

Medicine			
Bachelor	TR-NQF-HE: Level 7	QF-EHEA: Second Cycle	EQF-LLL: Level 7

Course Introduction and Application Information

Course Code:	TIP101		
Course Name:	1st Panel		
Semester:	Spring		
Course Credits:	<div>ECTS</div> <div>38</div>		
Language of instruction:			
Course Condition:			
Does the Course Require Work Experience?:	Yes		
Type of course:	Compulsory Courses		
Course Level:	<div>Bachelor</div> <div>TR-NQF-HE:7. Master`s Degree</div> <div>QF-EHEA:Second Cycle</div> <div>EQF-LLL:7. Master`s Degree</div>		
Mode of Delivery:	E-Learning		
Course Coordinator:	Prof. Dr. HIKMET KOÇAK		
Course Lecturer(s):	Prof. Dr. M. Ayberk KURT, Prof. Dr. Aydın ÖZBEK, Prof. Dr. Rauf Onur Ek, Prof.Dr.Veysel Sabri Hançer, Prof. Dr. Figen KAYMAZ, Assoc. Prof. Dr. Mehmet UZEL, Asst. Prof. Huri BULUT, Asst.		

Prof. Caner Geyik, ,Asst. Prof. Murat Ekremoğlu, Asst. Prof. Denizhan Karış, Asst. Prof. Dr Süreyya Bozkurt, Asst. Prof. Gökçer Eskikurt, Asst. Prof. Duygu Koyuncu Irmak, Asst. Prof. Tayyibe Bardakçı, Asst. Prof. Hakan Darıcı, Asst. Prof. Ayca İliter, Asst. Prof. Özgür Tataroğlu, Asst. Prof. Muradiye Acar

Course

Assistants:

Course Objective and Content

Course

Objectives:

At the end of this committee, it is aimed that students gain general knowledge on basic subjects of medical sciences (cell structure, functions, chemical components, water, acid-base, protein structure-properties, nucleic acids, control mechanisms in the body, homeostasis concept). Through Laboratory Applications, it is aimed to gain knowledge and skills about the basic laboratory concept, buffer solutions and protein identification methods.

At the end of the MOTION SYSTEM-I (PASSIVE HS) committee, (ANATOMY) students will be able to recognize and classify the general properties of bones and joints, to examine in detail the axial and appendicular skeleton by dividing it into its parts, to make primary clinical evaluations concerning the skeletal system and to learn the ligaments of the joints and to understand the mechanism of ligament injuries, (BIOPHYSICS) students will be able to describe the biomechanical properties of the bone, explain the cells in bone tissue, the formation of bone tissue, bone tissue remodeling, fracture repair in the bone, the functions of bone tissue in the body, the biophysical characteristics of the bone, identification of the biophysical bases of radiological imaging methods, identification of image formation in radiological imaging methods and imaging in radioactive imaging methods aimed to gain general knowledge such as defining the image formation in methods. Basic laboratory concept with Laboratory Applications, Learning anatomical bones and joints using atlas on anatomical plastic models, (MEDICAL BIOCHEMISTRY) At the end of the committee, it is aimed to explain the basic structures of lipids, their chemical bonds, functional groups and metabolic events, to give basic information about the reactions of fat and protein metabolism, to describe the metabolic pathways they participate in, and to gain information about how the necessary energy is provided for the organism. It is aimed to gain knowledge and skills about the methods of learning the unsaturation rate in fatty acids and the methods for the qualitative determination of cholesterol. At the end of the MOTION SYSTEM-II (ACTIVE HS) committee, (ANATOMY) students to have the ability to make a general evaluation about the muscles, to learn the beginning, ending, nerves and functions of the skeletal muscles, to evaluate the diseases and injuries caused by the muscles at a basic level, to recognize and elaborate the formation of tendons, bursa and fascia, (PHYSIOLOGY) students will be able to describe the skeletal muscle structure and units, and the characteristics of the skeletal muscle cell, describe the proteins and functions related to contraction and the molecular mechanism of muscle contraction, define the neuromuscular junction and the arousal-contraction relationship, define the characteristics of the skeletal muscle contraction, count the types of contraction of skeletal muscle and describe the energy use of skeletal muscle, specify the special cases of skeletal muscle function and some functional and structural disorders, describe the structure of smooth muscle and types of smooth muscle, explain the control mechanisms of its contraction, explain the structure of the heart muscle and the properties of the heart muscle cell, explain action potentials and signal transmission in the heart muscle and express the differences between cardiac muscle, smooth muscle and striated muscle, (BIOPHYSICS) students to have the

ability to explain the forces in bones, muscles and joints during rest and movement, explain the torque and rotational movements effective in the human body, define the leverage systems effective in the human body, define walking and spine movements, and explain the biomechanical properties of the effects on bones, muscles and joints during rest and movement in the human body, as well as gain general knowledge. With Laboratory Applications, it is aimed to acquire knowledge and skills about basic laboratory concept, ability to recognize, comprehend and distinguish muscles and tendons on cadavers and anatomical plastic models, and their methods.

