

**AL-FARABI KAZAKH NATIONAL UNIVERSITY**  
**Medicine and Health Care Faculty**  
**Higher School of Medicine**  
**Department of Fundamental Medicine**



**EDUCATIONAL AND METHODOLOGICAL COMPLEX OF DISCIPLINE**

**MORPHOLOGY AND PHYSIOLOGY OF HUMAN BODY**

**BM086 "Medicine"**  
**Educational program "6B10114 -Medicine"**

**Course – 1**

**Semester – 2**

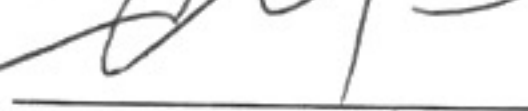
**Number of credits – 11 (11 ECTS)**

**Almaty 2023**

Educational and methodical complex of discipline was compiled by Karchalova A.M., Nyu M.A., Espollayeva A.R., PhD Nurtayeva G.K.

Based on educational program "6B10114 -Medicine"

Considered and recommended at a meeting of the fundamental medicine department  
from "30" 08 2023, protocol № 1

Head of department  Sarsenova L.K.

Recommended by Methodological Council of the Higher School of Medicine

"16" 10 2023, protocol № 1

Chairman of the Academic Committee of M&HC  Sarsenova L.K.

**SYLLABUS**  
**Fall semester 2023-2024 academic year**  
**Морфология және физиология негіздері**  
**Основы морфологии и физиологии**  
**Morphology and physiology of human body**

<b>1. ACADEMIC INFORMATION ABOUT THE SUBJECT</b>			
1.1	Faculty/School: Higher School of Medicine	1.6	Number of credits (ECTS): 11 General number of credits: lectures 5/ practical classes 6
1.2	Educational program (EP):  6B10114 МЕДИЦИНА 6B10114 МЕДИЦИНА 6B10114 MEDICINE	1.7	<b>Prerequisites:</b> Медициналық терминология мен адам анатомиясының негіздері Основы анатомии человека с медицинской терминологией The Human Body (Medical terminology include)
1.3	Agency and year of accreditation of the EP  IAAR 2021	1.8	Independent work of the student: 3.6
1.4	Name of discipline: Морфология және физиология негіздері Основы морфологии и физиологии Morphology and physiology of human body	1.9	Independent work of the student under the guidance of a teacher (IWST): 1.8
1.5	Discipline ID: 94347	1.10	Required - yes
<b>2. Description of subject</b>			
Integrated teaching of histology, anatomy and physiology and biophysics to form a holistic understanding of the typical structure and principles of the functioning of the human body and the mechanisms for maintaining homeostasis in the norm. The course includes a detailed examination of morphology and physiology, gender and age characteristics of the muscular, cardiovascular, blood, nervous systems, and sensory organs. Necessary attention is paid to the formation of the appropriate terminological apparatus.			
<b>3 Purpose of subject</b>			
Forming integrated knowledge of the normal typical structure and functioning of cells and organs of the human body, taking into account age, sex and individual characteristics, anatomical and topographic relationships and regulation of the functions of cells, organs and systems in normal conditions.			
<b>4. Learning outcomes (LO) of subject</b>			
	LO of subject	LO according to the educational program, with which the LO is associated by subject (LO number from the EP passport -1,14)	
	Know structural and organizational structure of internal organs, localize and describe, using appropriate terminology correctly, on models, preparations and medical imaging materials, the typical structure of internal organs and organs is normal, taking into account age, sex and individual characteristics;	№1 Apply detailed knowledge of the typical structure and functions of the human body at the level - from molecules, cells, to organs and systems, the body as a whole	
	Understand the functional organization of human body at the systemic, organ and cellular level, the physiological processes of excitable tissues;		
	Explain the interrelation of structure and function at the level of tissue, organs and organ systems and the main physiological mechanisms for maintaining homeostasis, vital activity of the organism and their		

	characteristics, taking into account age, sexual and individual differences;		
	Recognize microscopic specimens and describe correctly using the appropriate terminology the microscopic structure of human organs, taking into account age, sex and individual characteristics;		
	Describe, using appropriate terminology, the stage of human development and explain the basic processes and mechanisms of normal morphogenesis		
	Integrate knowledge about the structure of the musculoskeletal system and internal organs at the systemic, organ and tissue levels and their phylogenetic development in order to understand the anatomical and physiological features in different periods of development in normal conditions		
	Demonstrate commitment to the highest standards of professional responsibility and honesty; comply with ethical principles in all professional interactions;		
	Demonstrate the need for continuous professional training and improvement of their knowledge and skills;		
	Demonstrate the skills of conducting scientific research, the desire for new knowledge and the transfer of knowledge to others		№14 Participate in scientific research aimed at promoting knowledge in the field of human health and improving the quality of life; strive for new knowledge, generate new knowledge; be capable of effective learning and transferring knowledge to others throughout their careers.
<b>5.</b>	<b>Formative assessment methods:</b>		
5.1	Control work - yes	5.5	Essay -yes
5.2	Laboratory classes- no	5.6	Case-study -yes
5.3	Project (individual/group)- group project	5.7	Portfolio of scientific papers- no
5.4	Mutual evaluation-no	5.8	Exam: (platform - Moodle) Stage 1 - OSPE part Stage 2 - Written part

