventures	2	0	2	4
	Effects Of Chemical Biological And Radioactive Weaponse	2	0	2	4
	Healty Lifestyle	2	0	2	4
	Exploring Medical Research Abroad	2	0	2	4
	TOTAL ECTS TO BE COLLECTED AS ELECTIVES				**8**
	TOTAL ECTS TO BE COLLECTED IN PHASE II				**60**

PHASE II OBJECTIVES AND LEARNING OUTCOMES

Aim:

In this phase, the main subjects are the organ systems of the human body. The students will learn the anatomy, development, histology, physiology, biochemistry, molecular biology, immunology, and biophysics of the organs. They will also get the basic theoretical information about the microbial agents settled in these systems and will form the basis of clinical courses by making practical applications. It is aimed to enable them to recognize the infectious and non-infectious diseases of the systems and to have basic knowledge about diseases. This phase is also providing students to improve the ability of biostatistical analysis and reasoning on the data related to clinical applications.

Learning Objectives:

1. Defines the anatomy, embryology, histology, physiology, and biophysics of the structures that make up the nervous system and special senses.
2. Explains the embryological development, histological and anatomical structures, physiological and biophysical features, functions of the cells, tissues and organs that make up the circulatory system, respiratory system and lymphatic system, and the relations of these systems with each other, respectively.
3. Defines the anatomical, developmental, histological, physiological, and biochemical features of the urogenital and endocrine systems.
4. Defines the anatomical, developmental, histological, physiological, and biochemical features of the gastrointestinal system and metabolism.
5. Defines the common and different characteristics of microorganisms that can cause infectious diseases in the gastrointestinal tract.
6. Learns basic biochemical, biological, pharmacological, microbiological, and pathological information for clinical and laboratory evaluations of diseases.
7. Explains the basic biostatistics techniques on research in the field of health.

NERVOUS SYSTEM AND SPECIAL SENSES COURSE BOARD
PII – BOARD I

CODE OF THE BOARD COURSES	NAME OF THE BOARD COURSES	THEORETICAL HOURS	PRACTICAL HOURS	SUM OF HOURS
	Exam Feedback Lesson	2	0	2
	Chief Coordinator Feedback Lesson	2	0	2
	Introduction to Course Board Lesson	2	0	2
	Anatomy	34	10	44
	Biophysics	10	0	10
	Physiology	28	10	38
	Histology and Embryology	15	4	19
	TOTAL	**93**	**24**	**117**

AIMS AND LEARNING OBJECTIVES OF THE BOARD COURSES

Aim:

The aim of this course board; the embryological development, histological and anatomical structures, physiological properties, functions and mechanisms of the circulatory system, respiratory system and lymphatic system and the cells, tissues and organs that make up these systems, the interrelationships of these systems, To teach the responses to changes in internal and external environmental conditions, to teach the cells that make up the immune system, to comprehend the functions of these cells, to recognize infectious and non-infectious diseases of these systems and to have the knowledge and skills to understand clinical courses related to these systems.

Learning Objectives:

1. Explains the anatomy of the brain hemispheres.
2. Explains the afferent and efferent nerve pathways.
3. Explains the anatomy of cranial nerves.
4. Explains the anatomical structure of the brain membranes.
5. Provides information about epidural, subdural and subarachnoid spaces.
6. Explains the nervous system vessels by naming them.
7. Classifies the autonomic nervous system and defines its anatomical structures.
8. Explains the anatomy of the orbit and its contents by establishing a visual relationship.
9. Defines and explains the anatomy of the outer, middle and inner ear.
10. Explains the biophysical understanding of the concepts of compound action potentials and the process of recording techniques on the body.
11. Explains the biophysical principles of vision.
12. Physical basis of color vision, and the electrical energy coversion in photoreceptors.
13. Explains the basic physical concepts in hearing and biophysical processes in hearing sense.
14. Explains the general physiological characteristics of the central and sensory systems.
15. Describes the motor functions of the spinal cord and spinal cord reflexes.
16. Explains motor functions by associating them with the cerebellum and basal ganglia.
17. It establishes a physiological relationship between sensory, motor cortex and basal ganglia.
18. Explains the physiological processes occurring in the cerebral cortex.
19. List the physiological processes related to learning and memory.
20. Explains the limbic system by describing the thalamus and hypothalamus.
21. Provides information about the physiology of central vision.
22. Explains the physiology of hearing and balance.

23. Explains the physiological process that occurs in taste and smell.
24. Explains the theories about EEG and sleep physiology.
25. Explains the nervous system and their associated structures histologically at a microscopic level and shows them under a light microscope.
26. Explains the parts and structures of the ear and the histological features of special sensory areas related to hearing and balance at a microscopic level and shows them under a light microscope.
27. Explains the structure of the eye, its layers and histological features of vision-related cells at the microscopic level and shows it under a light microscope.
28. Explains the development of the nervous system, eyes and ears at the intrauterine level.

TOPICS

ANATOMY			
Topic	**Type**	**Time**	**Lecturer**
Introduction to the anatomy of the nervous system	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Spinal cord	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Truncus encephali (brain stem): Medulla oblongata (bulbus), pons	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Truncus encephali (brain stem): Mesencephalon and cerebellum	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Ascending tracts	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Descending tracts	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Diencephalon (midbrain): Thalamus, subthalamus, epithalamus, hypothalamus	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Cranial nerves: I-VI	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Cranial nerves: VII-XII	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Vessels of the nervous system	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Autonomic nervous system: Sympathetic system	Theoretical	1	Prof. Dr. Afitap Anıl
Autonomic nervous system: Parasympathetic system	Theoretical	1	Prof. Dr. Afitap Anıl
Meninges (cerebral membranes), sinus durae matrix (dural sinuses), cerebral ventricles and cerebrospinal fluid circulation	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Epidural, subdural and subarachnoid spaces, cisternae subarachnoideae (subarachnoid cisterns)	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Cerebral hemispheres: Cerebral cortex, brodmann areas	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
White matter and basal nuclei	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Limbic system and the olfactory brain, sense of taste	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Orbit and its contents	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu

Eyeball and accessory structures of the eye	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Visual pathways	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Ear: External ear and middle ear	Theoretical	3	Dr. Öğr. Üyesi Eda Sağıroğlu
Ear: Internal ear, auditory and balance pathway	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Anatomy practice: Spinal cord, diencephalon, brainstem, cerebellum, cranial nerves	Practical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Anatomy practice: Meninges, dural venous sinuses, ventricles of the brain, epiduralsubdural-subarachnoid spaces, and subarachnoid cisterns	Practical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Anatomy practice: Cerebral hemisphere, white matter, basal nuclei and the limbic system, vessels of the nervous system	Practical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Anatomy practice: Orbit and its contents, eyeball and accessory structures of the eye	Practical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Anatomy practice: Ear: External, middle, internal ear	Practical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
BIOPHYSICS			
Topic	**Type**	**Time**	**Lecturer**
Biophysical understanding of the concept of compound action potential and the process of recording it from the body	Theoretical	1	Prof. Dr. Belma Turan
Mechanisms of formation of synaptic auditoria's	Theoretical	1	Prof. Dr. Belma Turan
Differences of pre- and post-synaptic potentials and action potentials	Theoretical	1	Prof. Dr. Belma Turan
Biophysical principles of vision	Theoretical	1	Prof. Dr. Belma Turan
Physical basis of color vision	Theoretical	1	Prof. Dr. Belma Turan
Photoreceptors and electrophysiological processes	Theoretical	1	Prof. Dr. Belma Turan
Basic physical concepts in hearing	Theoretical	1	Prof. Dr. Belma Turan
Biophysical processes in the sense of hearing	Theoretical	1	Prof. Dr. Belma Turan
Formation and characteristics of brain potentials	Theoretical	1	Prof. Dr. Belma Turan
Spontaneous and stimulated electrical activities of the brain (EEG)	Theoretical	1	Prof. Dr. Belma Turan
PHYSIOLOGY			
Topic	**Type**	**Time**	**Lecturer**
Introduction to central nervous system	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
General properties of sensory system	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Motor functions of the spinal cord, spinal reflexes	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Somatic senses	Theoretical	3	Dr. Öğr. Üyesi Ruken Tan
Control of motor function by the cortex	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Cerebellum and motor functions	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Basal ganglia and motor functions	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Cerebral cortex	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Learning and memory	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Autonomic nervous system and adrenal medulla	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Thalamus, hypothalamus, and limbic system	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan

