T.R.

LOKMAN HEKIM UNIVERSITY

FACULTY OF MEDICINE

ENGLISH PROGRAM

PHASE – I

2024 – 2025 EDUCATION – TEACHING GUIDE

PRE-GRADUATION EDUCATION COORDINATORSHIP	
EXECUTIVE COORDINATORSHIP	
Chief Coordinator	Asst. Prof. Güleser Göktaş, PhD
Basic Medical Sciences Coordinator	Prof. Şükrü Volkan Özgüven, MD
Clinical Medical Sciences Coordinator	Prof. Engin Dursun, MD
PHASE I COORDINATORSHIP	
Coordinator	Asst. Prof. Selen Güçlü Durgun, PhD
Vice Coordinator (Turkish)	Asst. Prof. Demet Kaçaroğlu, PhD
Vice Coordinator (English)	Asst. Prof. Eda Sağıroğlu, PhD
Member	Lecturer Ofcan Oflaz, PhD
Member	Lecturer Müge Coşkun
Member	Res. Asst. Hilal Şamandar Aydaş
Member	Res. Asst. Musa Latif Çöllüoğlu
PHASE II COORDINATORSHIP	
Coordinator	Prof. Belma Turan, PhD
Vice Coordinator (Turkish)	Asst. Prof. Yasemin Atıcı, PhD
Vice Coordinator (English)	Asst. Prof. Ruken Tan, PhD
Member	Lecturer Onur Can Şanlı, PhD
Member	Lecturer Merve Sayın
Member	Res. Asst. Ayşe Erkaya
Member	Res. Asst. Neslihan İpek
PHASE III COORDINATORSHIP	
Coordinator	Asst. Prof. Elif Hilal Vural, MD
Vice Coordinator (Turkish)	Assoc. Prof. Can Türk, PhD
Vice Coordinator (English)	Asst. Prof. Fatma Yıldırım, MD
Member	Dr. Osman Karakuş, MD
Member	Res. Asst. Ayşegül Yılmaz
Member	Res. Asst. Sevilay Tura
PHASE IV COORDINATORSHIP	
Coordinator	Assoc. Prof. Haydar Celasin, MD
Vice Coordinator (Turkish)	Assoc. Prof. Müge Kuzu Kumcu, MD
Vice Coordinator (English)	Assoc. Prof. Cemile Özsürekçi, MD
Member	Assoc. Prof. Halil Akın, MD
PHASE V COORDINATORSHIP	
Coordinator	Prof. Engin Dursun, MD
Vice Coordinator (Turkish)	Prof. Güleser Saylam, MD
Vice Coordinator (English)	Assoc. Prof. Esen Sayın Gülensoy , MD
Member	Asst. Prof. Ali Rıza Yağmur, MD
PHASE VI COORDINATORSHIP	
Coordinator	Prof. Sarp Üner, MD
Vice Coordinator (Turkish)	Assoc. Prof. Fisun Sözen, MD
Vice Coordinator (English)	Asst. Prof. Tayfun Göktaş, MD

T.R.

LOKMAN HEKIM UNIVERSITY

FACULTY OF MEDICINE ENGLISH PROGRAMME

PHASE I COURSES and ECTS

CODE	COMPULSORY COURSES	T	P	TC	ECTS
	Adapting To University Life	40	0	40	1
	Introduction to Medicine Course Board	82	12	94	6
	Cell Structure and Their Functions Course Board	117	14	131	7
	Tissues and Their Functions Course Board	79	28	107	6
	Locomotor System I Course Board	58	20	78	5
	Locomotor System II Course Board	64	12	76	5
	Scientific and Clinical Approaches I Course Board	41	31	72	4
	TOTAL ECTS COMPULSORY	**481**	**117**	**598**	**34**
CODE	**COMMON COMPULSORY COURSES**	**T**	**P**	**TC**	**ECTS**
	Information Technologies	2	0	2	2
	Turkish Language and Literature I	2	0	2	2
	Turkish Language and Literature II	2	0	2	2
	Ataturk's Principles and History of Revolution I	2	0	2	2
	Ataturk's Principles and History of Revolution II	2	0	2	2
	Academic English I	2	4	4	4
	Academic English II	2	4	4	4
	TOTAL ECTS TO BE COLLECTED AS COMMON COMPULSORY				**18**
CODE	**ELECTIVE COURSES**	**T**	**P**	**TC**	**ECTS**
	Behavioral Sciences	2	0	2	4
	Healthy Life and The Importance of Vitamins	2	0	2	4
	Turkısh As A Foreign Language I	2	0	2	4
	Communication Skills in Medicine	2	0	2	4
	The Future of Medicine				
	Turkish As A Foreign Language II	2	0	2	4
	TOTAL ECTS TO BE COLLECTED AS ELECTIVE				**16**
	TOTAL ECTS TO BE COLLECTED IN PHASE I				**68**

PHASE I OBJECTIVES AND LEARNING OUTCOMES

Aim:

During this period, the cell, which is the most essential unit in medical education, will be covered in detail. It is aimed at upskilling our students by the fundamentals of basic chemical and biological structures forming the organism, the concept of cell, which is the smallest structural and functional unit of living organisms, the basic structure of the tissue and skeletal system, the dynamics and general working principles of the system, basic communication skills, the importance of scientific research and methods of accessing scientific information and the approach and basic professional skills in social medicine.