<b>6.</b>	<b>Detailed information about the subject</b>		
6.1	Academic year: 2023-2024	6.3	Schedule (days of classes, time): Mon-Sat From 8.00 to 19.00 according to timetable
6.2	Semester: 2	6.4	Location (academic building, office, platform and link to the training meeting using DOT): Almaty, Tole bi 96
<b>7.</b>	<b>Teacher</b>		
	Position	Full Name	Contact information (tel., e-mail)
	Lecturer/teacher	Ainur Karchalova	<a href="mailto:karchalova.ainur@med-kaznu.com">karchalova.ainur@med-kaznu.com</a> , 87479785782
	Lecturer/teacher	Marina Nyu	<a href="mailto:nyu.marina@med-kaznu.com">nyu.marina@med-kaznu.com</a> 87074043181
	Lecturer/teacher	Galiya Nurtayeva	<a href="mailto:nurtayeva.galyia@med-kaznu.com">nurtayeva.galyia@med-kaznu.com</a> , 87014579108
			Time for consultations or by appointment according to timetable according to timetable according to timetable

Lecturer/teacher	Zaure Zhangeldina	<a href="mailto:dzhangeldina.zaure@med-kaznu.com">dzhangeldina.zaure@med-kaznu.com</a> ,	according to timetable
Teacher	Zarina Kamzina	<a href="mailto:kamzina.zarina@med-kaznu.com">kamzina.zarina@med-kaznu.com</a> , 87474815541	according to timetable
Teacher	Manshuk Zhaxylykova	<a href="mailto:zhaksylykova.manshuk@med-kaznu.com">zhaksylykova.manshuk@med-kaznu.com</a> , 87755066773	according to timetable
Teacher	Dinara Tastan	<a href="mailto:tastan.dinara@med-kaznu.com">tastan.dinara@med-kaznu.com</a> , 87756005901	according to timetable
Teacher	Albina Serikbolova	<a href="mailto:serikbolova.albina@med-kaznu.com">serikbolova.albina@med-kaznu.com</a>	according to timetable
Teacher	Mariya Suvorova	<a href="mailto:suvorova.mariya@med-kaznu.com">suvorova.mariya@med-kaznu.com</a>	according to timetable

<b>8. Subject content</b>			
We ek #	Topics and tasks	Hours	
1.	Lecture: Overview of the Nervous System. Synapses. Neural Integration	2	
	Practical lesson: Overview of the Nervous System. Synapses. Neural Integration	2	
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3</a>		
	Literature for reading (textbook, pages and chapters): 1. Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.432-437, 443-457		
	Lecture: The Functions of Muscles, Muscle Attachments. Functional Groups of Muscles, Innervation and Blood Supply, Muscle Names and Learning Strategy.	2	
	Practical lesson: The Functions of Muscles, Muscle Attachments. Functional Groups of Muscles, Innervation and Blood Supply, Muscle Names and Learning Strategy.	2	
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYy">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYy</a>		
	Literature for reading (textbook, pages and chapters): 1. Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.308-316		
	Lecture: Biophysics 1 The Nerve-Muscle Relationship. Behavior of Skeletal Muscle Fibers	1	
	Practical lesson: Biophysics 1 The Nerve-Muscle Relationship. Behavior of Skeletal Muscle Fibers	2	
Task (if available)			
Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 8th Edition (2018, McGraw-Hill Education), ISBN-978-1-259-27772-6 p.307-395			
IWST - consultations on models, discussion of results of written works.	8		
2	Lecture: Human Histology 1-2 Muscle tissue: smooth and striated skeletal muscle tissue. Nerve tissue. General features of Nerve tissue.	2	
	Practical lesson: Human Histology 1-2 Muscle tissue: smooth and striated skeletal muscle tissue. Nerve tissue. General features of Nerve tissue.	2	
	Task (if available)		

	<a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY5">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY5</a>	
	Literature for reading (textbook, pages and chapters): Leslie P.Gartner Leslie James Hiatt Color Textbook of Histology., 4th Edition, Publication Date: 2017 Elsevier Health Sciences p.218-254	
	Lecture: Behavior of the whole Muscle. Muscle Metabolism	2
	Practical lesson: Behavior of the whole Muscle. Muscle Metabolism	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYy">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYy</a>	
	Literature for reading (textbook, pages and chapters): 1. Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.412-420	
	Lecture: Muscles of the head and neck	1
	Practical lesson: Muscles of the head and neck	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYy">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYy</a>	
	Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.312-327.	
	IWST - consultations on models, discussion of results of written works.	8
3	Lecture: Muscles of the Anterior Abdominal Wall; Muscles of the Pelvic Floor; Muscles of the Back. Muscles of Respiration.	2
	Practical lesson: Muscles of the Anterior Abdominal Wall; Muscles of the Pelvic Floor; Muscles of the Back. Muscles of Respiration.	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYy">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYy</a>	
	Literature for reading (textbook, pages and chapters): 1. Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.328-338	
	Lecture: Muscles Acting on the Shoulder and Arm; Muscles Acting on the Forearm, the Wrist and Hand	2
	Practical lesson: Muscles Acting on the Shoulder and Arm; Muscles Acting on the Forearm, the Wrist and Hand	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYy">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYy</a>	
	Literature for reading (textbook, pages and chapters): 1. Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.338-353	
	Lecture: Muscles Acting on the Hip and Femur, Muscles Acting on the Knee and Leg. Muscles Acting on the Foot, Intrinsic Muscles of the Foot	1
	Practical lesson: Muscles Acting on the Hip and Femur, Muscles Acting on the Knee and Leg. Muscles Acting on the Foot, Intrinsic Muscles of the Foot	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYy">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYy</a>	
	Literature for reading (textbook, pages and chapters)	

	Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.354-369.	
	IWST - consultations on models, discussion of results of written works.	8
	Colloquium 1	
4.	Lecture: Overview of the Nervous System. Neural Integration. Spinal cord	2
	Practical lesson: Overview of the Nervous System. Neural Integration. Spinal cord	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3</a>	
	Literature for reading (textbook, pages and chapters): 2. Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.432-457	
	Lecture: Biophysics 4 Biophysics of the nervous system Electrophysiology of neuronal synapses. Biophysics of the neural integration of the nervous system	1
	Practical lesson: Biophysics 4 Biophysics of the nervous system Electrophysiology of neuronal synapses. Biophysics of the neural integration of the nervous system	1
	Task (if available)	
	Literature for reading (textbook, pages and chapters): 1. Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 8th Edition (2018, McGraw-Hill Education), ISBN-978-1-259-27772-6 p.431-504	
	Lecture: Somatic reflexes. Spinal nerves.	2
	Practical lesson: Somatic reflexes. Spinal nerves.	3
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3</a>	
	Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.472-499.	
	IWST - consultations on models, discussion of results of written works.	8
5.	Lecture: Human Histology 10-11 Histology of the supporting cells of the nerve tissue (neuroglia). Histology of the Nervous System Peripheral Nervous System. Ganglia. Spinal cord.	2
	Practical lesson: Human Histology 10-11 Histology of the supporting cells of the nerve tissue (neuroglia). Histology of the Nervous System Peripheral Nervous System. Ganglia. Spinal cord.	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all">https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all</a>	
	Literature for reading (textbook, pages and chapters): 1. Leslie P. Gartner Leslie James Hiatt Color Textbook of Histology., 4th Edition, Publication Date: 2017 Elsevier Health Sciences p.275-282	
	Lecture: Overview of the meninges, ventricles, cerebrospinal fluid and blood supply. Midbrain. Hindbrain. Forebrain.	2
	Practical lesson: Overview of the meninges, ventricles, cerebrospinal fluid and blood supply. Midbrain. Hindbrain. Forebrain.	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3</a>	

Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.505-527	
Lecture: Integrative functions of the brain-1	1
Practical lesson: Integrative functions of the brain-1	2
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3</a>	
Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.527-531.	
IWST - consultations on models, discussion of results of written works.	8
Lecture: Integrative functions of the brain-2	2
Practical lesson: Integrative functions of the brain-2	2
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3</a>	
Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.531-538.	
Lecture: Human Histology 12 Histology of the nervous system Central nervous system. Brain. Cortex. Cerebellum.	2
Practical lesson: Human Histology 12 Histology of the nervous system Central nervous system. Brain. Cortex. Cerebellum.	2
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all">https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all</a>	
Literature for reading (textbook, pages and chapters) Leslie P.Gartner Leslie James Hiatt Color Textbook of Histology., 4th Edition, Publication Date: 2017 Elsevier Health Sciences p.282-292	
Lecture: Cranial Nerves	1
Practical lesson: Cranial Nerves	2
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3</a>	
Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.538-550.	
IWST - consultations on models, discussion of results of written works.	8
IWS (Case study) Preparation time during 6 weeks	20
Colloquium 2	
Lecture: General Properties and anatomy of the Autonomic Nervous System.	2
Practical lesson: General Properties and anatomy of the Autonomic Nervous System.	2
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3</a>	