Physiology of vision	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Central processes of vision	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Physiology of hearing	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Physiology of balance	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Physiology of taste and smell	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Brain activity states – sleep, brain waves	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Physiological Practice: Spinal cord reflexes	Practical	2	Dr. Öğr. Üyesi Ruken Tan
Physiological Practice: Reaction time	Practical	2	Dr. Öğr. Üyesi Ruken Tan
Physiological Practice: EEG	Practical	2	Dr. Öğr. Üyesi Ruken Tan
Physiological Practice: Vision tests	Practical	2	Dr. Öğr. Üyesi Ruken Tan
Physiological Practice: Hearing tests	Practical	2	Dr. Öğr. Üyesi Ruken Tan
HISTOLOGY and EMBRYOLOGY			
Topic	**Type**	**Time**	**Lecturer**
Histology of central nervous system	Theoretical	3	Prof. Dr. Yeşim Ulutaş Uğur
Practice: Histology of central nervous system	Practical	2	Prof. Dr. Yeşim Ulutaş Uğur
Histology of peripheral nervous system and sensory receptors	Theoretical	3	Prof. Dr. Yeşim Ulutaş Uğur
Development of nervous system	Theoretical	3	Prof. Dr. Yeşim Ulutaş Uğur
Development and histology of eye globes and lids	Theoretical	3	Prof. Dr. Yeşim Ulutaş Uğur
Development and histology of ears	Theoretical	3	Prof. Dr. Yeşim Ulutaş Uğur
Practice: Histology of peripheral nervous system and sensory organs	Practical	2	Prof. Dr. Yeşim Ulutaş Uğur

CIRCULATORY, RESPIRATORY AND LYMPHATIC SYSTEMS COURSE BOARD
PII – BOARD II

CODE OF THE BOARD COURSES	NAME OF THE BOARD COURSES	THEORETICAL HOURS	PRACTICAL HOURS	SUM OF HOURS
	Exam Feedback Lesson	2	0	2
	Chief Coordinator Feedback Lesson	2	0	2
	Introduction to Course Board Lesson	2	0	2
	Anatomy	17	6	23
	Biophysics	12	0	12
	Physiology	31	6	37
	Histology and Embryology	22	6	28
	Medical Microbiology	18	0	18
	TOTAL	**106**	**18**	**124**

AIMS AND LEARNING OBJECTIVES OF THE COURSE BOARD

Aim:

This course board aims to explains the human circulatory system, respiratory system and lymphatic system and embryological development of cells, tissues and organs related with these systems, histological and anatomical structures, physiological characteristics, functions and mechanisms and their responses to changes in internal and external environmental conditions. It also aims to understand the infectious and non-infectious diseases related with these systems, and to have ability to interpret all basic sciences to the clinical courses.

Learning Objectives:

1. Explains the anatomy of the lymphatic system.
2. Explains the heart and pericardium anatomically.
3. Explains fetal, pulmonal and systemic circulation anatomically.
4. Explains the anatomy of the thoracic wall and the parts of the thoracic cavity.
5. Explains the anatomy of the lung, pleura and respiratory tract.
6. Explains the biophysical basis of the formation of the cardiac dipole and ECG and the biophysical properties of the heart muscle.
7. Explains the viscosity properties, elastic properties and dynamic processes of biological materials as solids and fluids.
8. Explains the concepts of surface tension, resistance, fluidity and compliance..
9. Explains the electrical and mechanical functions of the heart according to the physiological properties of the heart muscle.
10. Explains the relationship between ECG, pulse wave and heart sounds during the cardiac cycle.
11. Explains the functions of vascular systems with local and humoral control of blood flow.
12. Describe the physiologic control of arterial pressure.
13. Explains the functions of the respiratory tract and the forces that provide inspiration and expiration.
14. Explains the relationship between ventilation and perfusion in the lungs.
15. Explains the regulation of respiration physiologically.
16. Explains and applies respiratory function tests.
17. Explains the effect of changes in environmental conditions such as atmospheric pressure and temperature on blood, circulatory and respiratory systems.
18. Explains the histologic features of the heart by discussing them under light microscope.
19. Explains the vessels by classifying them histologically and comparing their histology.

20. Explains the embryologic development of the respiratory system at the organ level according to its stages.
21. Explains the structures that make up the respiratory system by evaluating them according to their histologic features.
22. Explains the development of diaphragm and body cavities.
23. Explains the properties of the organs and tissues of the lymphatic system by showing them under the light microscope.
24. Explains the development and developmental anomalies of the pharyngeal arches and face.
25. Explains the concepts of antigen, antibody, MHC and their functions in immune response.
26. Gives information about the formation of immune response, types and functions of immune response.
27. Counts hypersensitivity reactions and explains their immunologic basis.
28. Explains the immunogenetic structure of the lymph system.
29. Counts the microbiology of mycobacteria, microbiological diagnostic tests in the diagnosis of pulmonary tuberculosis.
30. Explains the mechanism of mycobacteria causing pulmonary tuberculosis and their resistance to antimycobacterials.
31. Counts microbiologic diagnostic tests by explaining HIV virology involving immune system cells.
32. Explains the mechanism of HIV disease formation, AIDS prevention and control methods.

TOPICS

ANATOMY			
Topic	**Type**	**Time**	**Lecturer**
Lymphatic system and spleen	Theoretical	2	Prof. Dr. Afitap Anıl
Heart and pericardium	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Heart and pericardium, main vessels, fetal circulation, pulmonary circulation, systemic circulation	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Thoracic wall and diaphragm	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Root of the neck	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
The nose and paranasal sinuses	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Larynx	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Trachea and lungs	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Mediastinum	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Anatomy practice: Heart, pericardium, and main vessels	Practical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Anatomy practice: Thoracic wall, diaphragm, and root of neck	Practical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Anatomy practice: The nose, paranasal sinuses, larynx, trachea, lungs, mediastinum	Practical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
BIOPHYSICS			
Topic	**Type**	**Time**	**Lecturer**
Biophysical properties of the heart muscle and contraction – relaxation processes	Theoretical	2	Prof. Dr. Belma Turan

