Syllabus
Working Program of the Discipline «Musculoskeletal system and skin in normal»
Educational Program 6B10115 «Medicine»

1.	**General Information about the Discipline**		
1.1	**Course Code:** MSSN 1207	1.6	**Academic Year:** 2025-2026
1.2	**Course Title:** «Musculoskeletal system and skin in normal».	1.7	**Year:** 1
1.3	**Prerequisites:** Introduction to the profession, Molecular Biology and Medical Genetics.	1.8	**Semester**: 2
1.4	**Post-requisites:** General pathology, Fundamentals of pharmacology and formulation, Introduction to the clinic.	1.9	**Number of Credits (ECTS)**: 6/180
1.5	**Cycle:** BD	1.10	**Component**: UC

2.	**Course Content (maximum 50 words)**

Integrated discipline: Formation of fundamental knowledge of anatomical, physiological and histological features of the musculoskeletal system and skin, with mastery of Latin terminology necessary for precies interdisciplinary and clinical interaction. The application of this knowledge in biomedical and clinical sciences. Biomechanisms of excitability-contractility, occurring in muscles in connection with the skeleton, the phenomenon of movement. Knowledge of the macroscopic and microscopic structure of bones, joints, and muscles.

3.	**Forms of Summative Assessment**		
3.1	Testing ✓	3.5	Course Paper
3.2	Written Exam	3.6	Essay
3.3	Oral Exam	3.7	Project
3.4	Practical Skills Assessment ✓	3.8	Other (specify)

4.	**Course Objectives**

Integrated discipline: Formation of fundamental knowledge about anatomical, physiological and histological features of the musculoskeletal system and skin, with mastery of Latin terminology necessary for precise interdisciplinary and clinical interaction. The application of this knowledge in biomedical and clinical sciences. Biomechanisms of excitability-contractility, occurring in muscles in connection with the skeleton, the phenomenon of movement. Knowledge of the macroscopic and microscopic structure of bones, joints, and muscles.

5.	**Learning Outcomes (Course LO)**
LO 1	Describes the structure and topography of physiological processes occurring in the body and tissues, their microscopic structure, the importance of assessing the condition of the musculoskeletal system and the skin, and uses Latin terminology of morphophysiology.
LO 2	Identifies and distinguish anatomical structures of the musculoskeletal system and skin in adults and children, and correctly applies Latin anatomical terminology when describing them.

LO 3	Based on microscopic and instrumental studies, can assess the anatomical structures of the musculoskeletal system and skin, as well as their condition during functional hypertrophy and atrophy, and correctly uses Latin anatomical terminology when describing these structures.	
LO 4	Effectively applies knowledge about the structure, topography, and functions of organs and systems in the body, as well as the skills of using anatomical terminology in Latin, for mastering physical examination and basic first aid skills.	
LO 5	Is able to demonstrate skills in discussion, logical analysis, evidence-based speech, and teamwork when presenting information.	
5.1	LO of the Discipline	**Learning outcomes of the educational program that are linked to the learning outcomes of the discipline**
	LO 1 LO 2	**LO1.** Applies fundamental knowledge of biomedical, clinical, epidemiological, and social-behavioral sciences to practice.
	LO 3 LO 4	**LO2.** Provides patient-centered care in biomedical, clinical, epidemiological sciences aimed at diagnosis, treatment and prevention of the most common diseases.
	LO 5	**LO4.** Communicates effectively with patients, their families and health care providers in an ethical, deontological and inclusive manner, resulting in effective information sharing and collaboration.

6. Detailed Information about the Discipline

6.1 **Location of the department:** Al-Farabi Square 1, Main Academic Building, Basement Floor; Internal phone: 40-82-22, 40-82-26 (263), e-mail: anatomia.2012@mail.ru. Website: www.ukma.kz.
Location of the department: Shymkent city, Al-Farabi Square 1, Academic Building B, Ground Floor; Classrooms: No. 2, No. 4, No. 7, No. 8. Department e-mail:
Location of classes: South Kazakhstan Medical Academy, Building No. 3, 2nd Floor, Department of Kazakh and Latin Languages. Phone: 8-7252-40-82-22 (1088), e-mail: tkaz.tili@mail.ru

6.2

Number of Hours	Lectures	Practical classes	Laboratory classes	SIWT	SIW
	10	50	-	18	102

6.3 Study Plan of the Discipline

N	Discipline	**Type of class**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**Credit** 6/180
1	anatomy	Lectures	**1**	1		1	**1**				1		1					**6**
		Practical	**2**	**2**	**2**	2	**2**	**2**			2	**2**	2	2	**2**	2		**24**

		classes															
		SIWT/ SIW						2		2 Рк1			2			**1**	**2 Рк 2**	**9/5 1**
2	Physiology	Lectures			1				1									**2**
		Practical classes.		2					**2**					**2**		2		**8**
		SIWT/ SIW			1				**1**			1						**3/1 7**
3	Histology	Lectures						1						1				**2**
		Practical classes	**2**			2						2			2			**8**
		SIWT/ SIW		1			1							**1**				**3/1 7**
4	Latin language	Lectures																**-**
		Practical classes			2		2		**2**	2	**2**							**10**
		SIWT/ SIW						1			**1**				1			**3/1 7**