Learning Objectives:

1. Defines the basic structure and functions of the cell.
2. Explains the interaction between cells, receptors, messenger systems and their functions.
3. Explains the role of the cell cycle in the growth and development stages of the organism and its importance in terms of the homeostasis of the organism.
4. Defines the structure, function and metabolism of biomolecules.
5. Explains the structure, synthesis and function of hereditary material.
6. Explains the basic processes, molecular mechanisms and regulation required for homeostasis.
7. Learns the basic histological examination methods and the use of microscope.
8. Distinguishes different cells and tissues with their structural and histochemical properties at the light microscope level.
9. Classifies microorganisms as disease agents, defines their general characteristics, has information about contamination and protection.
10. Discusses the importance of embryology and its place among other disciplines.
11. Explains the concept of basic health.
12. Recognizes the structures related to the movement system, explains the peripheral nervous system and the relationships between them and the peripheral vascular system.
13. Interprets the basic information about the movement system clinically.
14. Applies the necessary basic professional skill techniques in clinical practice.
15. Defines the sources for accessing information.
16. Explains the importance of being scientific in medicine.

INTRODUCTION TO MEDICINE COURSE BOARD
PI – 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	5	0	5
	Biophysics	10	0	10
	Physiology	3	0	3
	Public Health	8	0	8
	Medical Biochemistry	29	6	35
	Medical Biology	21	6	27
	TOTAL	**82**	**12**	**94**

AIMS AND LEARNING OBJECTIVES OF THE COURSE BOARD

Aim:

By the end of this phase, where the information on compliance with the medical education process and introduction to basic sciences is explained, our students; will learn basic anatomical terminology, learn about medical history and basic health concepts and physician-patient communication, and comprehend the basic chemical and biological structure of the organism.

Learning Objectives:

1. Learns the basic anatomical terminology.
2. Defines the basic grammatical features of the words in medical terminology.
3. Explains the basic principles of biophysics.
4. Explains energy transformations in biological systems and biomolecules with the laws of thermodynamics.
5. Explains the principles of matter and energy transport in the cell membrane within the scope of biological systems.
6. Explains electrical processes and membrane potential formation in biological membranes.
7. Understands the basic processes, molecular mechanisms and regulation required for homeostasis.
8. Explains the concept of basic health.
9. Makes a general explanation about the history of medicine from past to present.
10. Explains patient – doctor communication.
11. Defines important problems in terms of public health.
12. Interprets the important elements of communication in health.
13. Gains knowledge of the structure, functions and metabolism of biomolecules by acquiring knowledge of organic chemistry.
14. Defines the structural features in organic molecules.
15. Can name organic compounds based on their functional groups.
16. Classifies organic compounds according to their structural properties.
17. Explains the concept of buffer and the main buffer systems in the body, the general structure of amino acids and classify amino acids.
18. Explains peptide bonds and their properties, count the types of protene structures and explain the formation and breakdown of peptide bonds.

19. Classifies enzymes by giving examples, explains the properties of enzymes, the concepts of apoenzyme, coenzyme, cofactor and haloenzyme.
20. Explains the mechanism of action of enzymes and lists the factors affecting enzyme activity by giving examples.
21. Prepare solutions of different concentrations and count the various laboratory materials used in biochemistry laboratories and explain their use.
22. Learns the basic concepts of medical biology.
23. Understands the structure, synthesis and function of hereditary material.
24. Explains the structure, synthesis and genetic control mechanisms of DNA.
25. Explains the structure, types and functions of RNA.
26. Gains knowledge about the damages in genetic material, its causes and its place in medicine.
27. Explains the types of epigenetic mechanisms and their mechanisms of action.

TOPICS

ANATOMY		
Topic	**Type**	**Time**
Introduction to medical terminology	Theoretical	1
Latin grammar: Basic knowledge structure, pronunciation and spelling	Theoretical	1
Latin grammar: Noun, adjective, noun phrase, adjective phrase, comparison in adjectives (ranking), reduction in meaning	Theoretical	1
Latin grammar: Nouns derived from verbs, adjectives derived from nouns, adjectives derived from verbs, compound nouns and adjectives	Theoretical	1
Abbreviations, singular and plural, prepositions, prefixes and suffixes	Theoretical	1
BIOPHYSICS		
Topic	**Type**	**Time**
Introduction to biophysics and general concepts	Theoretical	1
Living things as an open system approachs	Theoretical	1
Principles of matter and energy transport in biological systems	Theoretical	1
Its role in water and biological systems	Theoretical	1
Energy conversions in biological systems and biomolecules	Theoretical	1
Basic principles of thermodynamics and biological systems	Theoretical	1
Biophysical foundations of diffusion and osmosis processes in biological systems	Theoretical	2
The bioelectrical processes in living systems	Theoretical	2
PHYSIOLOGY		
Topic	**Type**	**Time**
Introduction to physiology and the concept of homeostasis	Theoretical	3
PUBLIC HEALTH		
Topic	**Type**	**Time**
Individual and social communication in health	Theoretical	2
Physician rights	Theoretical	1
The concepts of health and disease	Theoretical	1
Success stories in public health	Theoretical	1
Critical thinking in healthcare	Theoretical	1
Evidence-based medicine	Theoretical	1
Tobacco use control	Theoretical	1
MEDICAL BIOCHEMISTRY		