Biophysical bases of the formation of the heart dipole and ECGs	Theoretical	1	Prof. Dr. Belma Turan
Biophysical discussion of the concepts of inotropy, preload and afterload in the heart	Theoretical	2	Prof. Dr. Belma Turan
Circulation dynamics: Bernoulli and poiseuille principles	Theoretical	1	Prof. Dr. Belma Turan
Properties of blood as fluid and the concept of viscosity	Theoretical	1	Prof. Dr. Belma Turan
Features of flexibility in the circulatory system	Theoretical	1	Prof. Dr. Belma Turan
Biophysical properties of the respiratory system	Theoretical	1	Prof. Dr. Belma Turan
Factors affecting respiratory dynamics	Theoretical	1	Prof. Dr. Belma Turan
Alveolar mechanics and surface tension processes	Theoretical	1	Prof. Dr. Belma Turan
Respiratory work,concepts of resistance and compliance	Theoretical	1	Prof. Dr. Belma Turan
PHYSIOLOGY			
Topic	**Type**	**Time**	**Lecturer**
Physiological features of the heart muscle	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Electrical and mechanical properties of cardiac muscle	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Heart cycle	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Regulation of cardiac activity	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Electrocardiogram (ECG)	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Principles of hemodynamics	Theoretical	3	Dr. Öğr. Üyesi Ruken Tan
Functions of vascular systems	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Local and humoral control of blood flow	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Neural regulation of circulation	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Control of arterial pressure	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
General information about respiratory physiology	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Alveolar ventilation	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Ventilation – perfusion	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Transport of oxygen and carbon dioxide	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Regulation of respiration	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Pulmonary function tests	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Regulation of respiration in extreme environments	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Respiratory and cardiovascular regulation during exercise	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Physiological Practice: Electrocardiogram (ECG)	Practical	2	Dr. Öğr. Üyesi Ruken Tan
Physiological Practice: Physiological Measurement of blood pressure and heart sounds	Practical	2	Dr. Öğr. Üyesi Ruken Tan
Physiological Practice: Pulmonary function tests	Practical	2	Dr. Öğr. Üyesi Ruken Tan
HISTOLOGY and EMBRYOLOGY			
Topic	**Type**	**Time**	**Lecturer**
Histology of immune system cells and primary lymphoid organs	Theoretical	3	Prof. Dr. Yeşim Ulutaş Uğur
Histology of secondary lymphoid organs and tissues	Theoretical	3	Prof. Dr. Yeşim Ulutaş Uğur
Histology Practice: Histology of primary lymphoid organs	Practical	1	Prof. Dr. Yeşim Ulutaş Uğur
Histology Practice: Histology of secondary lymphoid organs	Practical	1	Prof. Dr. Yeşim Ulutaş Uğur
Histology of heart and vessels	Theoretical	3	Prof. Dr. Yeşim Ulutaş Uğur
Histology Practice: Histology of heart and vessels	Practical	2	Prof. Dr. Yeşim Ulutaş Uğur
Development of heart	Theoretical	2	Prof. Dr. Yeşim Ulutaş Uğur
Development of vessels and fetal circulation	Theoretical	2	Prof. Dr. Yeşim Ulutaş Uğur

Development of pharyngeal complex	Theoretical	2	Prof. Dr. Yeşim Ulutaş Uğur
Development of face and palate	Theoretical	2	Prof. Dr. Yeşim Ulutaş Uğur
Histology of respiratory system	Theoretical	3	Prof. Dr. Yeşim Ulutaş Uğur
Development of respiratory system	Theoretical	1	Prof. Dr. Yeşim Ulutaş Uğur
Histology Practice: Histology of respiratory system	Practical	2	Prof. Dr. Yeşim Ulutaş Uğur
Development of diaphragm, pericardium, and pleura	Theoretical	1	Prof. Dr. Yeşim Ulutaş Uğur
MEDICAL MICROBIOLOGY			
Topic	**Type**	**Time**	**Lecturer**
Immune system organs	Theoretical	1	Doç. Dr. Can Türk
Immune response stages	Theoretical	1	Doç. Dr. Can Türk
Cytokines	Theoretical	1	Doç. Dr. Can Türk
Developmental stages of immune cells	Theoretical	1	Doç. Dr. Can Türk
Immune cells-1 (lymphoid series)	Theoretical	1	Doç. Dr. Can Türk
Immune cells-2 (myeloid series, neutrophils, acute inflammation)	Theoretical	1	Doç. Dr. Can Türk
Immune cells-3 (myeloid series, other granulocytes, monocyte- macrophage and dendritic cells)	Theoretical	1	Doç. Dr. Can Türk
Antigen presenting cells	Theoretical	1	Doç. Dr. Can Türk
Antigen, immunogen	Theoretical	1	Doç. Dr. Can Türk
Antibodies	Theoretical	1	Doç. Dr. Can Türk
Complement system	Theoretical	1	Doç. Dr. Can Türk
MHC molecules	Theoretical	1	Doç. Dr. Can Türk
Endogenous and exogenous antigen presentation	Theoretical	1	Doç. Dr. Can Türk
Hypersensitivity reactions	Theoretical	2	Dr. Öğr. Üyesi Safiye Göçer
Mycobacteriaceae	Theoretical	2	Doç. Dr. Can Türk
Retroviridae	Theoretical	1	Doç. Dr. Can Türk

GASTROINTESTINAL SYSTEM AND METABOLISM COURSE BOARD
PII – BOARD III

CODE OF THE BOARD COURSES	NAME OF THE BOARD COURSES	THEORETICAL HOURS	PRACTICAL HOURS	SUM OF HOURS
	Exam Feedback Lesson	2	0	2
	Chief Coordinator Feedback Lesson	2	0	2
	Introduction to Course Board Lesson	2	0	2
	Anatomy	20	4	24
	Physiology	16	0	16
	Histology and Embryology	14	8	22
	Medical Biochemistry	22	2	24
	Medical Microbiology	20	2	22
	TOTAL	**98**	**16**	**114**

AIMS AND LEARNING OBJECTIVES OF THE COURSE BOARD

Aim:

In this course board, students will learn the anatomy, development, histology, physiology, and biochemistry of the gastrointestinal system and understand the basics of metabolism. It also Explains the microorganisms that can cause infectious diseases in the system. The aim is to ensure that students have the knowledge and skills to understand clinical courses related to the system.

Learning Objectives:

1. Explains the anatomy of the mouth with tongue, teeth and soft palate.
2. Describes the anatomy of the pharynx, oesophagus and gaster (stomach).
3. Describes the anatomy of the anterior abdominal wall and posterior abdominal wall.
4. Describe the anatomical position of the intestinum tenue and intestinum crassum.
5. Explains the pancreas with its anatomical neighbors.
6. Explains the portal system with examples.
7. Describes the physiological control of the gastrointestinal system and establishes its relationship with hormones.
8. Explains the physiology of chewing and swallowing.
9. Explains the physiological processes occurring in the stomach.
10. Explains the functions of the small and large intestine in digestion.
11. Explains the functions of the liver physiologically.
12. Describes the role of the pancreas in digestion.
13. Gives information about digestion and absorption physiologically in the gastrointestinal tract.
14. Explains the regulation of food intake.
15. Explains the histological features of the structures in the oral cavity and shows them in the light microscope.
16. Explains the organs that make up the upper and lower digestive system by classifying them according to their histological features.
17. Describes the structure of the glands of the digestive system and the histological features of the related cells.
18. Explains the properties of the organs and tissues of the digestive system by showing them at the light microscope level.
19. Explains the development of the digestive system together with the development of glands.