At the end of the MICRO-ORGANISM-BLOOD-IMMUNOLOGY committee, students (MICROBIOLOGY-IMMUNOLOGY) will be able to learn the cornerstones and principles of microbiology, and learn the general characteristics of microorganisms that cause disease, their structure, virulence factors, damage-inducing mechanisms, the basic features of the immune system that occurs against these microorganisms and It is aimed to learn the mechanisms, the functions of the organs, tissues and cells involved in defense; (PHYSIOLOGY) students will be able to tell the basic functions of blood, the composition of the blood and its physical and chemical properties, identify the shaped elements (cells) in the blood, determine the stages of the formation of blood cells from the bone marrow, explain the control of blood production, explain the function and normal number of erythrocytes, define the blood group, count the types of groups, it is aimed to gain general knowledge such as explaining leukocyte production, types, functions and general properties. Basic laboratory concept with Laboratory Applications, (MICROBIOLOGY-IMMUNOLOGY), it is aimed to which rules should be observed during laboratory identification of microorganisms that are the agent of infection, which tools and materials are used, the properties and procedures of the media and dyes used in identification, and to learn the transplantation methods.

Course Content:	Theoretical courses: Medical Biology, Medical Biochemistry, Biophysics, Physiology, Family Medicine, Public Health, Anatomy, Histology, Medical Genetics, Microbiology and Immunology, History of Medicine, Laboratory Applications, Clinical Skills
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Learning Outcomes

The students who have succeeded in this course;

- 1) To be able to explain the content of the anatomy course and its practical-theoretical applicability,
- 2) In Physiology, students define homeostasis and control systems. In Physiology, students learn the physiology of membrane potential and action potential and how they are formed.
- 3) To be able to define the fields of study of biophysics and have information about the history of biophysics.
- 4) To be able to explain the biophysical properties of the cell membrane; relate to the structure and functions of membranes; explain the electrical properties of the cell membrane
- 5) At the end of the committee, it is aimed that the students gain general information about the concepts of water, acid-base, the structural properties of proteins, the metabolism of nucleic acids, as well as the basic laboratory concept, buffer solutions and protein identification methods.
- 6) It is aimed to give information about the structure of enzymes, the properties and biological functions of vitamins and the ability to evaluate them as a whole, which is one of the macromolecules that play a role in biochemical events in living organisms
- 7) It is aimed to provide general information about the structure, chemical bonds, functional groups and chemical reactions of carbohydrates, which are basic biomolecules for the organism, especially the identification of the metabolic pathways through which glucose enters and the mechanisms effective in controlling glucose levels and

how to provide the necessary energy for the organism

8) To be able to explain the biomechanical and biophysical properties of bone tissue

9) To be able to explain the biomechanical properties of the effects on bones, muscles and joints during rest and movement in the human body

10) To be able to define the definition of epithelial tissue, connective tissue and the properties of its cells, To be able to define and classify cartilage tissue, bone tissue and muscle tissue

11) To be able to define the embryological stages of development

12) To be able to explain the structure, classification and general properties of lipids

13) To be able to describe proteins and their general properties

14) To be able to explain the structures that make up the bacterial cell, to describe the general characteristics and structures of viruses, to define immunology, antibody and antigen properties

15) To be able to explain the control of blood production, To be able to define that What is the blood type? To be able to define that What is immunity?

16) To be able to describe skeletal system and its duties and functions

17) To be able to explain basic joint types and movements in anatomy, upper and lower extremity, the skull and axial skeleton bones and joints

18) To be able to explain the functions and types of muscles, To be able to explain the neural conduction and innervation mechanism of the muscles

19) To be able to explain the topographic layers of the face, To be able to understand the front and side of the neck topographically and explain the structures it contains