Topic	Type	Time
Carbon atom bonds, molecular geometry and their charges	Theoretical	1
The structural formulas of organic compounds and the concept of functional groups	Theoretical	2
Isomerization of organic compounds	Theoretical	1
Reactive species and basic reaction mechanisms in organic chemistry	Theoretical	1
The concept of acidity and basicity in organic chemistry	Theoretical	2
Amino acids	Theoretical	4
Medical Biochemistry practice: Solution preparation	Practical	2
Protein structure	Theoretical	2
Globular proteins	Theoretical	2
Fibrous proteins	Theoretical	2
Nucleotide metabolism	Theoretical	2
Enzymes – I	Theoretical	2
Enzymes – II	Theoretical	2
Enzymes – III	Theoretical	2
Bioenergetics and oxidative phosphorylation	Theoretical	4
Medical Biochemistry practice: Protein measurement in serum and urine	Practical	2
Medical Biochemistry practice: Spectrophotometer and spectrophotometric measurements	Practical	2
MEDICAL BIOLOGY		
Topic	**Type**	**Time**
Introduction to medical biology	Theoretical	1
Nucleic acids: Nucleotides, DNA and RNA	Theoretical	2
Structure and function of DNA	Theoretical	1
DNA synthesis and its control	Theoretical	1
DNA packaging and the chromatin structure	Theoretical	1
Medical Biology practice: Isolation of DNA	Practical	2
Mutations and their mechanisms	Theoretical	2
DNA repair	Theoretical	2
Transcription	Theoretical	2
RNA structure and types	Theoretical	2
Genetic control mechanisms	Theoretical	2
Epigenetic mechanisms and cellular control mechanisms	Theoretical	2
Medical Biology practice: Amplification of DNA by polymerase chain reaction	Practical	2
Medical Biology practice: DNA analysis by electrophoresis	Practical	2
Genetic code and protein synthesis	Theoretical	3

CELL STRUCTURE AND THEIR FUNCTIONS COURSE BOARD
PI – 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
	Biophysics	16	0	16
	Physiology	10	0	10
	Histology and Embryology	11	6	17
	Medical Biochemistry	40	4	44
	Medical Biology	34	4	38
	TOTAL	**117**	**14**	**131**

AIMS AND LEARNING OBJECTIVES OF THE COURSE BOARD

Aim:
At the end of this committee, they will learn about the smallest structural and functional unit of living organism, cell and genetic material, genetic mechanisms that control the formation and survival of normal structure, nucleic acid metabolism and cellular concepts related with basic sciences.

Learning Objectives:

1. Explains the general electrical properties of membranes, conductive and permeabilite properties of membranes by using passive and active membrane models.
2. Explains the production and propagation of action potential in cell membranes.
3. Explains the ionic channels and currents which play roles in living cells and cell – t o – cell talks.
4. Discusses the working principles and kinetic properties of ionic channels.
5. Explains the action potential of cell membranes, excitability and refractory periods of cells.
6. Explains the active conduction of membrane potential and action potential process in cells by discussing the factors affecting the action potential pattern.
7. Explains the structure and functions of organelles and membranes in the cell.
8. Explains the cell membrane with electrical elements.
9. Explains cell physiology, interaction between cells, receptors.
10. Explains the messenger systems in the cell and the functions of these systems.
11. Explains basic histological examination methods.
12. Explains the features of microscopes, especially the light microscope, that determine the histological features of structures.
13. Explains the basic structure and functions of the cell.
14. Explains the organelles at the fine structure level along with their functions.
15. Explains cell types with examples.
16. Distinguishes different cells with their structural and histochemical properties at the light microscope level.
17. Explains the carbohydrate mechanism.
18. Classifies carbohydrates.
19. Defines lipid structure and metabolism.
20. Explains the digestion of lipids, the mechanism and the enzymes involved, the emulsification mechanism of lipids and the properties and functions of lipases

21. Explains the methods of bilirubin determination in serum and urobilinogen determination methods in urine.
22. Explains nucleotide synthesis and metabolism and related diseases.
23. Explains the compounds involved in heme synthesis, the control step, activating and inhibiting compounds, degradation products of catecholamines, heme containing compounds and their functions.
24. Explains the role of the cell cycle in the growth and development stages of the organism and its importance in terms of homeostasis of the organism.
25. Explains the control of cell proliferation.
26. Describe other mechanisms involved in apoptosis and cell death.

TOPICS

BIOPHYSICS		
Topic	**Type**	**Time**
The electrical potential/potential difference in cells responses to electrical stimulation	Theoretical	2
The electric field across membranes	Theoretical	2
Discussion on thermodynamic processes on the transport of ions across cells	Theoretical	2
The biophysical interpretation of Goldman – Hodgin – Katz (GHK) equation	Theoretical	2
Excitability of the membrane: the concept of threshold potential	Theoretical	1
Action potential of cell membranes, excitability and refractory periods of cells	Theoretical	2
Active conduction of membrane potential and action potential process in cells	Theoretical	1
Factors affecting the action potential pattern	Theoretical	2
The working principles and kinetic properties of ionic channels	Theoretical	2
PHYSIOLOGY		
Topic	**Type**	**Time**
Characteristics of the cell membrane	Theoretical	2
Substance transport across the cell membrane	Theoretical	2
Interaction between cells	Theoretical	2
Bioelectric potentials	Theoretical	2
Cellular communications and secondary messengers	Theoretical	2
HISTOLOGY AND EMBRYOLOGY		
Topic	**Type**	**Time**
Introduction to histology	Theoretical	2
Routine histological laboratory techniques	Theoretical	2
Advanced histological laboratory techniques	Theoretical	2
Histology of human cell – I	Theoretical	2
Histology of human cell – II	Theoretical	2
Cell types	Theoretical	1
Histology practice: Introducing digital microscopy	Practical	2
Histology practice: Histochemical techniques	Practical	2
Histology practice: Cell types	Practical	2
MEDICAL BIOCHEMISTRY		
Topic	**Type**	**Time**