	Literature for reading (textbook, pages and chapters): 1. Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.555-565	
	Lecture: Autonomic Effects on Target Organs.Central Control of Autonomic Function	2
	Practical lesson: Autonomic Effects on Target Organs.Central Control of Autonomic Function	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3</a>	
	Literature for reading (textbook, pages and chapters): 1. Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.565-571	
	Lecture: Histology The Sensory Organs Organ of sight, organ of smell.	1
	Practical lesson: Histology The Sensory Organs Organ of sight, organ of smell.	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all">https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all</a>	
	Literature for reading (textbook, pages and chapters) Leslie P.Gartner Leslie James Hiatt Color Textbook of Histology., 4th Edition, Publication Date: 2017 Elsevier Health Sciences p. 678-690, 461-463	
	IWST - discussion of results of CC	3
Midterm RK-1= total current scores from 1st to 7th weeks+ IWS		
8.	Lecture:Properties and Types of Sensory Receptors. The General Senses;The Chemical Senses. Taste and Smell	2
	Practical lesson: Properties and Types of Sensory Receptors. The General Senses;The Chemical Senses. Taste and Smell	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3</a>	
	Literature for reading (textbook, pages and chapters): 1. Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.576-588	
	Lecture: Eye and Vision.	2
	Practical lesson: Eye and Vision.	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3</a>	
	Literature for reading (textbook, pages and chapters): 1. Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.603-620	
	Lecture: Histology The Sensory Organs. Organs of hearing and balance, taste.	1
	Practical lesson: Histology The Sensory Organs. Organs of hearing and balance, taste.	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all">https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all</a>	
	Literature for reading (textbook, pages and chapters) Leslie P.Gartner Leslie James Hiatt Color Textbook of Histology., 4th Edition, Publication Date: 2017 Elsevier Health Sciences p.691-703	

	IWST - consultations on IWS, models, discussion of results of written works, etc	8
9.	Lecture: The laws of geometric optics. Eye as an optical system	1
	Practical lesson: The laws of geometric optics. Eye as an optical system	1
	Task (if available)	
	Literature for reading (textbook, pages and chapters) 1.Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 8th Edition (2018, McGraw-Hill Education), ISBN-978-1-259-27772-6 p.575 - 625	
	Lecture: Hearing and Equilibrium	2
	Practical lesson: Hearing and Equilibrium	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY3</a>	
	Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.589-602	
	Lecture:Introduction, Blood Types. Erythrocytes.	2
	Practical lesson:Introduction, Blood Types. Erythrocytes.	3
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYz">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYz</a>	
	Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.670-686.	
	IWST - consultations on IWS, models, discussion of results of written works, etc	
	Lecture: Human Histology 3-4 Hemopoiesis. General features of Hematopoiesis. Blood. Formed elements: Erythrocytes, leukocytes, platelets	2
Practical lesson: Human Histology 3-4 Hemopoiesis. General features of Hematopoiesis. Blood. Formed elements: Erythrocytes, leukocytes, platelets	2	
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all">https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all</a>		
Literature for reading (textbook, pages and chapters) Leslie P.Gartner Leslie James Hiat Color Textbook of Histology., 4th Edition, Publication Date: 2017 Elsevier Health Sciences p.297-333		
Lecture: Leukocytes. Interpretation of blood test	1	
Practical lesson: Leukocytes. Interpretation of blood test	2	
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYz">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYz</a>		
Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.687-693		
Lecture:Platelets and Hemostasis, The Control of Bleeding. Interpretation of coagulogram. Changes in blood system parameters.	2	
Practical lesson:Platelets and Hemostasis, The Control of Bleeding. Interpretation of coagulogram. Changes in blood system parameters.	2	
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYz">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTYz</a>		

Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.693-701.	
IWST - consultations on models, discussion of results of written works.	8
Lecture: Human Histology 5-6 Cardiovascular system. General features of the CVS. Blood vessels. Arteries and veins. Microcirculation stream. Arterioles. Capillaries. Venules.	2
Practical lesson: Human Histology 5-6 Cardiovascular system. General features of the CVS. Blood vessels. Arteries and veins. Microcirculation stream. Arterioles. Capillaries. Venules.	2
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all">https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all</a>	
Literature for reading (textbook, pages and chapters) Leslie P.Gartner Leslie James Hiat Color Textbook of Histology., 4th Edition, Publication Date: 2017 Elsevier Health Sciences p.336-340	
Lecture: Overview of the Cardiovascular System. Gross Anatomy of the heart	1
Practical lesson: Overview of the Cardiovascular System. Gross Anatomy of the heart	2
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY0">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY0</a>	
Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.706-716	
Lecture:Cardiac Muscle and the Cardiac Conduction System.	2
Practical lesson:Cardiac Muscle and the Cardiac Conduction System.	2
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY0">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY0</a>	
Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.717-724.	
IWST - consultations on models, discussion of results of written works.	8
Lecture: Biophysics 2 Electrical and Contractile Activity of the Heart. ECG	1
Practical lesson: Biophysics 2 Electrical and Contractile Activity of the Heart. ECG	1
Task (if available)	
Literature for reading (textbook, pages and chapters) 1.Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 8th Edition (2018, McGraw-Hill Education), ISBN-978-1-259-27772-6 p.669-705	
Lecture: Blood flow, heart sounds and cardiac cycle. Cardiac Output.	3
Practical lesson: Blood flow, heart sounds and cardiac cycle. Cardiac Output.	2
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY0">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY0</a>	
Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.725-737	
Lecture:General Anatomy of the Blood Vessels	2
Practical lesson: General Anatomy of the Blood Vessels	2

Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY1">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY1</a>	
Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.742-750	
IWST - consultations on models, discussion of results of written works.	8
Lecture: Human Histology 7 Cardiovascular system. Cardiac Muscle muscle tissue. Heart. Layers of the Heart Wall.	2
Practical lesson: Human Histology 7 Cardiovascular system. Cardiac Muscle muscle tissue. Heart. Layers of the Heart Wall.	2
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all">https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all</a>	
Literature for reading (textbook, pages and chapters) Leslie P.Gartner Leslie James Hiatt Color Textbook of Histology., 4th Edition, Publication Date: 2017 Elsevier Health Sciences p.340-351	
Lecture: Capillary Exchange. Regulation of blood pressure and flow.	1
Practical lesson: Capillary Exchange. Regulation of blood pressure and flow.	2
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY1">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY1</a>	
Literature for reading (textbook, pages and chapter) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.750-760	
Lecture: Venous Return and Circulatory Shock. Special Circulatory Routes. Anatomy of the Pulmonary Circuit	2
Practical lesson: Venous Return and Circulatory Shock. Special Circulatory Routes. Anatomy of the Pulmonary Circuit.	2
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY1">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY1</a>	
Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.760-764.	
IWST - consultations on models, discussion of results of written works.	8
Lecture: Human Histology 7 Cardiovascular system. Cardiac Muscle muscle tissue. Heart. Layers of the Heart Wall.	
Practical lesson: Human Histology 7 Cardiovascular system. Cardiac Muscle muscle tissue. Heart. Layers of the Heart Wall.	
Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all">https://classroom.google.com/w/NjIwMzcxODYzNTU1/t/all</a>	
Literature for reading (textbook, pages and chapters) Leslie P.Gartner Leslie James Hiatt Color Textbook of Histology., 4th Edition, Publication Date: 2017 Elsevier Health Sciences p.340-351	
Lecture: Capillary Exchange. Regulation of blood pressure and flow.	
Practical lesson: Capillary Exchange. Regulation of blood pressure and flow.	
Task <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY1">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY1</a>	
Literature for reading (textbook, pages and chapters)	

	Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.750-760	
	Lecture:Anatomy of the Systemic Vessels of the Axial Region	
	Practical lesson: Anatomy of the Systemic Vessels of the Axial Region	
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY1">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY1</a>	
	Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.784-794	
	IWST - consultations on models, discussion of results of written works.	8
	IWS (cubital vein) Preparation time - during 7 weeks	25
	Lecture: Human Histology 8-9 Lymphoid system. General features of the Lymphoid system. Thymus. Lymph Nodes. Spleen.	2
	Practical lesson: Human Histology 8-9 Lymphoid system. General features of the Lymphoid system. Thymus. Lymph Nodes. Spleen.	2
	Task (if available)	
	Literature for reading (textbook, pages and chapters) Leslie P.Gartner Leslie James Hiatt Color Textbook of Histology., 4th Edition, Publication Date: 2017 Elsevier Health Sciences p.363-395	
	Practical lesson: Anatomy of the Systemic Vessels of the Appendicular Region	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY1">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY1</a>	
	Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.784-794	
	Lecture:The lymphatic and immune system.	1
	Practical lesson:Anatomy of the Systemic Vessels of the Appendicular Region. The lymphatic and immune system.	2
	Task (if available) <a href="https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY2">https://classroom.google.com/w/NjIwMzcxODYzNTU1/tc/NjIwMzcxODYzNTY2</a>	
	Literature for reading (textbook, pages and chapters) Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 p.801-813	
	IWST - discussion of results of CC	3
	Colloquium 3	2
	RK-2= total current scores from 8th to 15th weeks+ IWS	
	Total score = RK-1+RK-2	
	<b>Sum</b>	
9.	<b>Teaching methods of the subject*:</b> Lecture, interactive lecture, integrated, interdisciplinary case-study, working with models, discussion, simulations, Team Based Learning (TBL), solving typical/situational tasks, using Complete Anatomy (3D models) App.	
10.	<b>Methods of formative assessment:</b> quiz, test, interactive test, crosswords.	
11.	<b>Summative assessment methods (from point 5):</b> 1) testing using video, drawings, photographs, diagrams, microphotographs as part of the current control: Learning outcomes No. 1, 3.	

	<p>2) OSPE using models and micropreparations - as part of the midterm examination/ final control: Learning outcomes No. 1, 3.</p> <p>2) Solution of situational problems, analysis of cases - within the framework of the current / interim, midterm/final control - Learning outcomes No. 2, 4, 5, 6, 9.</p> <p>3) interview / oral interview - within the framework of the current control - Learning outcomes No. 2, 4, 5, 6;</p> <p>4) assessment by direct observation in the framework of current control and IWS-Learning outcomes No.7,8, 9;</p> <p>5) TBL - as part of current control</p> <p>6) Group project- as part of IWS</p> <p>7) Case-study as part of current control Learning outcomes No. 2, 4, 5, 6, 9.</p>
<b>10.</b>	<b>Summative assessment</b>