№	Discipline	Lectures	Practical classes	SIWT	SIW	Credit
1	**Anatomy**	6	24	9	51	3
2	**Physiology**	2	8	3	17	1
3	**Histology**	2	8	3	17	1
4	**Latin language**	-	10	3	17	1

7	Information about Instructors		
№	Full Name	Academic Degree / Position	E-mail
1.	Tanabaev Baimakhan Dilbarkhanovich	Head of Department, PhD, Professor	b.tanabayev@mail.ru
2.	Turekulova Akzharkyn Kenesovna	Senior Lecturer, Master's degree	jarkin-74@mail.ru
3.	Abdurayimova Ulzhan Abdullaevna	Senior Lecturer, Master's degree	gaukharai_kairat@mail.ru
4.	Abdurayimova Ulzhan	Lecturer	ulzhan.abdullaevna@mail.r

	Abdullaevna		u
5.	Baktiyar Gulbanu Mazhitovna	Lecturer	banu.baktiyar.new@gmail.com
6.	Usipbek Dulatbek Bakhtiyarovich	Lecturer	Dulatbek.kz@gmail.com
7.	Toymbetova Karlygash Abibullaevna	Senior Lecturer	tojmbetova71@mail.ru
8.	Zhakipbekova Galiya Saparovna	PhD in Biology, Acting Professor	Galiya_074@mail.ru
9.	Satybaldieva Nazgul Mutalkhanovna	Master's degree, Senior Lecturer	n_a_z_i_92@mail.ru
10.	Temirova Aksungkar Yerbolkyzy	Master in Philology, Senior Lecturer	temirovaaksunkar481@gmail.com

8 Thematic Plan

№	Type of class Topic title	Short Content	Course LO	Hours	Teaching Forms/ Methods/ Technologies	Assessment Methods
1	**Anatomy Lecture №1** The subject and tasks of anatomy. General characteristics of tissues, organs, and body systems. The initial stages of human embryogenesis.	Anatomy is a fundamental science of medicine. The main tasks of anatomy. Types of fabrics. The main stages of ontogenesis. The intrauterine (prenatal) period. The prenatal (postnatal) period	LO1	1	Introductory lecture	Feedback (control questions)
	Anatomy Practical lesson №1 International anatomical nomenclature. The concept of axes and planes. A general overview of the skeleton. The structure of the bones of the trunk: vertebrae, sternum, ribs. Age-related features of the	Anatomical nomenclature. Planes and axes. The skeleton of the body. The spinal column. The chest. Features of the vertebral structure. The structure of the sacrum, coccyx, ribs, and sternum. Age-related features of the trunk bones.	LO1 LO2	2	work in small groups with anatomical preparations, torso, tablets, posters. Work on the Pirogov interactive anatomical table	an oral survey with a demonstration of anatomical structures on the skeleton, an interactive anatomical table

	trunk bones.					"Pirogov", solving test tasks and situational tasks.
	Histology **Practical lesson №1** Loose, unformed fibrous connective tissue. Connective fabrics with special properties.	Principles of classification of connective tissues. Cellular elements of LFCT and their function. Types of connective tissue fibers. Chemical composition, function, and origin of the basic amorphous substance. Reticular connective tissue. Pigmented, white and brown adipose tissue, mucous tissue. Location, functional significance.	LO1 LO2	2	working in small groups	Practical lesson assessment checklist, histopreparation checklist, micrographs.
2	**Anatomy** **Lecture №2** General anatomy of the musculoskeletal system. Bone as an organ. Bone structure and development. Classification of bones. The role of social and biological factors in the development and structure of the skeleton. A general overview of the bones of the trunk, upper and lower extremities. Age-related features.	The components of the musculoskeletal system. The chemical composition of the bone. The structural unit of the bone. Classification of bones. Bones of the trunk. Bones of the shoulder girdle, the free part of the upper limb. The bones of the pelvic girdle and the free part of the lower limb. Age-related features.	LO1	1	Overview lecture	Feedback (control questions)
	Anatomy **Practical lesson №2** The structure of the	The bones of the shoulder girdle. The structure of the shoulder	LO1 LO2	2	work in small groups with	an oral survey with a