Introduction to carbohydrates amd digestion of carbohydrates	Theoretical	2
Glycolysis	Theoretical	2
Tricarboxylic acid cycle and pyruvate dehydrogenase complex	Theoretical	2
Gluconeogenesis	Theoretical	2
Glycogen metabolism	Theoretical	2
Monosaccharide and disaccharide metabolism	Theoretical	2
Pentose phosphate pathway and nicotinamide adenine dinucleotide phosphate	Theoretical	2
Glycosaminoglycans, proteoglycans, and glycoproteins	Theoretical	2
Medical Biochemistry practice: Qualitative carbohydrate analysis	Practical	2
Structure of lipids	Theoretical	2
Digestion and absorption of lipids	Theoretical	2
Fatty acid, triacylglycerol, cholestrol and bile acid synthesis	Theoretical	2
Lipoprotein metabolism	Theoretical	2
Lipolysis, beta-oxidation and ketone bodies	Theoretical	2
Metabolism of complex lipids and eicosanoids	Theoretical	2
Dislipidemia	Theoretical	2
Digestion and absorption of amino acids	Theoretical	2
Transamination – deamination and urea synthesis	Theoretical	2
Amino acids: degradation and synthesis	Theoretical	2
Amino acids: conversion to specialized products	Theoretical	2
Heme synthesis and metabolism	Theoretical	2
Medical Biochemistry practice: Urine bilirubin and urobilinogen measurement	Practical	2
MEDICAL BIOLOGY		
Topic	**Type**	**Time**
Basic cell structure and multicellularity	Theoretical	2
Membrane structure	Theoretical	2
Membrane transport mechanisms	Theoretical	2
Cell cytoskeleton	Theoretical	2
Structure of nucleus	Theoretical	2
Endoplasmic reticulum and golgi apparatus	Theoretical	2
Protein modification and targeting	Theoretical	2
Vesicular traffic, secretion and endocytosis	Theoretical	4
Lysosomes and peroxisomes	Theoretical	2
Mitochondria and energy production	Theoretical	2
Intracellular signal transduction – I	Theoretical	2
Intracellular signal transduction – II	Theoretical	2
Cell division: Mitosis and meiosis	Theoretical	4
Control of cell proliferation and neoplasia	Theoretical	2
Cell death: Apoptosis and other mechanisms	Theoretical	2
Medical Biology practice: Cell culture – I	Practical	2
Medical Biology practice: Cell culture – II	Practical	2

TISSUES AND THEIR FUNCTIONS COURSE BOARD
PI – 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	16	12	28
	Physiology	10	2	12
	Histology and Embryology	14	8	22
	Medical Biochemistry	4	0	4
	Medical Biology	8	0	8
	Medical Microbiology	21	6	27
	TOTAL	**79**	**28**	**107**

AIMS AND LEARNING OBJECTIVES OF THE COURSE BOARD

Aim:

At the end of this course board, Phase I students will learn the basic structure of the tissue and skeletal system, the concept of microbiology, basic information about microorganisms such as bacteria and viruses. They will have information about the anatomy of the bones in the skeletal system that make up the body. In addition, it is aimed to have knowledge about the physical chemical properties of blood and blood groups, blood coagulation mechanism.

Learning Objectives:

1. Explains the neurocranium and viscerocranium bones.
2. Counts the arteries, nerves and veins entering the skull.
3. Discuss and explain the relationship between the anatomical structures in the rib cage and spine.
4. Gain information about the nomenclature and structure of the bones that make up the human body, and explain joint types and joint movements.
5. Defines and demonstrates anatomy, anatomical terms and anatomical posture.
6. Gains the ability to use tools and materials such as anatomical atlas, models, bones and cadavers.
7. Defines the general composition and functions of blood.
8. Explains the physiological properties of the components of the blood and immune systems.
9. Discuss and relate the physiological processes in which blood components participate.
10. Defines tissues by classifying them.
11. Classifies the epithelial tissue and gives information about the lining and glandular epithelium.
12. Define connective and support tissues and explain the histological features of connective and support tissues.
13. Define adipose tissue and explain its histological features.
14. Explains the steps of hematopoiesis.
15. Describes the cells seen in the stages of hematopoiesis at the fine structure level.
16. Explains blood cells at the ultrastructural level by classifying them according to their histological characteristics.
17. Recognizes epithelium, connective tissues, blood and lymph at the microscopic level and describes their structural features.
18. Explains hemostasis mechanisms and lists the molecules that control the coagulation cascade.

19. Explains the systems that protect red cells from hemolysis by counting the functions of erythrocyte membrane proteins.
20. Explains the important pathways in red blood cell metabolism by listing the biochemical basis of A, B, O blood groups.
21. Defines cell connections, cell adhesion and intercellular matrix.
22. Explains the importance of the connections that cells establish with other cells and extracellular matrix in terms of tissue formation.
23. Explains the role of the extracellular matrix in terms of cell survival, differentiation, tissue functions.
24. Explains the function of stem cells in the normal functioning of tissues by specifying their properties.
25. Classifies microorganisms as disease agents and defines their characteristics.
26. Have knowledge about the transmission of diseases and protection from diseases.
27. Explains the importance of structural features of fungi in the diagnosis and treatment of diseases.
28. Lists the structural features and replications of viruses.
29. Explains the importance of the structural features of parasites in the treatment of diseases they cause.
30. Defines the concepts of sterilisation and disinfection, lists the methods.
31. Knows how to use critical, semi-critical and non-critical medical equipment without causing infection.
32. Counts the tests that are the basis for microbiological laboratory diagnosis of infectious diseases.