20. Explains lipases involved in the digestion of lipids, their functions and properties and enumerates the enzymes involved in the digestion of carbohydrates.
21. Explains the mechanism of action and metabolic effects of insulin and glucagon.
22. Explains the products of protein metabolism and their metabolism, urea synthesis steps, activating / inhibiting compounds, glycogenic and ketogenic amino acids and essential and non-essential amino acids.
23. Counts the synthesis steps and metabolism disorders of purine and pyrimidine nucleotides.
24. Explains the mechanism of absorption of amino acids and small peptides from the intestinal lumen, Explains the pancreatic and intestinal enzymes and hormones involved in the digestion of proteins and their mechanisms of action, and explains the events that occur in the stomach during the digestion of proteins.
25. Explains the metabolic events observed in satiety and fasting and metabolic syndrome.
26. Defines inorganic and organic compounds, essential and toxic elements and explains the metabolism of inorganic compounds.
27. Explains the functions of glutathione, the main xenobiotics, the toxic effects of xenobiotics and the reactions in which mitochondrial cytochrome p450 systems are used.
28. Counts the microorganisms causing gastroenteritis/diarrhea and explains their microbiology and disease-causing mechanisms.
29. Counts laboratory diagnostic tests and gives information about prevention and control.
30. Explains the microscopic evaluation of fecal direct smear and explains its clinical importance.
31. Counts gastrointestinal intestinal parasites and explains their microbiology and fecal microscopy.
32. Identifies intestinal parasites in stool direct smear.
33. Describes the microorganism that may be the causative agent of hemolytic uremic syndrome and microbiological diagnostic test.
34. Explains the microbiology of acute hepatitis viruses and counts microbiologic diagnostic tests.
35. Interpret microbiologic test results and list prevention and control methods.
36. Explains the existence, characteristics, importance of human microbiota in health and diseases and tells its anatomical location.
37. Describe the virulence mechanisms of microorganisms and explains their role in pathogenesis.

TOPICS

ANATOMY			
Topic	**Type**	**Time**	**Lecturer**
Mouth anatomy, tongue, teeth, soft palate, and salivary glands	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Temporal fossa, parotid region, and salivary glands	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Infratemporal fossa, pterygopalatine fossa, and masticatory muscles	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Pharynx, oesophagus, and stomach	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Anterior abdominal wall, inguinal canal, rectus sheath	Theoretical	2	Prof. Dr. Afitap Anıl
Peritoneum, omental bursa, greater omentum, and lesser omentum	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Small intestine	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Large intestine and anal canal	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu

Liver, gallbladder, and biliary tract	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Pancreas	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Posterior abdominal wall and main vessels, spinal nerve plexuses	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
The portal system, porto-caval anastomosis, and cava-caval anastomosis	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Anatomy practice: Temporal fossa, parotid region, salivary glands, infratemporal fossa, pterygopalatine fossa, and masticatory muscles	Practical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Anatomy practice: Mouth anatomy, tongue, teeth, soft palate, salivary glands, pharynx, oesophagus, and stomach	Practical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Anatomy practice: Anterior abdominal wall, inguinal canal, rectus sheath, peritoneum, omental bursa, greater omentum, and lesser omentum	Practical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Anatomy practice: Small intestine, large intestine, anal canal, liver, gall bladder, biliary tract, pancreas, posterior abdominal wall, and main vessels	Practical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
PHYSIOLOGY			
Topic	**Type**	**Time**	**Lecturer**
General principles, electrical activity, and motor functions	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
General principles: GIS control and hormones	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Chewing, swallowing, functions of esophagus and stomach	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Functions of small and large intestine	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Exocrine functions of the pancreas	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Functions of the liver	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Digestion and absorption in the gastrointestinal tract	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Regulation of food intake	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
MEDICAL BIOCHEMISTRY			
Topic	**Type**	**Time**	
Metabolism of pancreatic gland hormones	Theoretical	1	Prof. Dr. Metin Yıldırımkaya
Carbohydrate metabolism and regulation	Theoretical	4	Prof. Dr. Metin Yıldırımkaya
Lipid metabolism	Theoretical	4	Prof. Dr. Metin Yıldırımkaya
Amino acid and protein metabolism	Theoretical	4	Prof. Dr. Metin Yıldırımkaya
Integration of metabolism: biochemical response in fasting and satiety	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
Ethanol Metabolism	Theoretical	1	Prof. Dr. Metin Yıldırımkaya
Metabolism of inorganic compounds	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
Detoxification mechanisms	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
Metabolism of vitamins	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
Lab: Blood glucose analysis	Practical	2	Uzm. Dr. Tevfik HONCA
HISTOLOGY and EMBRYOLOGY			
Topic	**Type**	**Time**	**Lecturer**
Histology of oral organs and structures	Theoretical	3	Prof. Dr. Yeşim Ulutaş Uğur

Practice: Histology of oral organs and structures	Practical	2	Prof. Dr. Yeşim Ulutaş Uğur
Histology of digestive tract	Theoretical	4	Prof. Dr. Yeşim Ulutaş Uğur
Practice: Histology of upper digestive tract	Practical	2	Prof. Dr. Yeşim Ulutaş Uğur
Practice: Histology of lower digestive tract	Practical	2	Prof. Dr. Yeşim Ulutaş Uğur
Histology of liver	Theoretical	2	Prof. Dr. Yeşim Ulutaş Uğur
Histology of gallbladder and pancreas	Theoretical	1	Prof. Dr. Yeşim Ulutaş Uğur
Practice: Histology of liver, gallbladder, and pancreas	Practical	2	Prof. Dr. Yeşim Ulutaş Uğur
Development of digestive system	Theoretical	4	Prof. Dr. Yeşim Ulutaş Uğur
MEDICAL MICROBIOLOGY			
Topic	**Type**	**Time**	**Lecturer**
Enterobacterales	Theoretical	3	Doç. Dr. Can Türk
Oxidase positive curved bacilli (Vibrionaceae, Campylobacteraceae)	Theoretical	1	Doç. Dr. Can Türk
Primary hepatotropic viruses (HAV, HBV, HCV, HDV and HEV)	Theoretical	2	Doç. Dr. Can Türk
Introduction to general parasitology	Theoretical	1	Dr. Öğr. Üyesi Safiye Göçer
Protozoa	Theoretical	4	Doç. Dr. Can Türk
Nematodes	Theoretical	2	Dr. Öğr. Üyesi Safiye Göçer
Cestodes	Theoretical	2	Dr. Öğr. Üyesi Safiye Göçer
Trematodes	Theoretical	2	Dr. Öğr. Üyesi Safiye Göçer
Microbiota	Theoretical	1	Doç. Dr. Can Türk
Microbial pathogenesis	Theoretical	2	Doç. Dr. Can Türk
Microbiology practice: examination of parasites	Practical	2	Dr. Öğr. Üyesi Safiye Göçer

UROGENITAL AND ENDOCRINE SYSTEMS COURSE BOARD
PII – BOARD IV

CODE OF THE BOARD COURSES	NAME OF THE BOARD COURSES	THEORETICAL HOURS	PRACTICAL HOURS	SUM OF HOURS
	Exam Feedback Lesson	2	0	2
	Chief Coordinator Feedback Lesson	2	0	2
	Introduction to Course Board Lesson	2	0	2
	Anatomy	13	4	17
	Physiology	33	0	33
	Histology and Embryology	18	8	26
	Medical Biochemistry	12	2	14
	TOTAL	**82**	**14**	**96**

AIMS AND LEARNING OBJECTIVES OF THE COURSE BOARD

Aim:

The aim of the course board is to ensure that the urogenital and endocrine systems are learned with a holistic approach in terms of anatomical, developmental, histological, physiological, and biochemical, and to have the knowledge and skill levels to understand the clinical lessons about these systems.