	bones of the shoulder girdle and the free part of the upper limb.	blade and collarbone. The skeleton of the free part of the upper limb. The structure of the humerus, forearm bones: radius, ulna; hand bones: wrist bones, metacarpal bones, finger bones.			anatomical preparations, torso, tablets, posters. Work on the Pirogov interactive anatomical table	demonstration of anatomical structures on the skeleton, an interactive anatomical table "Pirogov", solving test tasks and situational tasks.
	Physiology Practical lesson №1 Physiology of excitable tissues. Excitability parameters. Parabiosis. Optimum and pessimum.	Parameters of excitability of various tissues. Parabiosis. Optimum and pessimum of the frequency and strength of irritation.	LO1	2	Discussion of the main issues of the topic, performing practical test tasks, solving situational problems	Oral questioning, assessment of the performance of test tasks and solving situational tasks
	Histology SIWT/SIW №1 Dense fibrous connective tissue. SIW Assignment "The importance of dense connective tissue in surgery and sports medicine."	Cellular elements of LFCT and their function. Types of connective tissue fibers. Localization in the body, functional significance.	LO1 LO2	1/5	working in small groups, defending a presentation, compiling a glossary.	Checklist for evaluating presentation protection, glossary compilation.
3	**Physiology Lecture No1** General Characteristics of Physiology as a Science. Physiology of	Physiology is the science of the functioning (vital activity) of a healthy organism. Physiology of excitable tissues. Resting potential. Action	LO1	1	Sightseeing	Feedback (control questions)

Excitable Tissues.	potential. Membrane-ion theory of their origin. Parabiosis.				
Anatomy **Practical lesson №3** The structure of the bones of the pelvic girdle and the free part of the lower limb. Age-related features.	The bones of the pelvic girdle. The structure of the pelvic bone. Bones of the free part of the lower extremities. The structure of the femur, patella, and shin bones: tibia and fibula; foot bones: tarsal bones, metatarsal bones, and finger bones. Age - related features .	LO1 LO2	2	work in small groups with anatomical preparations, torso, tablets, posters. Work on the Pirogov interactive anatomical table	an oral survey with a demonstration of anatomical structures on the skeleton, an interactive anatomical table "Pirogov", solving test tasks and situational tasks.
Latin language **Practical lesson №1** Introduction. Alphabet. Phonetics. Word stress. Noun. Dictionary form. Non-agreeing attribute. Noun forms: Nom. plur. and Gen. plur. Structure of Anatomical terms.	A brief history of the Latin language. Structure of the alphabet. Phonetics. Vowel length and shortness. Stress rules. Grammatical categories of the noun. Dictionary form. The declension system and its features. Non-agreeing attribute. Word order in the structure of anatomical terms.	LO 1	2	Work in small groups, phonetic exercise, grammatical analysis.	Testing, exercises, oral questioning.
Physiology **SIWT/SIW No1** Masticatory muscle work and strength.	The work and strength of the masticatory muscles.	LO1	1/5	Presentation	Checklist for evaluating the presentation defense

4	**Anatomy** **Lecture №3** A general overview of the bones of the head. Bones of the cerebral and facial skulls.	The structure of the bones of the cerebral and facial skulls.	LO1	1	Overview lecture	Feedback (control questions)
	Anatomy **Practical lesson №4** The structure of the bones of the cerebral skull. Age-related features.	Paired and unpaired bones of the cerebral skull. The structure of the frontal, sphenoid, occipital, parietal, ethmoidal, temporal bones. Channels of the temporal bone: (canalis caroticus, canaliculi caroticotympanici, canalis nervi facialis, canaliculus chordae tympani, canaliculus tympanicus, canalis musculotubarius, canaliculus mastoideus) . Age-related features of the bones of the cerebral skull.	LO1 LO2	2	work in small groups with anatomical preparations, torso, tablets, posters. Work on the Pirogov interactive anatomical table	an oral survey with a demonstration of anatomical structures on the skeleton, an interactive anatomical table "Pirogov", solving test tasks and situational tasks.
	Histology **Practical lesson №2** Cartilage tissue. Bone tissue.	To identify the types of cartilaginous tissues by the structural features of the intercellular substance and to know the histofunctional features. To distinguish lamellar bone tissue from coarse fibrous and to know their histofunctional features.	LO1 LO2	2	working in small groups	Practical lesson assessment checklist, histopreparation checklist, micrographs.

5	**Anatomy Lecture №4** The anatomy and topography of the skull as a whole. The development of the human skull. Age, sex, and typical features of the human skull structure.	Age and sex characteristics of the skull. The skull of a newborn. Fontanelles. Changes in the skull after birth.	LO1	1	Overview lecture	Feedback (control questions)
	Anatomy Practical lesson №5 The structure of the bones of the facial skull. Age-related features.	Paired and unpaired bones of the facial skull. The structure of the upper jaw, palatine bones, lower nasal concha, coulter, nasal, lacrimal, zygomatic bones, mandible, hyoid bone. Age-related features of the bones of the facial skull.	LO1 LO2	2	work in small groups with anatomical preparations, torso, tablets, posters. Work on the Pirogov interactive anatomical table	an oral survey with a demonstration of anatomical structures on the skeleton, an interactive anatomical table "Pirogov", solving test tasks and situational tasks.
	Latin language Practical lesson №2 Adjective. Its two groups. Agreeing attribute. Degrees of comparison of adjectives. Adjective forms: Nom. plur. and Gen. plur.	Grammatical categories of the adjective. Dictionary form. Two groups of adjectives. Their declensions. Agreeing attribute. Three degrees of comparison of adjectives. Dictionary forms. Declensions.	LO 4	2	Work in small groups, grammatical analysis, modelling.	Testing, exercises, oral questioning.
	Histology SIWT/SIW №2 Bone restructuring,	Factors influencing bone restructuring, types of bone connections.	LO1 LO2	1/5	working in small	Checklist for evaluating