#	Type of educational activity	Date	Points	as a percentage %
1	Lecture	According to the schedule	-	Not graded
2	Practical class (current control) 1. Latin Test 2. Written control 3. Working with models 4. Oral interview	According to the schedule	2 points for class	2% out of IE (100 %)
3	Colloquium 1 1 stage - OSPE 2 stage – written control – an open-type questions based on the learning outcomes	According to the schedule, in the 6th week	53(A&P43,Histology10)	1 stage - 30 points =30% out of IE1 2 stage - 24 points = 24% out of IE1
	Case-study	According to the schedule, in the 6th week	5 points	5% out of IE1
	IE1	Week 7	100 points, cumulative	30% of the final grade for the subject
	Colloquium 2 1 stage - OSPE 2 stage – written control – an open-type questions based on the learning outcomes	According to the schedule, in the 15th week	48(A&P36,Histology12)	1 stage - 24 points =24% out of IE1 2 stage - 24 points = 24% out of IE2
	IWS	According to the schedule, in the 14th week	5 points	5% out of IE2
	IE2	Week 15	100 points, cumulative	30% of the final grade for the subject
4	Final exam 1 stage - OSPE 2 stage – written control – an open-type	According to the session schedule	100 points:  1 stage- 50 points 2 stage– 50 points	40 % of the final score

questions based on the learning outcomes			
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10.	Assessment		
Rating by letter system	Digital equivalent of points	Percentage Digital equivalent of points Percentage	Description of the assessment (changes should be made only at the level of the decision of the Academic Quality Committee of the faculty)
A	4,0	95-100	<b>Excellent.</b> Exceeds the highest task standards.
A-	3,67	90-94	<b>Excellent.</b> Meets the highest standards of the assignment.
B+	3,33	85-89	<b>Good.</b> Very good. Meets the high standards of the assignment.
B	3,0	80-84	<b>Good.</b> Meets most of the job standards.
B-	2,67	75-79	<b>Good.</b> More than enough. Shows some reasonable ownership of the material.
C+	2,33	70-74	<b>Good.</b> Acceptable. Meets the basic standards of the task.
C	2,0	65-69	<b>Satisfactory.</b> Acceptable. Meets some basic job standards.
C-	1,67	60-64	<b>Satisfactory.</b> Acceptable. Meets some basic job standards.
D+	1,33	55-59	<b>Satisfactory.</b> Minimally acceptable.
D	1,0	50-54	<b>Satisfactory.</b> Minimally acceptable. The lowest level of knowledge and completion of the task.
FX	0,5	25-49	<b>Unsatisfactory.</b> Minimally acceptable.
F	0	0-24	<b>Unsatisfactory.</b> Very low productivity.
<b>11.</b>	<b>Educational resources</b> (use the full link and specify where you can access the texts/materials)		
Literature	Basic 1. Saladin, Kenneth S: Anatomy & Physiology. The Unity of Form and Function, 9th Edition (2020, McGraw-Hill Education), ISBN-10 1260571297, 978-1260571295 2. Costanzo, Linda S.: BRS Physiology. Board Review Series.7 edition. -Wolters Kluwer Health, 2018.- 307p. - ISBN 1496367693, 9781496367693 3. Leslie P. Gartner: Color Atlas and Text of Histology. - 7th Edition. - Wolters Kluwer, 2017. ISBN 1496346734, 9781496346735 4. Russell K. Hobbie, Bradley J. Roth: Intermediate Physics for Medicine and Biology. - Springer, 2015. - ISBN 3319126822, 9783319126821 5. Andersson D, Medical Terminology: The Best and Most Effective Way to Memorize, Pronounce and Understand Medical Terms: Second Edition, ISBN-13 : 978-1519066626, 2016		