Learning Objectives:

1. Explains the anatomy of kidney and ureter.
2. Describes the vesica urinaria and urethra anatomically.
3. Explains the anatomy of male genital organs.
4. Explains the anatomy of the female genital organs and breast.
5. Describes the thyroid and parathyroid glands anatomically.
6. Explains the suprarenal glands with their anatomical neighborhood.
7. Explains the hypophysis and glandula pinealis anatomically.
8. Explains tubular reabsorption and secretion by explainsing glomerular filtration.
9. Gives information about the concentration and dilution of urine.
10. Describes the physiological events that occur in the regulation of fluid and electrolyte balance in the body.
11. Describe acid-base balance and define acidosis and alcoholosis.
12. Establishes the functional relationship between pituitary and hypothalamus.
13. Describes the physiological functions of adenohypophysis and neurohypophysis hormones.
14. Gives information about the physiology of thyroid hormones.
15. Explains the physiology of hormones related to calcium and phosphorus.
16. Describes the physiological events occurring in the endocrine pancreas.
17. Describes the physiologic effects of adrenal cortex and medulla hormones.
18. Describes the physiology of gonadotropic hormone and puberty in relation to male and female gonadal hormones.
19. Describes the physiology of reproduction in relation to the physiology of pregnancy and lactation.
20. Explains the development of the kidney and excretory tract.
21. Describes the histologic features of organs, tissues and cells related to the urinary system.
22. Explains the histologic features of the organs and tissues of the urinary system by discussing them under light microscope.
23. Explains the embryologic development of male genital organs.
24. Describes the histologic features of the organs, tissues and cells of the male genital system.

25. Explains the properties of male genital system organs and tissues by discussing them under light microscope.
26. Explains the embryologic development of female genital organs.
27. Describes the histologic features of organs, tissues and cells related to the female genital system.
28. Describes the organs and tissues related to the female genital system by showing them under a light microscope.
29. Describe the structure and functions of the kidney and its functions of excretion, reabsorption, regulation, electrolyte and water homeostasis and endocrine functions.
30. Explains the endocrine system in general, the concept of hormone, endocrine, paracrine, autocrine action and negative feedback.
31. Makes the classification of hormones.
32. Explains the mechanisms of action of hormones, signal transduction in metabolism and the concept of second messenger.
33. List the effects of cortisol and aldosterone.
34. Explains the steps of catecholamine synthesis with enzyme - coenzyme respectively.
35. Explains hypothalamic, pituitary and pineal hormones by counting them.

TOPICS

ANATOMY			
Topic	**Type**	**Time**	**Lecturer**
Kidney and ureter	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Urinary bladder and urethra	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Pelvic diaphragm and perineum	Theoretical	2	Prof. Dr. Afitap Anıl
Male genital organs	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Female genital organs and breast anatomy	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Thyroid and parathyroid glands, suprarenal glands	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
Pituitary gland and pineal gland	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Anatomy practice: Kidney, ureter, urinary bladder, and urethra	Practical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
Anatomy practice: Pelvic diaphragm and perineum, male and female genital organs, endocrine glands	Practical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
PHYSIOLOGY			
Topic	**Type**	**Time**	**Lecturer**
Introduction to renal physiology	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Glomerular filtration	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Tubular reabsorption and secretion	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Concentration ad dilution of urine	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Water and electrolyte balance	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Micturition	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Acid-base balance	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Introduction to the endocrine system	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Hypothalamus – pituitary functional relationship	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Physiology of pituitary hormones	Theoretical	3	Dr. Öğr. Üyesi Ruken Tan

Physiology of thyroid hormones	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Hormonal regulation of calcium and phosphate	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Endocrine functions of the pancreas	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Physiology of adrenal gland hormones	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Physiology of adipose tissue-derived hormones	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Gonadotropin hormones and physiology of puberty	Theoretical	1	Dr. Öğr. Üyesi Ruken Tan
Physiology of male reproductive system	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Physiology of female reproductive system	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
Physiology of pregnancy and lactation	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
MEDICAL BIOCHEMISTRY			
Topic	**Type**	**Time**	**Lecturer**
Kidney functions and electrolyte balance	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
Hormones and their action mechanisms - I	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
Hormones and their action mechanisms - II	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
Hypothalamus, pituitary, and pineal hormones	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
Thyroid gland hormones and metabolism	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
Metabolism of adrenal gland hormones	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
Lab: Complete Urine Analysis	Practical	2	Uzm. Dr. Tevfik HONCA
HISTOLOGY and EMBRYOLOGY			
Topic	**Type**	**Time**	**Lecturer**
Histology of kidneys and urinary tracts	Theoretical	3	Prof. Dr. Yeşim Ulutaş Uğur
Practice: Histology of urinary system	Practical	2	Prof. Dr. Yeşim Ulutaş Uğur
Histology of male genital system	Theoretical	3	Prof. Dr. Yeşim Ulutaş Uğur
Practice: Histology of male genital system	Practical	2	Prof. Dr. Yeşim Ulutaş Uğur
Histology of female genital system	Theoretical	3	Prof. Dr. Yeşim Ulutaş Uğur
Practice: Histology of female genital system	Practical	2	Prof. Dr. Yeşim Ulutaş Uğur
Development of urinary system	Theoretical	2	Prof. Dr. Yeşim Ulutaş Uğur
Development of genital system	Theoretical	3	Prof. Dr. Yeşim Ulutaş Uğur
Development and histology of hypophysis and epiphysis	Theoretical	2	Prof. Dr. Yeşim Ulutaş Uğur
Development and histology of thyroid, parathyroid, adrenal glands and endocrine pancreas	Theoretical	2	Prof. Dr. Yeşim Ulutaş Uğur
Practice: Histology of endocrine system I	Practical	1	Prof. Dr. Yeşim Ulutaş Uğur
Practice: Histology of endocrine system II	Practical	1	Prof. Dr. Yeşim Ulutaş Uğur

BASICS OF DISEASES COURSE COURSE BOARD
PII – BOARD V

CODE OF THE BOARD COURSES	NAME OF THE BOARD COURSES	THEORETICAL HOURS	PRACTICAL HOURS	SUM OF HOURS
	Exam Feedback Lesson	2	0	2
	Chief Coordinator Feedback Lesson	2	0	2
	Introduction to Course Board Lesson	2	0	2
	Biophysics	4	0	4
	Medical Biochemistry	4	0	4
	Medical Biology	11	0	11
	Medical Pharmacology	23	0	23
	Medical Microbiology	30	10	40
	Medical Pathology	20	0	20
	TOTAL	**98**	**10**	**108**

AIMS AND LEARNING OBJECTIVES OF THE COURSE BOARD

Aim:

The aim of this course board is to explains the basic biochemical, molecular, pharmacological, microbiological, and pathological information for clinical and laboratory evaluations of diseases and to provide the knowledge and skill levels necessary to understand the clinical courses planned for the next medical education stages.

Learning Objectives:

1. Explains the electrical current and electrical applications used in biological samples.
2. Explains radiation and application of radiation to biological systems.
3. Explains the mechanism of poststreptococcal diseases and tells the diagnostic test.
4. Describes reactive oxygen and reactive nitrogen species.
5. Explains the concept of oxidative stress, pathologic conditions involving free radicals and antioxidants.
6. Explains the difference between serum and plasma by explaining the presence of protein in plasma.
7. Explains acute phase response and acute phase reactants.
8. Explains what medicines are.
9. Explains by counting the forms in which drugs can be applied.
10. Explains drug administration methods by listing them.
11. Describes the events that occur in the body as a result of drug applications, absorption, distribution, biotransformation and elimination.
12. Explains the mechanisms of action of drugs.
13. Explains the mechanism of formation of poststreptococcal diseases and tells the diagnostic tests.
14. Counts the microorganisms causing rash infections and microbiological diagnostic tests.
15. Counts the agents of skin and soft tissue infections and abscesses.
16. Describes the microbiological diagnostic tests and disease-causing mechanisms of meningococcal disease agents.
17. Counts the microorganisms that can be the causative agents of urinary tract infections, explains the virulence factors and microbiologic laboratory diagnosis of urinary infections.
18. Explains the growth characteristics of anaerobic bacteria and the appropriate sampling conditions for anaerobic culture.
19. Counts the microorganisms causing food poisoning.