	factors affecting its structure. Joining the bones. The task of the SIW is to reveal the concept of restructuring (remodeling) of bone tissue.	Importance for medicine.			groups, defending a presentation, compiling a glossary.	presentation protection, glossary compilation.
6	**Histology** **Lecture №1** Connective tissues.	Classification of connective tissues. Cellular elements of LFCT. Varieties of fibers. The intercellular matrix.	LO1	1	overview	Feedback (control questions)
	Anatomy **Practical lesson №6** Topography of the skull. The whole skull. Age-related features.	The whole skull. Topography of the cerebral region of the skull. Topography of the facial region of the skull. The arch of the skull. The inner and outer base of the skull. Age-related features of the skull.	LO1 LO2	2	work in small groups with anatomical preparations, torso, tablets, posters. Work on the Pirogov interactive anatomical table	an oral survey with a demonstration of anatomical structures on the skeleton, an interactive anatomical table "Pirogov", solving test tasks and situational tasks.
	Anatomy **SIWT/SIW №1** Topography of the facial region of the skull.	The nasal cavity. Nasal passages. Temporal fossa. The subclavian fossa. Pterygopalatine fossa	LO1 LO2	2	-preparation and explanation of the presentation; -description of the X-ray image.	Oral interview. Assessment sheets for certain forms of completed assignments

	Latin language SIWT/SIW №1 The general cultural (humanitarian) significance of the Latin language. "Gaudeamus" – the student hymn.	A brief history of the development of the Latin language. The contribution of Latin to the development of human civilization. The history of the hymn "Gaudeamus" and its text.	LO 1	1/5	Preparation of a report using AI.	Presentation (defense) of the report.
7	**Physiology Lecture №2** Physiological properties of muscles.	Mechanism of muscle contraction and relaxation. Physiological properties of skeletal, cardiac and smooth muscles.	LO1	1	Overview	Feedback (control questions)
	Physiology Practical lesson No2 Biopotentials.	Bioelectric phenomena in living tissues. Resting potential. Action potential. Refractory nature.	LO1	2	Discussion of the main issues of the topic, performance of practical and test tasks, solving situational problems	Oral questioning, assessment of test tasks and solving situational problems
	Latin language Practical lesson №3 Verb. Four conjugations. Present and past participles.	Grammatical categories of the verb. Conjugations. Determination of the verb stem. Dictionary forms of present and past participles and their declension.	LO 4	2	Work in small groups, grammatical analysis.	Testing, exercises, oral questioning.
	Physiology SIWT/SIW No2 Muscle Hypertrophy and Atrophy.	Working hypertrophy and muscle atrophy.	LO1	1/5	Presentation	Checklist for evaluating the presentation defense
8	**Latin language Practical lesson №4**	Definition and structure of pharmaceutical	LO 4	2	Work in pairs,	Testing, exercises,

	Pharmaceutical terminology. Common word elements in trivial names of medicinal products. Brief information on dosage forms. Prescription. Writing the Latin part of a prescription. Chemical nomenclature. Common word elements in the names of hydrocarbon radicals.	terminology. Nomenclature of medicinal products. Meanings of common word elements in trivial names. Definition of a dosage form. Types of dosage forms. Names of medicines that include an indication of the dosage form. Definition and structure of a prescription. Rules for writing the Latin part of a prescription. Latin names of chemical elements, acids, oxides, and salts. Common word elements in the names of hydrocarbon radicals.			modelling.	oral questioning.
	Anatomy **SIWT/SIW №2** Midterm control– I.	Consolidation of the completed material on the topics of lectures, practical classes, SIWT and SIW	LO1 LO2	2	Oral ticket survey.	Evaluation of the oral ticket survey.
9	**Anatomy** **Lecture №5** The concept of bone connections. The development of connections. Types of bone joints. Classification of bone joints. Age-related features.	Types of bone joints. Biomechanics of joints. The development of connections. Classification of joints.	LO1	1	Overview lecture	Feedback (control questions)
	Anatomy **Practical lesson №7** Joints of the bones of the head and trunk: structure and functions. Age-related features.	Joints of the skull bones. The structure and function of the temporomandibular joint. Joints of trunk bones. Joints of the vertebrae. Joints of the	LO1 LO2	2	work in small groups with anatomical preparations, skeletons, models,	an oral survey with a demonstration of anatomical structures