Course Flow Plan

Week	Subject	Related Preparation
1)	Opening Speech, Presentation of the Course Program- Introduction of Directive and Regulations, Presentation Techniques, CLINICAL SKILLS-Skills of Hand Washin	
2)	Committee Presentation, Introduction to Medical Sciences-I MEDICAL BIOLOGY- Structural and Common Properties of Prokaryotic and Eukaryotic Cells, Cell Membrane, Genome Structure Overview I-II, Human Genome and Organization, Nucleus Structure and Organization BIOCHEMISTRY- Introduction to Biochemistry and General Principles, Structure of Water and Water Ionization BIOPHYSICS- Introduction to Biophysics, Basic Principles in Biophysics, Biophysical Characteristics of Living Structures, Biophysical Features of Water and Its Role in Organism PHYSIOLOGY- Introduction to Physiology, Homeostasis, Control Systems and Other Organ Systems MEDICAL BIOLOGY- Introduction to Lab Equipments, Investigation of Prokaryotic and Eukaryotic Cells CLINICAL SKILLS- Skills of Bandage Application; Skills of Cervical Collar Application	
3)	Theoretical: MEDICAL BIOLOGY- General Structure and Functions of Chromosomes I-II, Structures and Functions of Endoplasmic Reticulum, Structures and Functions of Ribosome, Structures and Functions of Lysosome, Structures and Functions of Peroxisome, Structures and Functions of Mitochondria, BIOCHEMISTRY- Concepts of Acid-Base, pH and pK, Buffer Systems, Classification of Aminoacids I-II, BIOPHYSICS- Body Fluids, Special Features and Determination Methods, Intracellular Electrical	

	Environment, Aqueous Solutions, Tampon Systems, Blood Gasses Laboratory: MEDICAL BIOLOGY- Investigation of Human Chromosome BIOCHEMISTRY- Preparation of Solutions CLINICAL SKILLS- Skills of Cervical Collar Application	
4)	Theoretical: MEDICAL BIOLOGY- Structures and Functions of Golgi Body, Cytoskeleton I-II, BIOPHYSICS- Biophysical Characteristics Determining the Structural and Functional Properties of Biomolecules, BIOCHEMISTRY- Structure and Chemical Properties of Aminoacids and Formation of Peptide Bond I-II-III, Three Dimensional Structure of Proteins, Classification of Proteins, Fibrous Proteins, Globular Proteins PHYSIOLOGY- Ion Channels, Transport Through Ion Channels, Transport Systems I-II, Laboratory: BIOCHEMISTRY- Spectrophotometry CLINICAL SKILLS- Skills to Perform First Aid for Foreign Body Removal in The Airway	
5)	Theoretical: STUDENT SEMINAR MEDICAL BIOLOGY- Q&A With The Lecturer PHYSIOLOGY- Q&A With The Lecturer BIOPHYSICS- Q&A With The Lecturer BIOCHEMISTRY- Q&A With The Lecturer COMMITTEE EVALUATION Laboratory: BIOCHEMISTRY- Protein Analysis Methods	
6)	Committee Presentation, Introduction to Medical Sciences-II Theoretical: HISTOLOGY- Introduction to Histology MEDICAL BIOLOGY- Cell-Cell Connections and Adhesion Molecules I-II, Transport of Molecules Between Nucleus and Cytosol, Intracellular Molecule Transport I-II-III DEONTOLOGY- Introduction to History of Medicine, Prehistoric and ancient medicine (Mesopotamia & Egypt) BIOPHYSICS- Biophysical Features of Cellular Membranes and Cellular Functions, Biophysical Features of Transport Mechanisms Through Membranes, Ion Channels, Electrical and Bioelectric Potentials, Voltage Clamp Technique, Effects of Electric Current on Tissue, Biological Effects of Electric Current, Pflüger Laws, Chronaxie, Rheobase, Stimulation of Human by Direct Currents, Surgical Galvanism PHYSIOLOGY- Membrane Potential, Propagation and Stimulation of The Action Potential I BIOCHEMISTRY- General Properties and Classification of Enzymes,	
7)	Theoretical: PHYSIOLOGY- Propagation and Stimulation of The Action Potential II, Practices of The Action Potential, Synaptic Transmission, BIOCHEMISTRY- Regulation of Enzyme Activity I-II, Enzyme Inhibitions , General Properties of Vitamins, Fat-Soluble Vitamins I-II, BIOPHYSICS- Functional and Biophysical Characteristics of Proteins, Biophysical Characteristics of Enzyme Kinetics FAMILY MEDICINE- Human and Environment Interaction DEONTOLOGY- Medicine of Ancient India and China, Ancient Greek Medicine, Medicine of Ancient Rome, Byzantine and Medieval Islamic Medicine, Medicine in Seljukians and Ottomans, MEDICAL BIOLOGY- Cell Division: Mitosis-Meiosis, Cell Cycle and Control I-II, - Structure and Properties of DNA and RNA I-II, HISTOLOGY- Cells and Tissues, Histological Techniques I-II MDICAL GENETICS- Introduction to Genetics, Genetic Terms Laboratory: BIOCHEMISTRY- Measurement of Enzyme Activity MEDICAL BIOLOGY- Mitosis and Meiosis Division	
8)	Theoretical: BIOCHEMISTRY- Water-Soluble Vitamins I-II, Synthesis of Purine Bases, Synthesis of Pyrimidine Bases, Degradation of Purine and Pyrimidine & Dysregulations in Nucleotide Metabolism I-II MEDICAL BIOLOGY- - Epigenetic Mechanisms, DNA	