20. Explains the microbiology and microbiologic diagnostic tests of Clostridium species causing gas gangrene.
21. Describes the microbiology and disease-causing mechanism of tetanus bacillus and describes its microscopic appearance.
22. Explains the microbiology of Brucella and prevention methods and control of brucellosis.
23. Describes the microbiologic diagnostic tests for Bacillus anthracis.
24. Explains the microbiology of diphtheria, whooping cough and Legionella bacilli by explaining the mechanisms of disease formation.
25. Explains the disease-causing mechanisms, microbiological diagnostic tests and control and prevention methods of mumps, measles, influenza and rabies virus.
26. Counts sexually and congenitally transmitted microorganisms and microbiological diagnostic tests.
27. Describes the microorganisms that can cause conjunctivitis and keratitis.
28. Classifies mycoses and explains the microbiology of their agents.
29. Explains the causes of cell damage together with their mechanisms and morphology.
30. Discusses necrosis and apoptosis by comparing them.
31. Explains cellular aging by explaning intracellular accumulations.
32. Explains acute inflammation and chronic inflammation.
33. Gives information about hemodynamic disorders and their types.
34. Defines autoimmune diseases and hypersensitivity reactions.
35. Discuss and explains the general principles of infection pathology.

TOPICS

BIOPHYSICS			
Topic	**Type**	**Time**	**Lecturer**
Electric current, biological effects and safety	Theoretical	1	Prof. Dr. Belma Turan
Bioelectric applications	Theoretical	1	Prof. Dr. Belma Turan
Description of radiation, its main features	Theoretical	1	Prof. Dr. Belma Turan
Biological effects of radiation	Theoretical	1	Prof. Dr. Belma Turan
BIOCHEMISTRY			
Topic	**Type**	**Time**	
Reactive oxygen molecules and oxidative stress	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
Plasma proteins and acute phase response	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
MEDICAL MICROBIOLOGY			
Topic	**Type**	**Time**	**Lecturer**
Collection and transport of microbiological samples	Theoretical	2	Dr. Öğr. Üyesi Safiye Göçer
Gram-positive cocci (Staphylococci)	Theoretical	1	Dr. Öğr. Üyesi Safiye Göçer
Gram-positive cocci (Streptococci)	Theoretical	2	Dr. Öğr. Üyesi Safiye Göçer
Anaerobiosis and anaerobic bacteria (Clostridium and the other anaerobes)	Theoretical	2	Doç. Dr. Can Türk
Actinomyces ve Nocardia	Theoretical	1	Doç. Dr. Can Türk
Gram-positive bacilli (Bacillus, Listeria, Corynebacterium and other coryneform bacilli)	Theoretical	1	Doç. Dr. Can Türk
Gram-negative diplococci (Neisseria, Moraxella)	Theoretical	1	Doç. Dr. Can Türk
Gram-negative coccobacilli (Haemophilus, Pasteurella, Brucella, Bordetella, Francisella)	Theoretical	2	Doç. Dr. Can Türk
Non-fermentative gram (-) bacilli (Pseudomonas, Burkholderia, Stenotrophomonas, Acinetobacter)	Theoretical	2	Doç. Dr. Can Türk

and various gram (-) bacilli (Eikenella, Bartonella, Klebsiella granulomatis, Gardnerella, Legionella)			
Spirochete, Rickettsia, Chlamydias and Mycoplasmas	Theoretical	2	Doç. Dr. Can Türk
Introduction to general virology	Theoretical	2	Doç. Dr. Can Türk
DNA viruses (herpesviruses, poxviruses, papovaviruses, adenovirus and parvovirus)	Theoretical	3	Doç. Dr. Can Türk
Negative-sense RNA viruses (myxoviruses, bunyaviruses, rabies virus, filoviruses and lymphocytic choriomeningitis virus)	Theoretical	3	Doç. Dr. Can Türk
Positive-sense RNA viruses (picornaviruses, norovirus, rotavirus, coronavirus, rubella virus and flaviviruses)	Theoretical	2	Doç. Dr. Can Türk
General mycology, superficial and cutaneous mycosis agents, subcutaneous mycosis agents	Theoretical	2	Dr. Öğr. Üyesi Safiye Göçer
Endemic and opportunistic agents of mycosis	Theoretical	2	Dr. Öğr. Üyesi Safiye Göçer
Microbiology practice: Bacteriological identification methods	Practical	2	Dr. Öğr. Üyesi Safiye Göçer
Microbiology practice: Diagnostic methods of gram-positive bacteria	Practical	2	Dr. Öğr. Üyesi Safiye Göçer
Microbiology practice: Diagnostic methods of gram-negative bacteria	Practical	2	Dr. Öğr. Üyesi Safiye Göçer
Microbiology practice: Methods of diagnosis of bacteria with different characteristics	Practical	2	Dr. Öğr. Üyesi Safiye Göçer
Microbiology practice: Examination of fungi	Practical	2	Dr. Öğr. Üyesi Safiye Göçer
MEDICAL BIOLOGY			
Topic	**Type**	**Time**	**Lecturer**
Heredity models	Theoretical	2	Dr. Öğr. Üyesi Selen GÜÇLÜ DURGUN
Molecular biology of cancer	Theoretical	2	Dr. Öğr. Üyesi Demet KAÇAROĞLU
Cancer cell genome and microenvironment	Theoretical	1	Dr. Öğr. Üyesi Demet KAÇAROĞLU
Structure of telomerase and its connection with aging and cancer	Theoretical	1	Dr. Öğr. Üyesi Demet KAÇAROĞLU
Molecular biology of immunity	Theoretical	1	Dr. Öğr. Üyesi Demet KAÇAROĞLU
Population genetics	Theoretical	1	Dr. Öğr. Üyesi Selen GÜÇLÜ DURGUN
Gene mapping	Theoretical	1	Dr. Öğr. Üyesi Selen GÜÇLÜ DURGUN
Genotoxicity	Theoretical	1	Dr. Öğr. Üyesi Seher YAYLACI
Genetic polymorphism	Theoretical	1	Dr. Öğr. Üyesi Seher YAYLACI
MEDICAL PHARMACOLOGY			
Topic	**Type**	**Time**	**Lecturer**
Introduction to pharmacology	Theoretical	1	Prof. Dr. Müge Tecder
Pharmaceutical forms of drugs	Theoretical	1	Prof. Dr. Müge Tecder
Routes of drug administration	Theoretical	1	Prof. Dr. Müge Tecder