		sacrum and coccyx. The structure and function of the sacroiliac joint. Connections of the spinal column to the skull. The structure and function of the Atlanto-occipital, mid-Atlanto-axial joints. The spinal column. Connections of the ribs to the spinal column. The chest as a whole. Age-related features.			posters. Working on an interactive anatomical table	on the skeleton, an interactive anatomical table "Pirogov", solving test tasks and situational tasks.
	Latin language Practical lesson №5 The concept of clinical terminology. Term elements. Methods of word formation. Greco-Latin doublets and single term elements. Compounding. Suffixes -itis, -oma, -iasis, -osis, -ismus.	Definition of clinical terminology. Methods of word formation of clinical terms. Suffixation and prefixation as the main ways of forming clinical terms. Meanings of the suffixes -itis, -oma, -iasis, -osis, -ismus. Structure of a clinical term. The position of term elements in the structure of a compound term. Definition of Greco-Latin doublets and single term elements.	LO 5	2	Work in pairs, modelling	Testing, exercises, oral questioning
	Latin language SIWT/SIW №2 Structure of anatomical terms. Multi-word terms constructed according to the principles of government and agreement.	Word order in an anatomical term. Multi-word terms constructed according to the principles of government and agreement. Sequence of steps for agreeing adjectives with nouns.	LO 1	1/5	Preparation of a report using AI	Presentation (defense) of the report
10	**Anatomy**	Joints of the shoulder	LO1	2	work in	an oral

	Practical lesson №8 Joints of the bones of the shoulder girdle and the free part of the upper limb: structure and functions. Joints of the bones of the pelvic girdle and the free part of the lower limb: structure and functions. Age-related features.	girdle bones. The structure and functions of the sternoclavicular and acromioclavicular joints. Joints of the bones of the free part of the upper limb. The structure and functions of the shoulder, elbow, and wrist joints. Joints of the hand bones. Joints of the pelvic girdle bones. The structure and functions of the sacroiliac joint, pubic symphysis. The pelvis as a whole. Joints of the bones of the free part of the lower limb. The structure and functions of the hip and knee joints, the connection of the bones of the shin, the bones of the foot (Chopard and Lisfranc joints). The foot as a whole. Age-related features.	LO2		small groups with anatomical preparations, skeletons, models, posters. Working on an interactive anatomical table	survey with a demonstration of anatomical structures on the skeleton, an interactive anatomical table "Pirogov", solving test tasks and situational tasks.
	Histology Practical lesson №3 Skeletal muscle tissue	Sources of development. The structure of skeletal muscle as an organ. Structural features of myofibrils. The sarcomere. Methods of skeletal muscle regeneration.	LO1 LO2	2	working in small groups	Practical lesson assessment checklist, histopreparation checklist, micrographs.
	Physiology SIWT/SIW No3 Skin Receptors.	Types of skin receptors of corpuscles (Vater-Pacini), corpuscles (Meissner), Ruffini corpuscles.	LO1 LO4	1/4	Presentation	Checklist for evaluating the presentatio

						n defense
11	**Anatomy** **Lecture №6** General myology. A muscle as an organ. Muscle development in ontogenesis. Classification of muscles. The auxiliary apparatus of muscles. Biomechanics of muscles: anatomical and physiological dimensions of muscles. Lifting force. External and internal forces acting on muscles and joints. Age-related muscle anatomy.	The structure of muscles. The muscle as an organ. Classification of muscles. Auxiliary devices of muscles. Muscle work. Muscle development. Age-related muscle anatomy.	LO1	1	Overview lecture	Feedback (control questions)
	Anatomy **Practical lesson №9** Muscles and fascia of the head and neck: structure, topography and functions. Age-related muscle anatomy.	Muscles and fascia of the head and neck. The structure, topography, and functions of the masticatory and facial muscles. Age-related anatomy of the muscles of the head and neck.	LO1 LO2	2	work in small groups with anatomical preparations, torso, tablets, posters. Work on the Pirogov interactive anatomical table	an oral survey with a demonstration of anatomical structures on the skeleton, an interactive anatomical table "Pirogov", solving test tasks and situational tasks.
	Anatomy **SIWT/SIW №3** Triangles of the neck, fascia, and interfacial	Neck triangles. Boundaries and structures. Fascia and interfacial spaces .	LO1 LO2	2	-preparation and explanation of the	Oral interview. Assessment sheets for

	spaces.				presentation ; -description of the X-ray image.	certain forms of completed assignments
12	**Histology** **Lecture №2** Skin and its derivatives.	The tissue composition of the various layers of the skin. The source of development and function of differons of epidermal cells. Structural features of keratinocytes.	LO1	1	overview	Feedback (control questions)
	Anatomy **Practical lesson №10** Muscles and fascia of the trunk: structure, topography, and functions. Blood supply, venous outflow, innervation. Age-related muscle anatomy.	Muscles and fascia of the back. Muscles and fascia of the chest. Abdominal muscles and fascia. The white line of the abdomen. The inguinal canal. Vaginas of the rectus abdominis muscle. The diaphragm. Blood supply, venous outflow, innervation. Age-related anatomy of the trunk muscles.	LO1 LO2	2	work in small groups with anatomical preparations, torso, tablets, posters. Work on the Pirogov interactive anatomical table	an oral survey with a demonstration of anatomical structures on the skeleton, an interactive anatomical table "Pirogov", solving test tasks and situational tasks.
	Physiology **Practical lesson №3** Muscle physiology. Mechanism of muscle contraction and relaxation.	Physiological properties of the striated, smooth and muscles of the heart. Morphophysiological features of smooth muscles. Types of muscle staining. The mechanism of muscle contractions. Muscle work. Muscle fatigue.	LO1 LO4	2	Discussion of the main issues of the topic, performance of practical and test tasks, solving situational problems	Oral questioning, assessment of the performance of test tasks and solving situational tasks