	Replication DEONTOLOGY- Medieval Medicine and Medical Renaissance in Europe, Medicine of 18th and 19th Centuries, Medicine of 20th Century, History of Pandemics, The Beginning of Modern Medical Education in Turkey and The University Reform, HISTOLOGY- Microscopes, ELECTIVES Laboratory: MEDICAL BIOLOGY- DNA Extraction HISTOLOGY- Demonstration of Microscopes	
9)	Theoretical: BIOPHYSICS- Q&A with the Lecturer MEDICAL BIOLOGY BIOCHEMISTRY- Q&A with the Lecturer HISTOLOGY- Q&A with the Lecturer PHYSIOLOGY- Q&A with the Lecturer INTEGRATED SECTION: Medicine in Information Era Laboratory: MEDICAL BIOLOGY- Nucleic Acids	
10)	Theoretical: STUDENT SEMINAR COMMITTEE EVALUATION EXAM	
11)	Committee Presentation, Introduction to Medical Sciences-III Theoretical: MEDICAL BIOLOGY- Genetic Code and Translation, Control of Gene Expression I-II, Cell Death I-II BIOCHEMISTRY- Structure and Classification of Carbohydrates I-II, Oligosaccharides, Structure and Properties of Polysaccharides, Introduction to Carbohydrate Metabolism- Digestion and Absorption I-II, Glycolysis and Citric Acid Cycle I-II, ANATOMY - Introduction to Anatomy I-II, Introduction to Medical Terminology, Latin Nouns and Their Conjugations I-II, Latin Adjectives and Their Conjugations I-II MEDICAL GENETICS- General Rules of Inheritance and Single Gene Inheritance I-II	
12)	Theoretical: MEDICAL BIOLOGY- Mutation and Detection Methods DNA Repair Mechanisms, Intercellular Communication, Intracellular Messenger Systems I-II, BIOCHEMISTRY- Pentose-Phosphate Pathway, Metabolism of Other Monosaccharides, Gluconeogenesis, Glycogen Metabolism, Regulation of Carbohydrate Metabolism, Bioenergetics and Energy Production, ANATOMY - Prefixes in Medical Terminology, Suffixes in Medical Terminology BIOPHYSICS- Energy Flow in Organisms, Bioenergetics and Laws of Thermodynamics I-II, MEDICAL GENETICS- Non-Mendelian Inheritance	
13)	Theoretical: BIOCHEMISTRY- Electron Transport Chain, Oxidative Phosphorylation and Regulation Mechanisms, Q&A with the Lecture ANATOMY - Basic Anatomic Abbreviations, Numbers, Colors, Q&A with the Lecture MEDICAL BIOLOGY- Q&A with the Lecture BIOPHYSICS- Q&A with the Lecture Laboratory: BIOCHEMISTRY- Carbohydrate Analysis Methods CLINICAL SKILLS- Skills of Measuring and Evaluating Blood Glucose Using Glucometer	
14)	Theoretical: STUDENT SEMINAR COMMITTEE EVALUATION EXAM	
15)	I. MIDTERM EXAM	
16)	COMMITTEE PRESENTATION- MOTION SYSTEM-I (PASSIVE) Theoretical: HISTOLOGY- Epithelial Tissue I-II, Epithelial Tissue III-IV, Connective Tissue I-II-III ANATOMY- Anatomical Direction Terms, Anatomical Position, Plane and Axes, Anatomical Movements of The Human Body, General Information About Bones, General Information About Joints I-II, Columna Vertebralis Bones and Joints-Sternum and Ribs I-II-III, BIOCHEMISTRY- General Structure and Classification of Lipids	