Drug action mechanisms and pharmacodynamics	Theoretical	1	Prof. Dr. Müge Tecder
Pharmacokinetics of drugs: absorption, distribution, biotransformation, and elimination	Theoretical	4	Prof. Dr. Müge Tecder
Drug receptors and pharmacodynamic effects	Theoretical	1	Prof. Dr. Müge Tecder
Dose (concentration) – pharmacological effect relationship	Theoretical	2	Prof. Dr. Müge Tecder
Factors that change the effect of drugs	Theoretical	2	Prof. Dr. Müge Tecder
Pharmacokinetic and pharmacodynamic interactions between drugs	Theoretical	2	Prof. Dr. Müge Tecder
Unwanted and toxic effects of drugs	Theoretical	1	Prof. Dr. Müge Tecder
Pharmacology of autacoids and gaseous autacoids: EDRF, EDHF, NO	Theoretical	1	Prof. Dr. Müge Tecder
Amine autacoids: 5-hydroxytryptamine (serotonin), histamine	Theoretical	2	Prof. Dr. Müge Tecder
Peptide autacoids: Angiotensins, quinins, endothelins	Theoretical	2	Prof. Dr. Müge Tecder
Lipid autacoids: Eicosanoids, PAF	Theoretical	2	Prof. Dr. Müge Tecder
MEDICAL PATHOLOGY			
Topic	**Type**	**Time**	**Lecturer**
Introduction to pathology	Theoretical	2	Prof. Dr. Berrak Gümüşkaya Öcal
Cellular adaptation and injury	Theoretical	2	Prof. Dr. Berrak Gümüşkaya Öcal
Necrosis and apopitosis	Theoretical	2	Dr. Öğr. Üyesi Fatma Yıldırım
Cellular aging and cellular acumulations	Theoretical	1	Dr. Öğr. Üyesi Fatma Yıldırım
Acute inflammation and mediators	Theoretical	2	Prof. Dr. Berrak Gümüşkaya Öcal
Chronic inflammation and wound healing	Theoretical	2	Dr. Öğr. Üyesi Fatma Yıldırım
Hemodinamic disorders-edema and hemorage/hemostasis and thrombosis	Theoretical	2	Prof. Dr. Berrak Gümüşkaya Öcal
Hemodinamic disorders- emboli, infarct and shock	Theoretical	1	Dr. Öğr. Üyesi Fatma Yıldırım
Autoimmune diseases and hypersensitivity Reactions	Theoretical	2	Prof. Dr. Berrak Gümüşkaya Öcal
General principles of infection pathology	Theoretical	1	Prof. Dr. Berrak Gümüşkaya Öcal
Amiloidosis	Theoretical	1	Dr. Öğr. Üyesi Fatma Yıldırım
Introduction to neoplasia	Theoretical	2	Prof. Dr. Berrak Gümüşkaya Öcal

SCIENTIFIC AND CLINICAL APPROACHES – 2 COURSE BOARD
PII – BOARD VI

CODE OF THE BOARD COURSES	NAME OF THE BOARD COURSES	THEORETICAL HOURS	PRACTICAL HOURS	SUM OF HOURS
	Scientific Research Methods and Biostatistics	**24**	**4**	**28**
	Clinical Overview II	**64**	**0**	**64**
	Clinical Skill II	**0**	**10**	**10**
	TOTAL	**88**	**14**	**102**

AIMS AND LEARNING OBJECTIVES OF THE BOARD COURSES

Aim:
The aim of this course board is to gain basic medical skills, scientific and clinical approach skills, and awareness of medicine, and to develop evidence-based analytical skills.

Learning Objectives:
1. Learns the basic professional skill techniques required in clinical practice.
2. Describes the techniques applied in basic life support, respectively.
3. Defines how to make wound dressing.
4. Determines the fracture with the correct technique.
5. Learns to wear cervical collar with correct technique.
6. Learns the technique of applying elastic bandage in traumatic patients.
7. Learns the patient positions and technique for the blood pressure measurement.
8. Learns the techniques of measuring fever and counting respiratory rate.
9. Explains how to control bleeding in patients with arterial and venous bleeding.
10. Explains the technique of measuring blood glucose with a glucometer, respectively.
11. Explains how to give an intravenous (IV) injection to a patient.
12. Lists the techniques of hand washing and wearing gloves.
13. Describes organ systems in connection with relevant clinical information.
14. Explains the disease and clinical picture.
15. Defines the sources of access to information.
16. Learns to prepare scientific research in accordance with research principles.

1. Understands the importance of data in medical and health sciences, defines data types, explains the importance of biostatistics in health research, and summarizes the collected data using different measures depending on the type of data.
2. Calculates appropriate descriptive measures to show the characteristics of the data, constructs tables and interpret the tables, draw graphs, and interpret the graphs.
3. Selects the appropriate hypothesis testing method, tests the hypothesis, interprets the results and makes inferences about one or more populations.
4. Calculates, draws and interprets performance measures for tests used for diagnostic purposes.
5. Enters or transfers data to a commonly used software, makes statistical calculations, draws graphs and constructs tables according to the needs.
6. Selects appropriate test method and interprets the results.
7. Uses appropriate measures to evaluate the performance of diagnostic tests.
8. Selects appropriate performance measure according to the type of test result and interprets the accuracy of diagnosis.

9. Define and classify dyslipidemia, list the names of sphingolipidoses and the missing enzymes and apolipoproteins with their functions.
10. Explains the integration of metabolism and special metabolic conditions.
11. List the clinical findings and causes of adrenal hypofunction, Cushing's syndrome, Addison's disease, Conn's syndrome.
12. Explains the clinical conditions observed in ACTH, TSH, FSH and LH, growth homone, prolactin, ADH excess and deficiency and hypothalamo – pituitary system diseases.
13. Explains the term azotemia and counts its types and explains acute and chronic renal failure with its causes.
14. Explains thyroid gland diseases.
15. Explains the clinical importance of oxidative phosphorylation and energy homeostasis.
16. Explains the basics of clinical enzymology.
17. Explains cancer biomarkers and associated clinical manifestations.

TOPICS

SCIENTIFIC RESEARCH METHODS AND BIOSTATISTICS (SRMB)			
Topic	**Type**	**Time**	**Lecturer**
1. Nervous System And Specıal Senses Course Board	**Type**	**Time**	**Lecturer**
SCA2-SRMB: Purpose of scientific research	Theoretical	2	Prof. Dr. A. Ergun Karaağaoğlu
SCA2-SRMB: Research methods of scientific research	Theoretical	2	Prof. Dr. A. Ergun Karaağaoğlu
2. Cırculatory, Respıratory and Lymphatıc Systems Course Board	**Type**	**Time**	**Lecturer**
SCA2-SRMB: Preparing a scientific project in health sciences: Preparing for the project writing and planning the project	Theoretical	1	Dr. Öğr. Üyesi Seher Yaylacı
SCA2-SRMB: Creation of the project team, determination of the project method, necessary permissions for the project	Theoretical	1	Doç. Dr. Can Türk
SCA2-COV Medical Microbiology: Vaccines	Theoretical	2	Dr. Öğr. Üyesi Safiye Göçer
3. Gastrointestinal System and Metabolism Course Board	**Type**	**Time**	**Lecturer**
SCA2-SRMB: Writing the project proposal	Theoretical	1	Dr. Öğr. Üyesi Seher Yaylacı
SCA2-SRMB: Mistakes made in the project proposal and solution suggestions	Theoretical	1	Dr. Öğr. Üyesi Seher Yaylacı
4.Urogenıtal and Endocrıne Systems Course Board	**Type**	**Time**	**Lecturer**
SCA2-SRM Biostatistics: Introduction to biostatistics, data, variable. Types of variables, Descriptive statistics: Measures of central tendency	Theoretical	2	Prof. Dr. A. Ergun Karaağaoğlu
SCA2-SRM Biostatistics: Descriptive statistics: Measures of location and measures of variation	Theoretical	2	Prof. Dr. A. Ergun Karaağaoğlu
SCA2-SRM Biostatistics: Frequency tables, cross tables. Graphs with one, two or more variables.	Theoretical	2	Prof. Dr. A. Ergun Karaağaoğlu
SCA2-SRM Biostatistics: Biostatistics Practice	Practical	2	Prof. Dr. A. Ergun Karaağaoğlu
5. Basıcs of Dıseases Course Board	**Type**	**Time**	**Lecturer**