TOPICS

ANATOMY		
Topic	**Type**	**Time**
Introduction to anatomy, the place of anatomy in medical education, its aims and objectives, terms of body regions, body lines, planes, movements, and directions	Theoretical	2
Osteology (Osteology; bone science) and chondrologia (chondrology; cartilage science): General information	Theoretical	2
Pectoral arch bones and upper extremity bones and clinic anatomy	Theoretical	2
Anatomy practice: Pectoral arch bones and upper extremity bones	Practical	2
Bones of lower extremity and the pelvis	Theoretical	2
Vertebral column, costae and sternum	Theoretical	2
Anatomy practice: Bones of lower extremity and the pelvis	Practical	2
Anatomy practice: Vertebral column, costae and sternum	Practical	2
Cranium: Neurocranium	Theoretical	2
Cranium: Viscerocranium	Theoretical	2
Anatomy practice: Cranium: Neurocranium	Practical	2
Anatomy practice: Cranium: Viscerocranium	Practical	2
The skull	Theoretical	2
Anatomy practice: The skull	Practical	2
PHYSIOLOGY		
Topic	**Type**	**Time**
Physical and chemical characteristics of blood	Theoretical	2
Erythrocyte physiology	Theoretical	2
Leukocyte physiology and immune system	Theoretical	2
Blood groups and transfusion reactions	Theoretical	1
Platelet physiology and coagulation	Theoretical	3
Physiology Practical: Blood experiments	Practical	2
HISTOLOGY AND EMBRYOLOGY		

Topic	Type	Time
Introduction to tissues	Theoretical	2
Histology of lining epithelium	Theoretical	2
Histology practice: Lining epithelium	Practical	2
Histology of glandular epithelium	Theoretical	2
Histology practice: Glandular epithelium	Practical	2
Histology of connective tissue proper	Theoretical	3
Histology of adipose tissue	Theoretical	1
Histology practice: Connective tissue proper and adipose tissue	Practical	2
Histology of blood	Theoretical	2
Histology of bone marrow and blood production	Theoretical	2
Histology practice: Bone marrow and blood	Practical	2
MEDICAL BIOLOGY		
Topic	**Type**	**Time**
Growth factors and their functions	Theoretical	2
Stem cells and their differentiation	Theoretical	2
Structure of extracellular matrix	Theoretical	2
Cell adhesion	Theoretical	2
MEDICAL MICROBIOLOGY		
Topic	**Type**	**Time**
Introduction to microbiology and classification of infectious agents	Theoretical	2
Structure and general characteristics of bacteria	Theoretical	2
Structure of Rickettsia, Mycoplasma, chlamydia and spiral bacteria	Theoretical	1
Medical Microbiology practice: Working principles and basic microbiology knowledge in the laboratory	Practical	2
Bacterial metabolism and proliferation of bacteria	Theoretical	2
Medical Microbiology practice: Bacteriological staining techniques	Practical	2
Bacterial genetics	Theoretical	2
Medical Microbiology practice: Bacterial metabolism and proliferation of bacteria	Practical	2
Introduction to mycology: Classification and general characteristics of fungi	Theoretical	2
Introduction to virology: Classification and general characteristics of viruses	Theoretical	2
Introduction to parasitology: Classification and general characteristics of parasites	Theoretical	2
Introduction to antibiotics: mechanisms of action and resistance	Theoretical	2
Sterilization and disinfection	Theoretical	2
Laboratory diagnosis of infectious diseases	Theoretical	2
MEDICAL BIOCHEMISTRY		
Topic	**Type**	**Time**
Erythrocyte biochemistry	Theoretical	2
Coagulation biochemistry	Theoretical	2

LOCOMOTOR SYSTEM COURSE BOARD I
PI –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	18	10	28
	Physiology	9	0	9
	Histology and Embryology	15	10	25
	Medical History and Ethics	10	0	10
	TOTAL	**58**	**20**	**78**

AIMS AND LEARNING OBJECTIVES OF THE COURSE BOARD

Aim:

The aim of this course is to enable Phase I students to learn the basic structures of the locomotor system in general terms and to have knowledge about the working principles. For this, it is aimed to have knowledge about bones and joints, to explain physiologically nerve cells and neurotransmitter substances, to recognize the histological structure of cartilage, bone, nerve and muscle tissues in the body. In addition to these, it is also to provide an understanding of the history of medicine.

Learning Objectives:

1. Recognize joint and muscle tissues at the microscopic level, describe the structural features and development of muscle tissue.
2. Understands the types of joints and muscles in the upper extremity, explains the parts of the upper extremity muscles and their relationship with the joint.
3. Explains the anatomical nomenclature and functions of bones and joints in the skeleton.
4. Explains the anatomical structure of the upper extremity muscles.
5. Anatomically defines the pectoral region and arm area.
6. Describes and explains the anatomical formations in the arm and pectoral region.
7. Discuss the organization of the nervous system.
8. List the properties of neurotransmitter substances.
9. Explains the organization of the nervous system and the physiology of nerve conduction.
10. Explains the physiological properties of the peripheral nervous system and list the features of nerve conduction.
11. Discuss the autonomic nervous system.
12. Explains neurotransmitter substances and physiological properties of the autonomic nervous system.
13. Defines bone and cartilage tissue and explains its formation and histological properties.
14. Distinguishes different types of bone and cartilage and explains them using a light microscope.
15. Defines muscle tissue and explains its formation and histological features.
16. Distinguishes different muscle types and explains them using a light microscope.
17. Explains the histological features of the joint structure.
18. Define nervous tissue and explain its histological features and cells.
19. Distinguish nervous tissue and cells under a light microscope.
20. Explains the layers of the skin histologically and gives information about their components.
21. Describes the skin appendages according to their histological features and distinguishes them under a light microscope.