17)	Theoretical:ANATOMY- Upper Extremity Bones I-II, Upper Extremity Joints I-II, BIOCHEMISTRY- Chemical Propertiesof Triglycerides Phospholipids Glycolipids and Steroids I-II, Metabolic Process of Lipids Obtained via Diet, HISTOLOGY- Cartilage Histology, Bone Histology I-II, Joint Histology BIOPHYSICS- Biomechanical and Biophysical Features of Bone Tissue Lab: ANATOMY- Columna vertebralis bones and joints-sternum and ribs; Upper extremity bones HISTOLOGY - Tissues of Epithel; Connective Tissues; Tissues of Bone and Cartilage	
18)	Theoretical: ANATOMY- Lower Extremity Bones I-II-III, Lower Extremity Joints I-II BIOCHEMISTRY- Lipoprotein Metabolism I-II, Fatty Acid and Triglyceride Metabolism- Lipolysis, Synthesis and Use of Ketone Bodies, Fatty Acid Synthesis HISTOLOGY - Joint Histology BIOPHYSICS- Biomechanical and Biophysical Features of Bone Tissue I-II, Biophysical Basics of Medical Imaging Techniques, Lab: ANATOMY- Upper extremity Joints; Lower extremity bones	
19)	Theoretical: BIOCHEMISTRY- Cholesterol and Steroid Metabolism I-II, Digestion and Absorption of Proteins I-II, Removal of Nitrogen from Aminoacids ANATOMY - Cranial bones (neurocranium)I-II, Cranial bones (splanchnocranium) I-II, Surfaces and anthropometric landmarks of the skull Lab: BIOCHEMISTRY- Lipids ANATOMY - Lower extremity Joints; Cranial bones (neurocranium);	
20)	Lab: ANATOMY- Cranial bones (splanchnocranium)	
21)	STUDENT SEMINAR COMMITTEE EVALUATION BIOCHEMISTRY-Q&A with the Lecture BIOPHYSICS- Q&A with the Lecture ANATOMY - Q&A with the Lecture HISTOLOGY - Q&A with the Lecture EXAM	
22)	Committee Presentation- Motion System-II (Active Hs) PHYSIOLOGY- Muscle Physiology I-II-III-IV ANATOMY - General Information About Muccles I-II, Nerve and Blood Supply of Tissues, Superficial Back Muscles, Shoulder , Anterior and Posterior Compartment of Arm, Pectoral Region I-II-III, HISTOLOGY- Muscle Tissue I-II, Skeletal Muscle and Muscle Spindles ANATOMY - Superficial back muscles, posterior compartment of the shoulder and arm, pectoral region HISTOLOGY- Muscle Tissue; Tissues of Bone, Cartilage and Muscle	
23)	Theoretical: PHYSIOLOGY- Muscle Physiology V-VI ANATOMY - Breast Anatomy and Axillary Fossa, Brachial Plexus I-II-III, Anterior Compartment of The Forearm and Cubital Fossa I-II, Posterior Compartment of The Forearm, Hand Anatomy I-II, Posterior Abdominal Wall, Lumbosacral Plexus I-II, Anterior Abdominal Wall, Inguinal Canal and Inguinal Hernias I-II, Lab: ANATOMY- Breast anatomy and axillary fossa, brachial plexus; Anterior and posterior compartment of the forearm and cubital fossa and hand anatomy HISTOLOGY- Tissues of Bone, Cartilage and Muscle	
24)	Theoretical: ANATOMY- Gluteal Region, Posterior Compartment of The Thigh and Popliteal Fossa I-II, Anterior and Medial Compartment of The Thigh (adductor canal, femoral triangle) I-II, Leg Anatomy I-II, BIOPHYSICS- Physical Forces Acting on Posture and Lever Function in Human Body, Biomechanical Features of Human Body Lab: ANATOMY- Posterior Abdominal Wall, Lumbosacral Plexus; Anterior Abdominal Wall,	