SCA2-SRM Biostatistics: Inferential statistics, estimation, normal distribution, introduction to hypotesis testing	Theoretical	2	Prof. Dr. A. Ergun Karaağaoğlu
SCA2-SRM Biostatistics: One sample test of hypotesis	Theoretical	2	Prof. Dr. A. Ergun Karaağaoğlu
SCA2-SRM Biostatistics: Two sample test of hypothesis	Theoretical	2	Prof. Dr. A. Ergun Karaağaoğlu
SCA2-SRM Biostatistics: K sample (k>2) test of hypothesis	Theoretical	2	Prof. Dr. A. Ergun Karaağaoğlu
SCA2-SRM Biostatistics: Statistical evaluation of diagnostic tests and ROC analysis	Theoretical	2	Prof. Dr. A. Ergun Karaağaoğlu
SCA2-SRM Biostatistics: Biostatistics Practice	Practical	2	Prof. Dr. A. Ergun Karaağaoğlu
CLINICAL OVERVIEW II (COV II)			
1. Nervous System And Specıal Senses Course Board	**Type**	**Time**	**Lecturer**
SCA2-COV Anatomy: Spinal cord lesions	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
SCA2-COV Anatomy: Lesions of the brain stem and cerebellum	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
SCA2-COV Anatomy: Cranial nerves: I-VI lesions	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
SCA2-COV Anatomy: Cranial nerves: VII-XII lesions	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
SCA2-COV Anatomy: Cerebral hemisphere lesions, subcortical lesions, and vascular lesions	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
SCA2-COV Anatomy: Clinical anatomy of eyeball and accessory ocular structures	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
SCA2-COV Anatomy: Visual tract lesions	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
SCA2-COV Anatomy: Hearing and balance: Clinical anatomy	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
SCA2-COV Histology and Embryology: Developmental anomalies of nervous system	Theoretical	1	Prof. Dr. Yeşim Ulutaş Uğur
SCA2-COV Histology and Embryology: Developmental anomalies of eye globes-lids and ears	Theoretical	2	Prof. Dr. Yeşim Ulutaş Uğur
2. Cırculatory, Respıratory and Lymphatıc Systems Course Board	**Type**	**Time**	**Lecturer**
SCA2-COV Anatomy: Clinical anatomy of the cardiovascular system	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
SCA2-COV Anatomy: Clinical anatomy of the respiratory system	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
SCA2-COV Physiology: Patterns of circulation in health and disease	Theoretical	2	Dr. Öğr. Üyesi Ruken Tan
SCA2-COV Histology and Embryology: Developmental anomalies of heart and vessels	Theoretical	2	Prof. Dr. Yeşim Ulutaş Uğur
SCA2-COV Medical Microbiology: Serolojik testler	Theoretical	2	Dr. Öğr. Üyesi Safiye Göçer
3. Gastrointestinal System and Metabolism Course Board	**Type**	**Time**	**Lecturer**

SCA2-COV Anatomy: Abdominal wall hernias	Theoretical	1	Dr. Öğr. Üyesi Eda Sağıroğlu
SCA2-COV Anatomy: Clinical anatomy of the digestive system	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
SCA2-COV Histology and Embryology: Developmental anomalies of digestive system	Theoretical	2	Prof. Dr. Yeşim Ulutaş Uğur
SCA2-COV Medical Biochemistry: Disorders in lipid metabolism	Theoretical	1	Prof. Dr. Metin Yıldırımkaya
SCA2-COV Medical Biochemistry: Obesity and diabetes	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
SCA2-COV Medical Biochemistry: Clinical evaluation of vitamin metabolism	Theoretical	1	Prof. Dr. Metin Yıldırımkaya
4.Urogenıtal and Endocrıne Systems Course Board	**Type**	**Time**	**Lecturer**
SCA2-COV Anatomy: Clinical anatomy of the urogenital system	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
SCA2-COV Anatomy: Clinical anatomy of the endocrine system	Theoretical	2	Dr. Öğr. Üyesi Eda Sağıroğlu
SCA2-COV Histology and Embryology: Developmental anomalies of urogenital system	Theoretical	2	Prof. Dr. Yeşim Ulutaş Uğur
SCA2-COV Medical Biochemistry: Biochemical overview to kidney diseases	Theoretical	1	Prof. Dr. Metin Yıldırımkaya
SCA2-COV Medical Biochemistry: Clinical overview to hypothalamic-pituitary system diseases	Theoretical	1	Prof. Dr. Metin Yıldırımkaya
SCA2-COV Medical Biochemistry: Clinical overview to thyroid gland diseses	Theoretical	1	Prof. Dr. Metin Yıldırımkaya
SCA2-COV Medical Biochemistry: Clinical overview to adrenal gland diseses	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
5. Basıcs of Dıseases Course Board	**Type**	**Time**	**Lecturer**
SCA2-COV Medical Biochemistry: Clinical importance of oxidative phosphorilation and energy homeostasis	Theoretical	1	Prof. Dr. Metin Yıldırımkaya
SCA2-COV Medical Biochemistry: Clinical enzymology	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
SCA2-COV Medical Biochemistry: Cancer Biochemistry	Theoretical	2	Prof. Dr. Metin Yıldırımkaya
SCA2-COV Medical Biology: Inherited metabolic diseases	Theoretical	2	Dr. Öğr. Üyesi Seher Yaylacı
SCA2-COV Medical Biology: Epigenetic effects on heredity	Theoretical	1	Dr. Öğr. Üyesi Seher Yaylacı
SCA2-COV Medical Biology: Chromosomal aberrations	Theoretical	1	Dr. Öğr. Üyesi Seher Yaylacı
SCA2-COV Medical Biology: Gene defects	Theoretical	2	Dr. Öğr. Üyesi Seher Yaylacı
SCA2-COV Medical Biology: Molecular diagnostic methods	Theoretical	1	Dr. Öğr. Üyesi Selen Güçlü Durgun
SCA2-COV Medical Pharmacology: Rational drug use	Theoretical	1	Dr. Öğr. Üyesi Elif Hilal Vural
SCA2-COV Medical Pharmacology: Drugs used in special cases	Theoretical	1	Dr. Öğr. Üyesi Elif Hilal Vural

SCA2-COV Medical Pharmacology: Pharmacogenetics	Theoretical	1	Dr. Öğr. Üyesi Elif Hilal Vural
SCA2-COV Medical Pharmacology: Clinical drug research, bioavailability, and bioequivalence studies	Theoretical	1	Dr. Öğr. Üyesi Elif Hilal Vural
SCA2-COV Medical Pharmacology: Pharmacovigilance	Theoretical	1	Dr. Öğr. Üyesi Elif Hilal Vural
SCA2-COV Medical Microbiology: Tümör immünolojisi	Theoretical	1	Doç. Dr. Can Türk
SCA2-COV Medical Microbiology: Tıbbi önemi olan artropodlar ve oluşturdukları hastalıklar	Theoretical	1	Dr. Öğr. Üyesi Safiye Göçer
CLINICAL SKILLS II (CSK II)			
Topic	**Type**	**Time**	
1. Nervous System And Specıal Senses Course Board	**Type**	**Time**	**Lecturer**
SCA2-CSK: Wound dressing skills	Practical	2	
2. Cırculatory, Respıratory and Lymphatıc Systems Course Board	**Type**	**Time**	**Lecturer**
SCA2-CSK: Ability to apply elastic bandages	Practical	2	
3. Gastrointestinal System and Metabolism Course Board	**Type**	**Time**	**Lecturer**
SCA2-CSK: Blood pressure measurement skills	Practical	2	
4.Urogenıtal and Endocrıne Systems Course Board	**Type**	**Time**	**Lecturer**
SCA2-CSK: Bleeding control	Practical	2	
5. Basıcs of Dıseases Course Board	**Type**	**Time**	**Lecturer**
SCA2-CSK: Ability to give intramuscular (IM) and subcutaneous (SC) injections	Practical	2	