	<p>6. Shoibekova, Alima Zhorabaevna. Latin and Fundamentals of Medical Terminology for Medical Students with Training English [Text] : educational man. / A. Zh. Shoibekova, 2016. - 163, [1] p.</p> <p>7. Sembulingam, K. Essentials of Medical Physiology [Text] : [monogr.] / K. Sembulingam, P. Sembulingam ; Madha Medical College [et al.]. - 7th ed. - New Delhi ; London ; Philadelphia : Jaypee, 2016. - 1112 p. : il. - Ind.: p. 1069-1112. - ISBN 978-93-85999-11-6</p> <p><b>Additional</b></p> <p>1. Standring, Susan: Gray's Anatomy: The Anatomical Basis of Clinical Practice. - 41 Elsevier Limited, 2016</p> <p>2. Elaine N. Marieb, Lori A. Smith: Human Anatomy &amp; Physiology Laboratory Manual, Main Version. - 11 edition. - Pearson Education, 2015. - ISBN 9780133999143</p> <p>3. Scanlon V. C, Essentials of Anatomy and Physiology 8th Edition, F.A. Davis Company, 2018</p> <p>4. Victor P. Eroschenko, Atlas of Histology with Functional Correlations 13th Edition, LWW, 2017</p> <p>5. William Bialek: Biophysics: Searching for Principles. -Princeton University Press, 2012. - ISBN 0691138915, 9780691138916</p> <p>6. Ghosh, Byas Deb. Human Anatomy [Text] : For Students / B. D. Ghosh ; [Anatomical Society of India (West Bengal Chapter) et al.]. - 2nd ed. - New Delhi ; Panama City ; London : Jaypee, 2013. - 948 p. : il. - Ind.: p. 913-948. - ISBN 978-93-5025-942-9</p> <p>7. Mazumdar, Sibani. Anatomy at a Glance [Text] : An Exam-Oriented Text / S. Mazumdar ; Calcutta National Medical College [et al.]. - 2nd ed. - New Delhi ; London ; Philadelphia : Jaypee, 2014. - 534 p. : il. - Ind.: p. 525-534. - ISBN 978-93-5152-355-0 : App.: p. 519-520. Glossary: p. 521-524.</p> <p>8. Baktybayeva, Lyaila Kyrgyzbayevna. Base of Physiology [Text] : laboratory practicum / L. K. Baktybayeva, G. T. Zhamanbayeva, M. S. Kulbayeva ; Al-Farabi Kazakh National University. - Almaty : Qazaq University, 2017. - 146 p. : il. - Bibliogr.: p. 145. - ISBN 978-601-04-3138-6</p>
<p>Electronic resources (including, but not limited to: electronic library catalog, databases of scientific literature, databases, animation, modeling, professional blogs, websites, other electronic reference materials (for example, video, audio, digests)</p>	<p><b>Online resources:</b></p> <ol style="list-style-type: none"> <li>1. <a href="https://app.lecturio.com/#/">https://app.lecturio.com/#/</a></li> <li>2. <a href="https://3d4medical.com/">https://3d4medical.com/</a></li> <li>3. <a href="https://www.youtube.com/channel/UCc_I2c2bUtO0p4DVe06-Kxg">https://www.youtube.com/channel/UCc_I2c2bUtO0p4DVe06-Kxg</a></li> <li>4. <a href="https://sites.google.com/a/umich.edu/bluelink/curricula/anatomy-403?authuser=0">https://sites.google.com/a/umich.edu/bluelink/curricula/anatomy-403?authuser=0</a></li> <li>5. <a href="https://histologyknmu.wixsite.com/info/gistologicheskie-saitv">https://histologyknmu.wixsite.com/info/gistologicheskie-saitv</a></li> </ol>


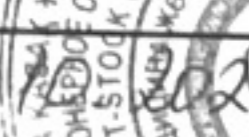



	6. <a href="http://www.histology-world.com/contents/contents.htm">http://www.histology-world.com/contents/contents.htm</a> 7. <a href="http://www.histologyguide.com/slidebox/02-epithelium.html">http://www.histologyguide.com/slidebox/02-epithelium.html</a> 8. <a href="https://histology.medicine.umich.edu/resources">https://histology.medicine.umich.edu/resources</a> 9. <a href="https://web.duke.edu/histology/">https://web.duke.edu/histology/</a> 10. <a href="http://virtuallslides.med.umich.edu/Histology/view.apml?listview=1&amp;">http://virtuallslides.med.umich.edu/Histology/view.apml?listview=1&amp;</a>
Laboratory physical resources	
Special software	<b>Complete Anatomy App</b>
<b>12.</b>	<b>Teacher's expectations from students</b>
The student	<ul style="list-style-type: none"> <li>- attends all classes and lectures</li> <li>- actively participates in classroom classes during formative assessment, in group work,</li> <li>- performs tasks on time</li> <li>- shows respect for teachers, university staff and students</li> <li>- carefully handles university property (models, desks, chairs, etc.)</li> <li>- observes cleanliness and order on campus and classrooms</li> <li>- uses gadgets in classes only with the teacher's permission</li> <li>- for all issues within the discipline is addressed to the teacher of this discipline, for general academic issues – to his advisor</li> <li>- correspondence is carried out only through a messenger approved by the teacher, at the time regulated by the teacher</li> </ul>
<b>13.</b>	<b>Discipline Policy</b>
	<p>The discipline policy is determined by the <b>Academic Policy</b> and the Policy of Academic Integrity of Al-Farabi Kazakh National University.</p> <p>If the links will not open, then you can find the relevant documents in the Univer IC.</p> <p>The student is obliged to:</p> <ul style="list-style-type: none"> <li>- attend classes in a white coat</li> <li>- wear gloves when working with models</li> <li>...</li> </ul> <p>The student must follow the <u>Code of Professional Conduct of Higher School of Medicine</u></p> <p>The behavior of the student at the exams is regulated by the "Rules for the final control", "Instructions for the final control of the autumn / spring semester of the current academic year" (current documents are uploaded to the IS "Univer" and updated before the start of the session); "Regulations on checking text documents of students for the presence of borrowings".</p>
<b>14.</b>	<b>Principles of inclusive learning</b>
	<p><b>1. Constantly preparing for classes:</b> For example, supports statements with appropriate links, makes short summaries Demonstrates effective learning skills, helps in teaching others</p> <p><b>2. Take responsibility for your training:</b> For example, manages your training plan, actively tries to improve, critically evaluates information resources</p> <p><b>3. Actively participate in the group's training:</b> For example, actively participates in the discussion, willingly takes assignments</p> <p><b>4. Demonstrate effective group skills</b></p>