	Inguinal Canal and Inguinal Hernias; Anterior and Medial Compartment of The Thigh (adductor canal, femoral triangle)	
25)	Theoretical: ANATOMY- Foot Anatomy I-II, Parotid Gland and Facial Anatomy I-II, Pterygopalatine Fossa, Temporal Region and Infratemporal Fossa I-II, Anterior and Lateral Regions of The Neck I-II Lab: ANATOMY- Gluteal Region, Posterior Compartment of The Thigh and Popliteal Fossa; Leg and Foot Anatomy; Facial anatomy and SCALP, parotid region,temporal region, pterygopalatine fossa, and infratemporal fossa;	
26)	Theoretical: ANATOMY - Suboccipital Region and Deep Back Muscles I-II Q&A with the Lecture PHYSIOLOGY- Q&A with the Lecture BIOPHYSICS- Q&A with the Lecture ANATOMY - Q&A with the Lecture HISTOLOGY - Q&A with the Lecture STUDENT SEMINAR COMMITTEE EVALUATION Lab: ANATOMY- Anterior and Lateral Regions of The Neck; Suboccipital Region and Deep Back Muscles	
27)	FEAST OF RAMADAN EXAM	
28)	Committee Presentation- Micro-Organism-Blood-Immunology Theoretical: MICROBIOLOGY- Introduction to Microbiology I-II, Classification of Microorganisms PHYSIOLOGY - Physiological Properties of Blood, Erythrocytes I-II IMMUNOLOGY - Introduction to Immunology I-II, HISTOLOGY- Blood I-II, Introduction to Embryology I-II, Molecular Basis of Embryology, Hemapoiesis I-II, Hemopoietic Organs I-II Lab: MICROBIOLOGY- Introduction of tools and equipments used in microbiology and preparation of unstained slides, Staining methods in microbiology	
29)	Theoretical: HISTOLOGY-Formation of First Blastomeres and Blastocyst Stage I-II-III, Tonsilla and Lymph Node Histology I- II, Thymus Histology, Spleen Histology, PHYSIOLOGY –Blood Types MICROBIOLOGY- General Features of Bacteria I-II, Bacterial Genetics I-II Lab: HISTOLOGY- Hematopoietic Organs and Blood Tissue	
30)	Theoretical: PHYSIOLOGY – Blood Coagulation, Leukocytes, IMMUNOLOGY - Innate Immunity, Humoral Immune Response, HISTOLOGY- Implantation, Second Week of Development I-II MICROBIOLOGY- Bacterial Growth I-II, Bacterial Metabolism I-II, Microbiota I-II Lab: HISTOLOGY- Tonsilla and Lymph Node, Thymus, Spleen PHYSIOLOGY- Blood types, sedimentation, Hematocrit	
31)	Theoretical: HISTOLOGY - Third Week of Development I-II-III, Fourth to Eighth Weeks I-II, Placenta and Fetal Membranes I-II, Overview of Embryonic Period, Somite Formation, Skeletal System Development, Muscular System Development, MICROBIOLOGY - General Features of Viruses I-II, General Features of Parasites, General Features of Fungi, Sterilization, Disinfection and Antisepsis I-II Lab: MICROBIOLOGY LAB- Good Laboratory Practises and Microscopy HISTOLOGY DİJİTAL- Embryonic discs and folding of the embryo	
32)	Theoretical: STUDENT SEMINAR COMMITTEE EVALUATION PHYSIOLOGY - Q&A with the Lecture HISTOLOGY - Q&A with the Lecture MICROBIOLOGY- Q&A with the Lecture IMMUNOLOGY - Q&A with the Lecture EXAM	

Sources

Course Notes / Textbooks:	<p>Öğretim üyesinin hazırladığı sunumlar</p> <p>Guyton Tıbbi Fizyoloji</p> <p>Presentations prepared by the instructors</p> <p>PHYSIOLOGY: Medical Physiology (Guyton)</p>
References:	<p>ANATOMİ:</p> <ul style="list-style-type: none"> -Fonksiyonel Anatomi-Ekstremite ve Sırt Bölgesi (Doğan Taner) -Anatomi 1. cilt (Kaplan Arıncı-Alaittin Elhan) -Gray's Anatomy (Susan Standring) -Atlas of Human Anatomy (Frank H. Netter) -İnsan Anatomisi Atlası (Johannes Sobotta) <p>It is recommended that students come by reading the lecture notes on skill practices. Besides;</p> <ol style="list-style-type: none"> 1.Gray's Anatomy (Susan Standring) 2.Atlas of Human Anatomy (Frank H. Netter) 3.Atlas of Anatomy-Head and Neuroanatomy (THIEME) 4.Atlas of Human Anatomy (Johannes Sobotta) <p>FİZYOLOJİ:</p> <ul style="list-style-type: none"> -İnsan Fizyolojisi (TFBD) İstanbul Tıp Kitabevi Yayınları 2020 -Fizyoloji (Berne & Levy) -Ganong'un Tıbbi Fizyolojisi -Lippincott Görsel Anlatımlı Fizyoloji <p>Öğrencilerin beceri uygulamalarına ilişkin ders notlarını okuyarak gelmeleri önerilir.</p> <p>PHYSIOLOGY :</p> <ul style="list-style-type: none"> -Physiology (Berne & Levy) -Ganong's Medical Physiology -Lippincott Illustrated Reviews: Physiology -Human physiology An integrated approach, (Silverthorn) <p>BİYOFİZİK:</p> <ul style="list-style-type: none"> -Biyofizik Yöntemler Biyolojik Etkiler Önlemler, Prof. Dr. Hamza Esen ve Prof. Dr. Ferhan Esen, Hacettepe Taş Yayınları, 2017. -Biyofizik, Prof. Dr. Ferit Pehlivan, 8. Baskı, Pelikan Yayınları, 2015. -Bütünleştirilmiş Moleküler ve Hücrel Biyofizik, Valeria Raicu ve Aurel Popescu, Çeviri editörü: Prof. Dr. Rüstem Nurten, İstanbul Medikal Yayınları, 2014. -Temel Biyofizik Cilt I: Mekanik, Prof. Dr. İsmail Günay, Çukurova Nobel Tıp Kitabevi, 2014. -Biophysics Demystified, Daniel Goldfarb, 3Mc Graw Hill Publications, 2011. -Biyofizik Ders Kitabı, Editör Prof. Dr. Şefik Dursun, İstanbul Üniversitesi Yayın No: 4890, Cerrahpaşa Tıp Fakültesi Yayın No: 278, 2010. -Biyofiziğe Giriş, Osman Ziya Sayhan, Evrim Kitapevi, 2010. -Biyomedikal Fizik; Gürbüz Çelebi; Barış Yayınları Fakülteler Kitabevi; 2008.