22. Explains the nerve endings in the skin.
23. Explains the history of medicine and medicine in ancient civilizations.
24. Describes medical practices in Ancient Anatolian Civilizations and Roman Period respectively.
25. Explains medical science in the Seljuk and Ottoman periods.
26. In Islamic history, medicine and medicine are stored and explained.

TOPICS

ANATOMY		
Topic	**Type**	**Time**
Arthrologia (Joint science): General information	Theoretical	2
Upper extremity joints	Theoretical	2
Lower extremity joints and arches of the feet	Theoretical	2
Vertebral, craniovertebral, costal, sternal joints and temporomandibular joint	Theoretical	2
Anatomy practice: Upper and lower extremity joints, arches of the feet	Practical	2
Anatomy practice: Vertebral, craniovertebral, costal, sternal joints and temporomandibular joint	Practical	2
Myologia (Muscle science): General information	Theoretical	1
Back and neck muscles, trigonum suboccipitale, shoulder and posterior arm region, humerotricipital and scapulotricipital spaces	Theoretical	2
Anatomy practice: Back and neck muscles, trigonum suboccipitale, shoulder and posterior arm region, humerotricipital and scapulotricipital spaces	Practical	2
Pectoral region, anterior arm muscles, trigonum deltopectorale (clavipectorale)	Theoretical	1
Axilla, plexus brachialis, arteria-vena axillaris and axillary lymph nodes	Theoretical	2
Forearm muscles and neurovascular structures, fossa cubitalis, fovea radialis and carpal tunnel	Theoretical	2
Hand muscles and neurovascular structures	Theoretical	2
Anatomy practice: Pectoral region, anterior arm muscles, trigonum deltopectorale, axilla, plexus brachialis and arteria-vena axillaris	Practical	2
Anatomy practice: Forearm muscles and hand muscles, fossa cubitalis, fovea radialis, carpal tunnel and neurovascular structures	Practical	2
PHYSIOLOGY		
Topic	**Type**	**Time**
Organization of the nervous system	Theoretical	1
Action potential initiation and propagation, Synaptic transmission	Theoretical	3
Neurotransmitter substances	Theoretical	2
Physiological features of the autonomic nervous system	Theoretical	3
HISTOLOGY AND EMBRYOLOGY		
Topic	**Type**	**Time**
Histology of cartilage tissue	Theoretical	2
Histology practice: Cartilage tissue	Practical	2
Histology of bone tissue, osteogenesis and synovium	Theoretical	3
Histology practice: Bone tissue	Practical	2
Histology of muscle tissue	Theoretical	3
Histology practice: Muscle tissue	Practical	2
Histology of nervous tissue	Theoretical	3

Histology practice: Nervous tissue	Practical	2
Histology of skin and nerve endings	Theoretical	4
Histology practice: Skin and nerve endings	Practical	2
MEDICAL HISTORY		
Topic	**Type**	**Time**
Introduction to medical history	Theoretical	1
Medicine in Antiquity	Theoretical	2
Medicine in Mesopotamia	Theoretical	1
Medical practices in ancient Anatolian civilisations	Theoretical	1
Medical practices in the Roman period	Theoretical	1
Medicine in Seljuk and Ottoman Empire	Theoretical	2
Medicine in Islam	Theoretical	2

LOCOMOTOR SYSTEM COURSE BOARD II
PI – 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
	Anatomy	15	10	25
	Biophysics	4	0	4
	Physiology	7	2	9
	Histology and Embryology	23	0	23
	Medical History and Ethics	9	0	9
	TOTAL	**64**	**12**	**76**

AIMS AND LEARNING OBJECTIVES OF THE COURSE BOARD

Aim:

The aim of this course board is to ensure that Phase I students have anatomical, histological, physiological and biophysical knowledge about the dynamics of the locomotor system and the principles of general study.

Learning Objectives:

1. Counts the anatomical structures in the hip, thigh, leg and foot area.
2. Discuss the anatomical structures in the hip, thigh, leg and foot area and relate them to each other.
3. It defines the innervation of the anatomical structures located in the hip, thigh, leg and foot region.
4. Explains the types of muscles in the body, counts the parts of skeletal muscle.
5. Explains the nerves that stimulate the muscles, explains the relationship of muscles with bones and nerves.
6. Explains the anatomical nomenclature and functions of skeletal muscles.
7. Explains bone and muscle properties by using general biological material properties such as elasticity and stiffness.
8. Explains the living system mechanics by using general mechanical laws.
9. Physical characteristics of muscle cells define.
10. Defines Skeletal muscle physiology and smooth muscle physiology.
11. Discusses EMG (Electromyography) measurement.