	Histology SIWT/SIW №3 Muscle tissue of epidermal and neural origin. Make a table comparing muscle tissue of epidermal and neural origin.	Determine which muscle tissues are of epidermal and neural origin. Describe the sources of the embryonic origin of these tissues (specify the germ layer and the specific	LO1 LO2	1/5	working in small groups, defending a presentation, compiling a glossary.	Checklist for evaluating presentation protection, glossary compilation.
13	**Anatomy Practical lesson №11** Muscles and fascia of the shoulder girdle and the free part of the upper limb: structure, topography, and functions. Age-related muscle anatomy.	The muscles of the shoulder girdle. Shoulder muscles. The muscles of the forearm. The muscles of the hand. Structure, topography, and functions. The topography of the vagina of the hands and tendons of the hands.(furrows, channels) Axillary and ulnar fossa. Topography of the carpal, ulnar, and radial canals..	LO1 LO2	2	work in small groups with anatomical preparations, torso, tablets, posters. Work on the Pirogov interactive anatomical table	an oral survey with a demonstration of anatomical structures on the skeleton, an interactive anatomical table "Pirogov", solving test tasks and situational tasks.
	Anatomy SIWT/SIW №4 White line of the abdomen. Inguinal canal. Sheath of the rectus abdominis muscle. Diaphragm.	White line of the abdomen. Inguinal canal. Sheaths of the rectus abdominis muscle. Diaphragm. Weak areas of the anterior abdominal wall.	LO1 LO2	1/7	Preparation and defense of the presentation.	Oral questioning; presentation evaluation checklist.
	Histology Practical lesson №4 Skin. The glands of the skin.	The source of skin development. The general outline of the structure and tissue composition of the skin.	LO1 LO2	2	working in small groups	Practical lesson assessment checklist, histoprepar

		Differons of epidermal cells. Features of the structure of "thin" and "thick" skin. Structural and functional features of sebaceous and sweat glands of the skin.				ation checklist, micrograp hs.
	Latin language SIWT№3 General concept of word formation. Morphemic analysis and orthography. Methods of word formation. On the methods of forming trivial names of medicinal products and some general requirements for assigning names to medicinal products.	Definition of word formation. Root and derived stems. Concept of morphemes, morphemic analysis, and its connection with orthography. Methods of word formation.	LO 2	1/4	Preparation of a report using AI.	Presentatio n (defense) of the report
14	**Anatomy Practical lesson №12** Muscles of the pelvic girdle and the free part of the lower limb: structure, topography, and functions.	The muscles of the pelvic girdle. Thigh muscles. Lower leg muscles. The muscles of the foot. Structure, topography, and functions. Femoral canal, femoral triangle, adductor canal, popliteal fossa, popliteal canal.	LO1 LO2	2	work in small groups with anatomical preparations , torso, tablets, posters. Work on the Pirogov interactive anatomical table	an oral survey with a demonstrat ion of anatomical structures on the torso, tablets, posters, an interactive anatomical table "Pirogov", solving test tasks and situational tasks.

	Physiology Practical lesson No4 Functions of the skin. Tactile analyzer.	Functions of the skin. Sweating. Tactile analyzer. Thermoreceptors. Adaptation of skin receptors.	LO1 LO4	2	Discussion of the main issues of the topic, performance of practical and test tasks, solving situational problems	Oral questioning, assessment of the performance of test tasks and solving situational tasks
	Anatomy SIWT/SIW №5 Skin and its derivatives	Skin and its derivatives	LO1 LO2	1/7	-preparation and explanation of the presentation;	Oral interview. Assessment sheets for certain forms of completed assignments
15	**Anatomy SIWT/SIW №6** Midterm control – II.	Consolidation of the completed material on the topics of lectures, practical classes, SIWT and SIW	LO1 LO2	2/7	writing is the solution of integrated situational tasks.	assessment of the implementation of integrated situational tasks.
Preparation and conduct of interim assessment.					18	

9.	**Teaching Methods and Forms of Control**
9.1	Lecture — Lecture review. Feedback (answers to control questions)
9.2	Practical classes — Working in small groups with anatomical specimens, grids, models, charts, panels, posters, and the “Pirogov” interactive panel; discussing the main issues of the topic; oral questioning; solving tests; completing situational tasks; performing practical work; using check-sheets with histological preparations and microphotographs; grammatical analysis; exercises; pair work; modeling.
9.3	SIWT /SIW — Preparing and defending a report and presentation; conducting work in small groups; oral questioning; compiling a glossary; describing an X-ray image.
9.4	Final (or Midterm) control/ — Solving integrated case studies in written form.