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BIOPHYSICS:

-Integrated Molecular and Cellular Biophysics, Valeria Raicu, Aurel Popescu, Springer, 2008

-Biophysics Demystified, Daniel Goldfarb, 3Mc Graw Hill Publications, 2011

-Biophysics: A Physiological Approach, Patrick F. Dillon, Cambridge University Press, 2008

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-Guyton and Hall Textbook of Medical Physiology, Guyton AC, Hall JE, 12nd Edition, Elsevier Inc, 2012

BİYOKİMYA:

- Gürdöl F.: Tıbbi Biyokimya, Nobel Tıp Kitabevleri, İstanbul, 2017

-Harvey R., FerrierD.: Çeviri edit. Ulukaya E. Lippincott Biyokimya 5. Baskı, 2014

-Murray, Bender, Weil, Botham, Kennely, Rodwell: Çeviri .Edit. Prof. Dr. Gül Güner Akdoğan, Prof.Dr. Biltan Ersöz, Prof. Dr. Nevbahar Turgan

-Harper'ın Biyokimyası, 1. baskı, 2015

-David L. Nelson, Michael M.Cuy. Lehninger Principles of Biochemistry fifth edition, W.H. Freeman and Company New York, 2008

-Biochemistry (Lippincott Illustrated Reviews Series), Denise Ferrier

-Lehninger Principles of Biochemistry, David L. Nelson

-Biochemistry For Dummies, John T. Moore

BIOCHEMISTRY:

-Ferrier D.: Lippincott Illustrated Reviews: Biochemistry 7th edition, 2017

-Murray, Bender, Weil, Botham, Kennely, Rodwell: Harper's Illustrated Biochemistry, 31e, 2018

-David L. Nelson, Michael M.Cuy. Lehninger Principles of Biochemistry fifth edition, W.H. Freeman and Company New York, 2008

-David L. Nelson, Lehninger Principles of Biochemistry, 2012

-John T. Moore, Biochemistry For Dummies 2nd Edition

Course - Program Learning Outcome Relationship

Course Learning Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Program Outcomes																			

Course Learning Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1) When Istinye University Faculty of Medicine student is graduated who knows the historical development of medicine, medical practices, and the medical profession and their importance for society.	1	1	1	1	1	1	1	1	1	1	1	1	1	1					
2) knows the normal structure and function of the human body at the level of molecules, cells, tissues, organs and systems.	3	3	3	3	3	3	3	3	3	3	3	3	3	3					
3) is capable of systematically taking an accurate and effective social and medical history from their patients and make a comprehensive physical examination.																			

Course Learning Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
4) knows the laboratory procedures related to diseases; In primary care, the necessary material (blood, urine, etc.) can be obtained from the patient with appropriate methods and can perform the necessary laboratory procedures for diagnosis and follow-up or request laboratory tests.	3	3	3	3	3	3	3	3	3	3	3	3	3	3					

Course Learning Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
5) can distinguish pathological changes in structure and functions during diseases from physiological changes and can Interpret the patient's history, physical examination, laboratory and imaging findings, and arrive at a pre-diagnosis and diagnosis of the patient's problem.	3	3	3	3	3	3	3	3	3	3	3	3	3	3					
6) knows, plans and applies primary care and emergency medical treatment practices, rehabilitation stages.																			