12. Describes events that may occur because of nerve damage.
13. Explains neuromuscular junction, muscle types and contraction mechanisms.
14. Describes excitable tissues and arousal steps.
15. Explains embryological terms.
16. Explains the formation and development of the human embryo and its appendages.
17. It describes the events that occur from the formation of germ cells and zygote until the end of embryogenesis.
18. Explains the characteristics of the fetal period.
19. Explains multiple pregnancies and their anomalies.
20. Explains the placenta in multiple pregnancy by defining the placenta and fetal membranes.
21. Explains human birth anomalies and teratogenicity.
22. Explains the development of the skeletal system and muscles.
23. Gives information about the Hippocratic oath.
24. Explains the history of medical education in the Renaissance period and in Turkey.
25. Explains the relationship between science and philosophy.

TOPICS

ANATOMY		
Topic	**Type**	**Time**
Gluteal region and ischial openings, intramuscular injection sites	Theoretical	2
Back and outer thigh muscles and neurovascular structures, fossa poplitea and plexus sacralis	Theoretical	2
Anatomy practice: Gluteal region and intramuscular injection sites, posterior and outer thigh muscles, neurovascular structures, fossa poplitea and plexus sacralis	Practical	2
Anterior and inner thigh muscles and neurovascular structures, trigonum femorale, canalis adductorius, plexus lumbalis	Theoretical	2
Anatomy practice: Anterior and inner thigh muscles and neurovascular structures, trigonum femorale, canalis adductorius, plexus lumbalis	Practical	2
Anterior and external leg muscles and neurovascular structures	Theoretical	1
Posterior leg muscles, neurovascular structures, and tarsal tunnel	Theoretical	1
Anatomy practice: Leg muscles and neurovascular structures, tarsal tunnel	Practical	2
Foot muscles and neurovascular structures	Theoretical	2
Facial anatomy: muscles and neurovascular structures	Theoretical	2
Anatomy practice: Foot muscles and neurovascular structures	Practical	2
Anterior and lateral neck regions, neck fascia, neck triangles, plexus cervicalis	Theoretical	3
Anatomy practice: Facial anatomy: muscles and neurovascular structures, anterior and lateral neck regions, neck triangles, plexus cervicalis	Practical	2
BIOPHYSICS		
Topic	**Type**	**Time**
The general properties of biological materials, solids and fluids	Theoretical	2
The concepts of biomechanics	Theoretical	2
PHYSIOLOGY		
Topic	**Type**	**Time**
Physical characteristics of muscle cells	Theoretical	2
Skeletal muscle physiology	Theoretical	3

Smooth muscle physiology	Theoretical	2
EMG (Electromyography) measurement	Practical	2
HISTOLOGY AND EMBRIOLOGY		
Topic	**Type**	**Time**
Introduction to embryology	Theoretical	1
Gametogenesis	Theoretical	2
Menstrual cycle, ovulation and spermiation	Theoretical	2
Beginning of human development: 1st week	Theoretical	2
Formation of bilaminar embryonic disc: 2nd week	Theoretical	2
Formation of germ layers: 3rd week	Theoretical	2
Organogenesis period: 4-8th weeks	Theoretical	2
Fetal period	Theoretical	2
Placenta and fetal membranes, multiple pregnancies	Theoretical	3
Human birth defects and teratogens	Theoretical	2
Development of skeletal system and muscles	Theoretical	3
MEDICAL HISTORY		
Topic	**Type**	**Time**
Hippocratic Medicine	Theoretical	1
Medieval Medicine	Theoretical	2
History and basic features of medical education in Turkey	Theoretical	2
The relationship between science and philosophy	Theoretical	2
Empirical method and science methodology	Theoretical	2

SCIENTIFIC AND CLINICAL APPROACHES I COURSE BOARD
PI – BOARD VI

CODE OF THE BOARD COURSES	NAME OF THE BOARD COURSES	THEORETICAL HOURS	PRACTICAL HOURS	SUM OF HOURS
	Preparation for Scientific Knowledge	11	5	16
	Clinical Overview I	26	2	28
	Clinical Skill I	0	10	10
	Early Introduction to the Clinic	4	14	18
	TOTAL	**41**	**31**	**72**

AIMS AND LEARNING OBJECTIVES OF THE COURSE BOARD

Aim:

At the end of this course board, the students will learn basic professional skills on models in accordance with ethical principles; they will learn about the reflection of the basic information they have learned in the clinic and the ways in which they can access scientific information.

Learning Objectives:

1. Applies the basic professional skill techniques required in clinical practice.
2. Gains the ability to put on and take off protective equipment.
3. Gains the skill of intramuscular and subcutaneous injection.

4. Anatomically defines the structure of the plexuses of the nervous system and its clinical relationship.
5. Counts the diseases caused by injury to the plexuses.
6. Discuss the structures that lose their function in plexus injury.
7. Understands and interprets techniques using molecular biology and genetic mechanisms.
8. Interprets basic knowledge of locomotor system clinically.
9. Defines the sources of accessing information.
10. Explains plagiarism and programs used to prevent plagiarism.
11. Counts article scanning methods.
12. Explains the importance of being scientific in medicine.
13. Explains the use of biostatistics in medical research.
14. Counts blood transfusion and tissue transplantation.
15. Counts and discusses ability to wear protective equipment (apron, mask, goggles/face shield, gloves).
16. Gains the hand washing skill.
17. Counts respiration and pulse rate.
18. Performs basic life support and Heimlich maneuver.
19. Explains Ability to count breathing and pulse rate.
20. Explains by discussing the ability to ensure appropriate patient transport.