	test	

10. Assessment Criteria

10.1 Criteria for evaluating learning outcomes of the discipline

№ LO	Learning Outcomes	Unsatisfactory	Unsatisfactory	Good	Excellent
LO1	Describes the structure and topography of physiological processes occurring in the body and tissues, their microscopic structure, the importance of assessing the condition of the musculoskeletal system and the skin, and uses Latin terminology of morphophysiology.	– Did not demonstrate knowledge of the goals and objectives of anatomy, histology, physiology, and Latin language; – Does not know the general patterns of structure and function of organs and tissues, or the mechanisms of physiological processes; – Cannot explain the importance of assessing the state of the musculoskeletal system and skin; – Does not use Latin terms or	– Shows partial knowledge of anatomy, histology, physiology, and Latin language but makes significant mistakes; – Displays inconsistency in describing physiological processes and microscopic structures; – Cannot fully explain the importance of musculoskeletal system and skin structures; – Does not fully or	– Understands the content and significance of anatomy, histology, physiology, and Latin language; – Can correctly describe structural and functional features of tissues and organs; – Explains physiological processes and their regulatory mechanisms; – Uses Latin terms, though minor inaccuracies may occur.	– Has deep understanding of the interconnection and importance of anatomy, histology, physiology, and Latin in medicine; – Can fully and scientifically explain the structure of organs and tissues and physiological processes; – Can convincingly demonstrate the importance of evaluating the musculoskeletal system and skin with examples; – Uses morphophysiological Latin terms correctly and appropriately.

		uses them incorrectly.	correctly use Latin terminology.		
LO2	Identifies and distinguish anatomical structures of the musculoskeletal system and skin in adults and children, and correctly applies Latin anatomical terminology when describing them.	– Does not understand the goals and content of anatomy, histology, physiology, and Latin language; – Cannot identify or confuses anatomical structures of the musculoskeletal system and skin; – Does not know age-related differences; – Does not use Latin anatomical terminology or uses it incorrectly.	– Has basic knowledge of anatomy, histology, physiology, and Latin, but it is inconsistent; – Identifies some anatomical structures correctly but makes inaccuracies in description; – Does not fully explain structural differences between adults and children; – Makes mistakes in using Latin terms.	– Knows the main content of anatomy, histology, physiology, and Latin; – Correctly identifies and describes anatomical structures of the musculoskeletal system and skin; – Explains structural features of adults and children; – Uses Latin terms, though minor mistakes may occur.	– Deeply understands the interconnection of anatomy, histology, physiology, and Latin; – Correctly identifies all structures of the musculoskeletal system and skin and describes them systematically and scientifically; – Accurately explains anatomical differences between adults and children with evidence; – Uses Latin anatomical terminology correctly, appropriately, and fluently.
LO3	Based on	– Does not	– Has a	– Correctly	– Has mastered

	microscopic and instrumental studies, can assess the anatomical structures of the musculoskeletal system and skin, as well as their condition during functional hypertrophy and atrophy, and correctly uses Latin anatomical terminology when describing these structures.	know microscopic and instrumental research methods in anatomy, histology, and physiology; – Cannot distinguish microscopic features of musculoskeletal system and skin structures; – Does not understand the concepts of hypertrophy and atrophy; – Does not use Latin terms or makes gross mistakes.	general understanding of microscopic and instrumental research, but shows inconsistency in data analysis; – Does not fully explain the differences between hypertrophy and atrophy; – Makes inaccuracies when describing musculoskeletal and skin structures; – Uses Latin terms but often makes mistakes.	interprets results of microscopic and instrumental research; – Can describe hypertrophy and atrophy phenomena; – Evaluates the state of musculoskeletal and skin structures; – Uses Latin anatomical terms, though minor inaccuracies may occur.	microscopic and instrumental research methods in anatomy, histology, and physiology; – Can describe hypertrophy and atrophy with accurate examples; – Scientifically analyzes and correctly evaluates changes in musculoskeletal and skin structures; – Uses Latin anatomical terminology correctly and appropriately.

LO4	Effectively applies knowledge about the structure, topography, and functions of organs and systems in the body, as well as the skills of using anatomical terminology in Latin, for mastering physical examination and basic first aid skills.	– Cannot demonstrate knowledge of the structure, topography, and function of organs and systems; – Does not know or correctly apply basic physical examination methods; – Makes mistakes when providing first aid; – Does not use Latin anatomical terms or makes gross mistakes.	– Has a general understanding of the structure and function of organs and systems but cannot apply it systematically; – Can perform basic elements of physical examination, but with inaccuracies; – Does not fully follow instructions when providing first aid; – Uses Latin anatomical terms but sometimes makes mistakes.	– Correctly describes the structure and topography of organs and systems; – Performs physical examination and first aid correctly; – Can apply knowledge to assess organ function; – Uses Latin anatomical terminology appropriately, with minor inaccuracies rarely occurring.	– Demonstrates deep and systematic knowledge of the structure, topography, and function of organs and systems; – Performs all stages of physical examination and first aid confidently and correctly; – Analyzes results and draws accurate conclusions; – Uses Latin anatomical terminology correctly and scientifically.
LO5	Is able to demonstrate skills in discussion, logical analysis, evidence-based speech, and	– Cannot analyze information or justify opinions;	– Makes some mistakes in analyzing	– Can analyze information and establish logical connections;	– Demonstrates high-level logical and critical thinking in analyzing information; – Presents opinions