Course Learning Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
7) can keep patient records accurately and efficiently, know the importance of confidentiality of patient information and records, and protects this privacy.																			
8) knows the clinical decision-making process, evidence-based medicine practices and current approaches.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2				

Course Learning Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
9) knows and applies the basic principles of preventive health measures and the protection of individuals from diseases and improving health, and recognizes the individual and/or society at risk, undertakes the responsibility of the physician in public health problems such as epidemics and pandemics.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1				
10) knows the biopsychosocial approach, evaluates the causes of diseases by considering the individual and his / her environment.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2				

Course Learning Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
11) is capable of having effective oral and/or written communication with patients and their relatives, society and colleagues.																			
12) knows the techniques, methods and rules of researching. It contributes to the creation, sharing, implementation and development of new professional knowledge and practices by using science and scientific method within the framework of ethical rules.	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3				
13) can collect health data, analyze them, present them in summary, and prepare forensic reports.																			

Course Learning Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
14) knows the place of physicians as an educator, administrator and researcher in delivery of health care. It takes responsibility for the professional and personal development of own and colleagues in all interdisciplinary teams established to increase the health level of the society.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2				
15) knows employee health, environment and occupational safety issues and takes responsibility when necessary.																			

Course Learning Outcomes	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
16) knows health policies and is able to evaluate their effects in the field of application.																			
17) keeps medical knowledge up-to-date within the framework of lifelong learning responsibility.	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3				
18) applies own profession by knowing about ethical obligations and legal responsibilities, prioritizing human values and with self-sacrifice throughout own medical life.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2				

Course - Learning Outcome Relationship

No Effect	1 Lowest	2 Average	3 Highest

	Program Outcomes	Level of Contribution
1)	When Istinye University Faculty of Medicine student is graduated who knows the historical development of medicine, medical practices, and the medical profession and their	1

	importance for society.	
2)	knows the normal structure and function of the human body at the level of molecules, cells, tissues, organs and systems.	3
3)	is capable of systematically taking an accurate and effective social and medical history from their patients and make a comprehensive physical examination.	
4)	knows the laboratory procedures related to diseases; In primary care, the necessary material (blood, urine, etc.) can be obtained from the patient with appropriate methods and can perform the necessary laboratory procedures for diagnosis and follow-up or request laboratory tests.	3
5)	can distinguish pathological changes in structure and functions during diseases from physiological changes and can Interpret the patient's history, physical examination, laboratory and imaging findings, and arrive at a pre-diagnosis and diagnosis of the patient's problem.	3
6)	knows, plans and applies primary care and emergency medical treatment practices, rehabilitation stages.	
7)	can keep patient records accurately and efficiently, know the importance of confidentiality of patient information and records, and protects this privacy.	
8)	knows the clinical decision-making process, evidence-based medicine practices and current approaches.	2
9)	knows and applies the basic principles of preventive health measures and the protection of individuals from diseases and improving health, and recognizes the individual and/or society at risk, undertakes the responsibility of the physician in public health problems such as epidemics and pandemics.	1
10)	knows the biopsychosocial approach, evaluates the causes of diseases by considering the individual and his / her environment.	2
11)	is capable of having effective oral and/or written communication with patients and their relatives, society and colleagues.	
12)	knows the techniques, methods and rules of researching. It contributes to the creation, sharing, implementation and development of new professional knowledge and practices by using science and scientific method within the framework of ethical rules.	3
13)	can collect health data, analyze them, present them in summary, and prepare forensic reports.	
14)	knows the place of physicians as an educator, administrator and researcher in delivery of health care. It takes responsibility for the professional and personal development of own and	2

	colleagues in all interdisciplinary teams established to increase the health level of the society.	
15)	knows employee health, environment and occupational safety issues and takes responsibility when necessary.	
16)	knows health policies and is able to evaluate their effects in the field of application.	
17)	keeps medical knowledge up-to-date within the framework of lifelong learning responsibility.	3
18)	applies own profession by knowing about ethical obligations and legal responsibilities, prioritizing human values and with self-sacrifice throughout own medical life.	2

Assessment & Grading

Semester Requirements	Number of Activities	Level of Contribution
Application	1	% 10
Presentation	1	% 10
Committee	6	% 40
Final	2	% 40
total		% 100
PERCENTAGE OF SEMESTER WORK		% 60
PERCENTAGE OF FINAL WORK		% 40
total		% 100

Workload and ECTS Credit Calculation

Activities	Number of Activities	Preparation for the Activity	Spent for the Activity Itself	Completing the Activity Requirements	Workload
Course Hours	2	20	2	384	812
Laboratory	2	2	2	95	198
Application	2	2	4	10	32
Study Hours Out of Class	2	5	5	288	596
Presentations / Seminar	1	4	1	20	25

Midterms	2	6	6	40	104
Final	2	2	2	60	128
Total Workload					1895