TOPICS

PREPARING FOR SCIENTIFIC INFORMATION (PSI)		
Topic	**Type**	**Time**
1.Introduction to Medicine	**Type**	**Time**
SCA1-PSI: Information technologies	Practical	5
2.Cell Structure and Their Functions	**Type**	**Time**
SCA1-PSI: What is knowledge?	Theoretical	1
SCA1-PSI: What are the types of information sources?	Theoretical	1
3.Tissues and Their Functions	**Type**	**Time**
SCA1-PSI: Classification of science	Theoretical	1
SCA1-PSI: Classification of medical research	Theoretical	1
SCA1-PSI: What is plagiarism? Methods used to prevent plagiarism	Theoretical	1
SCA1-PSI: Programs used to prevent plagiarism	Theoretical	1
4. Locomotor System – 1	**Type**	**Time**
SCA1-PSI: Medical article searching at TR index	Theoretical	1
SCA1-PSI: Library-supported article search methods	Theoretical	1
SCA1-PSI: Academic journals and international indexes	Theoretical	1
5.Locomotor System – 2	**Type**	**Time**
SCA1-PSI: Use of biostatistics in medical research	Theoretical	2
CLINICAL OVERVIEW I (COV I)		
1.Introduction to Medicine	**Type**	**Time**
SCA1-COV Medical Biology: Structure of chromosome	Theoretical	2
SCA1-COV Medical Biology: Chromosome types and karyotype analysis	Theoretical	1
SCA1-COV Medical Biology: Sex chromosomes and examples of chromosomal aberrations	Theoretical	1

SCA1-COV Medical Biology practice: Human chromosomes and karyotype analysis	Practical	2
2.Cell Structure and Their Functions	**Type**	**Time**
SCA1-COV Medical Biology: Molecular Biology of mitochondrial diseases	Theoretical	1
3.Tissues and Their Functions	**Type**	**Time**
SCA1-COV Anatomy: Clinical anatomy of upper extremity bones and pectoral girdle bones	Theoretical	1
SCA1-COV Anatomy: Clinical anatomy of the bones of lower extremity and the pelvis	Theoretical	1
SCA1-COV Anatomy: Clinical anatomy of the vertebral column, ribs, and sternum	Theoretical	1
SCA1-COV Anatomy: Clinical anatomy of the cranium	Theoretical	1
SCA1-COV Internal medicine: Blood transfusion and tissue transplantation	Theoretical	1
SCA1-COV Medical Biology: Organization of human genome and genomic variations	Theoretical	1
SCA1-COV Medical Biology: Progress in genome science	Theoretical	1
SCA1-COV Medical Biology: Novel approaches in personal medicine and the use of genomic technics in medicine	Theoretical	1
SCA1-COV Medical Biology: Biotechnological applications in medicine	Theoretical	1
4. Locomotor System I	**Type**	**Time**
SCA1-COV Anatomy: Clinical terminology of joint	Theoretical	1
SCA1-COV Anatomy: Clinical anatomy of the joints of upper extremity	Theoretical	1
SCA1-COV Anatomy: Clinical anatomy of the joints of lower extremity	Theoretical	1
SCA1-COV Anatomy: Clinical anatomy of the vertebral, craniovertebral, costal, sternal, and temporomandibular joints	Theoretical	1
SCA1-COV Anatomy: Clinical terminology of muscle	Theoretical	1
SCA1-COV Anatomy: Clinical anatomy of the back muscles and muscles of the upper extremity	Theoretical	1
SCA1-COV Anatomy: Clinical anatomy of brachial plexus	Theoretical	2
5.Locomotor System II	**Type**	**Time**
SCA1-COV Anatomy: Lesions of the lumbar plexus and sacral plexus	Theoretical	2
SCA1-COV Anatomy: Clinical anatomy of the muscles of lower extremity	Theoretical	1
SCA1-COV Anatomy: Clinical anatomy of the head and neck regions	Theoretical	1
CLINICAL SKILL I (CSK I)		
1.Introduction to Medicine	**Type**	**Time**
SCA1-CSK: Hand washing skill	Practical	2
2.Cell Structure and Their Functions	**Type**	**Time**
SCA1-CSK: Ability to wear protective equipment (apron, mask, goggles/face shield, gloves)	Practical	2
3.Tissues and Their Functions	**Type**	**Time**
SCA1-CSK: Ability to count breathing and pulse rate	Practical	2
4. Locomotor System I	**Type**	**Time**
SCA1-CSK: Basic life support and ability to perform the Heimlich maneuver	Practical	2

5.Locomotor System II	**Type**	**Time**
SCA1-CSK: Ability to ensure appropriate transportation of the patient	Practical	2
EARLY INTRODUCTION TO THE CLINIC (EIC)		
1.Introduction to Medicine	**Type**	**Time**
SCA1-EIC: Early introduction to the Clinic – 1	Theoretical	2
2.Cell Structure and Their Functions	**Type**	**Time**
SCA1- EIC: Early Introduction to the Clinic – 2	Theoretical	2
SCA1- EIC: Early Introduction to the Clinic – 3	Practical	2
3.Tissues and Their Functions	**Type**	**Time**
SCA1- EIC: Early Introduction to the Clinic – 4	Practical	4
4. Locomotor System I	**Type**	**Time**
SCA1- EIC: Early Introduction to the Clinic – 5	Practical	4
5.Locomotor System II	**Type**	**Time**
SCA1- EIC: Early Introduction to the Clinic – 6	Practical	4