	<p>For example, manages your training plan, actively tries to improve, critically evaluates information resources</p> <p><b>3. Actively participate in the group's training:</b> For example, actively participates in the discussion, willingly takes assignments</p> <p><b>4. Demonstrate effective group skills</b> For example, he takes the initiative, shows respect and correctness towards others, helps to resolve misunderstandings and conflicts</p> <p><b>5. Skillful communication skills with peers:</b> For example, he listens actively, is receptive to nonverbal and emotional signals Respectful attitude</p> <p><b>6. Highly developed professional skills:</b> Strives to complete tasks, looking for opportunities for more training, confident and qualified Compliance with ethics and deontology in relation to patients and medical staff Insubordination.</p> <p><b>7. High introspection:</b> For example, he recognizes the limitations of his knowledge or abilities, without becoming defensive or reproaching others</p> <p><b>8. Highly developed critical thinking:</b> For example, accordingly demonstrates skills in performing key tasks, such as generating hypotheses, applying knowledge to cases from practice, critically evaluating information, making conclusions aloud, explaining the process of reflection</p> <p><b>9. Fully complies with the rules of academic behavior with understanding, offers improvements in order to increase efficiency.</b> Observes the ethics of communication – both oral and written (in chats and appeals)</p> <p><b>10. Fully complies with the rules with full understanding of them, encourages other members of the group to adhere to the rules</b> Strictly adheres to the principles of medical ethics and PRIMUM NON NOCER</p>
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**15. Distance/Online learning**

Distance/online learning is implemented at the University in accordance with the Order of the Minister of Education and Science of the Republic of Kazakhstan dated March 20, 2015 No. 137 "On approval of requirements for educational organizations to provide distance learning and rules for organizing the educational process for distance learning and in the form of online learning for educational programs of higher and (or) postgraduate education"; according to the Rules of the organization of training with the use of DOT at the University; Instructions for the final control of the autumn/spring semester of the current academic year (the current document is in the IS "Univer"); "Regulations on checking text documents of students for the presence of borrowings".

<b>16. Approval and review</b>		
Head of the Department		Sarsenova L.K. 
Academic Committee of M&HC	Protocol No. 1	Date of approval 16. 
Chairman of the Academic Committee of M&HC		Sarsenova L.K. 



	<ol style="list-style-type: none"> <li>2. high accuracy (relevance, without redundancy) and constant attention to the issue;</li> <li>3. excellent integration of theoretical questions;</li> <li>4. providing relevant examples;</li> <li>5. in-depth analysis and theoretical justification of the problem (if applicable), all key aspects identified and interpreted;</li> <li>6. fluency in professional terminology</li> </ol>	
Good	<ol style="list-style-type: none"> <li>1. all key aspects are included and presented logically;</li> <li>2. constant focus on the issue with satisfactory accuracy, relevance, and / or some redundancy;</li> <li>3. satisfactory integration of theoretical questions;</li> <li>4. the lack of examples;</li> <li>5. satisfactory analysis and theoretical justification of the problem (if applicable), most of the key aspects identified and interpreted;</li> <li>6. correct use of professional terminology</li> </ol>	70 - 89
Satisfactory	<ol style="list-style-type: none"> <li>1. most of the key aspects are included;</li> <li>2. satisfactory focus on the question - some errors and / or noticeable redundancy;</li> <li>3. theoretical problems presented without noticeable integration;</li> <li>4. Providing failed examples or no examples;</li> <li>5. some analysis and theoretical justification of this problem (if applicable), most of the key aspects are defined and interpreted;</li> <li>6. correct use of professional terminology</li> </ol>	50 - 69
Unsatisfactory (FX)	<ol style="list-style-type: none"> <li>1. most of the key aspects are omitted;</li> <li>2. lack of attention to the issue-irrelevant and significant redundancy;</li> <li>3. some theoretical problems presented without integration and understanding;</li> <li>4. missing or outdated examples;</li> <li>5. some analysis and theoretical justification of this problem (if applicable), most of the key aspects are omitted;</li> <li>6. problems in using professional terminology</li> </ol>	25 - 49
Unsatisfactory (F)	<ol style="list-style-type: none"> <li>1. most or all of the key aspects are omitted;</li> <li>2. no focus on the question, not much related to the issue of information;</li> <li>3. significant gaps in theoretical questions, or their superficial consideration;</li> <li>4. the lack of examples or irrelevant examples;</li> <li>5. there is no analysis and no theoretical justification for the given problem (if applicable), most of the key aspects are omitted;</li> <li>6. problems in using professional terminology</li> </ol>	0-24

### Grading system

<b>Rating by letter system</b>	<b>Digital equivalent of points</b>	<b>Percentage</b>	<b>Evaluation using the traditional system</b>
A	4	95-100	Excellent
A-	3,67	90-94	
B+	3,33	85-89	Good
B	3	80-84	
B-	2,67	75-79	
C+	2,33	70-74	
C	2	65-69	Satisfactory
C-	1,67	60-64	
D+	1,33	55-59	
D-	1	50-54	
FX	0	25-49	Unsatisfactory
F	0	0-24	
I (Incomplete)	-	-	«Discipline is not completed» (it is not taken into account when calculating the GPA)