	teamwork when presenting information.	– Does not participate in discussions or presents ideas incoherently; – Does not contribute to group work, has poor communication skills.	information and in discussions; – Expresses ideas but with weak arguments; – Participates in group work partially, but not actively.	– Justifies opinions, with minor linguistic or content errors; – Actively participates in group work and demonstrates cooperation.	clearly, convincingly, and reliably; – Shows leadership in group work and establishes effective communication.

10.2 Methods and criteria of assessment

Checklist for practical session

Assessment Criteria	**Level**			
	Excellent	**Good**	**Satisfactory**	**Unsatisfactory**
Answers oral questions (small groups)	40	28	20	0
Completes test tasks	20	14	10	0
Fills in tables	20	14	10	0
Solves case studies	20	14	10	0
Total	100	70	50	0

Type of Control	**Grade**	**Assessment Criteria**
Oral Questioning	**Excellent** A (4,0; 95-100%); A- (3,67; 90-94%)	-The student made no mistakes or inaccuracies during the answer; -demonstrates understanding of theoretical directions of the discipline; -provides critical evaluation, and applies scientific achievements of other disciplines.
	Good B+ (3,33; 85-89%); B (3,0; 80-84%); B- (2,67; 75-79%). B- (2,33; 70-74%);	-The student made no major mistakes; -corrected minor inaccuracies independently; -managed to systematize the material with the help of the instructor.
	Satisfactory C (2,0; 65-69%);	-The student made inaccuracies and minor mistakes; -relied only on textbooks;

	C- (1,67; 60-64%); D+ (1,33; 55-59%) D (1,0; 50-54%)	- experienced significant difficulties in systematizing the material.
	Unsatisfactory Fx (0,5; 25-49%) F (0; 0-24%)	-The student made fundamental mistakes; -did not study the main literature; -cannot use scientific terminology of the discipline; -and gave answers with major stylistic and logical errors.
Exercises	**Excellent** A (95-100) A- (90-94)	-The student completed all assigned exercises fully, on time, without mistakes; -independently analyzed terms and explained their construction.
	Good B+ (85-89) B (80-84) B-(75-79) C+ (70-74)	-The student completed all exercises fully and on time, without major mistakes; -independently analyzed terms but could not fully explain their construction.
	Satisfactory C (65-69) C- (60-64) D+(55-59) D (50-54)	-The student completed exercises on time without major mistakes but needed the instructor's assistance when analyzing terms.
	Unsatisfactory FX (25-49) F (0-24)	-The student did not complete exercises on time; -made gross mistakes; -could not analyze terms or explain the results of their work.

Solving Case Studies

Assessment Type	**Grade**	**Evaluation Criteria**
Solving Case Studies	Excellent 95-100 90-94	– Actively participated in solving case studies, demonstrating a high level of critical thinking; – Showed deep knowledge of the material; – Applied scientific achievements from other subjects in the discussion.
	Good 85-89 80-84 75-79 70-74	– Actively participated in solving case studies; – Demonstrated deep knowledge; – Identified and corrected minor non-principal errors and inconsistencies independently.
	Satisfactory 65-69 60-64	– Showed low activity in solving case studies; – Had difficulties systematizing the material; – Made inconsistencies and principal errors.

	50-59	
	Unsatisfactory 0-49	– Did not participate in solving case studies; – Made principal errors and inconsistencies when answering instructor's questions; – Did not use scientific terminology.

Practical Class Assessment Checklist for Histology

Evaluation Criteria	**Level**			
	High	**Adequate**	**Adjustable / Needs Improvement**	**Inadequate / Unsatisfactory**
-Answers individual test questions using the "**Quizizz**" platform	40	28	20	0
-Responds to oral questions (small groups)	20	14	10	0
-Completes tables	20	14	10	0
-Solves case studies	20	14	10	0
Total:	100	70	50	0

Preparation and Presentation of Histological Microscopic Slides and Microphotographs

Grade	**Evaluation Criteria**
Excellent 95-100 90-94	– Prepared on time, relevant to the topic, with own ideas; presented 3 histological slides and 3 microphotographs neatly; –Includes at least 6 significant tables; –Uses at least 5 references; –Has a fully developed plan; –Includes diagrams, tables, and images relevant to the topic; – Demonstrated deep knowledge during the presentation and answered all questions correctly.
Good 85-89 80-84 75-79 70-74	– Prepared on time, relevant to the topic, with own ideas; presented 3 slides and 3 microphotographs neatly; –Includes at least 6 significant tables; –Uses at least 5 references; –Has a fully developed plan; –Includes diagrams, tables, and images relevant to the topic; –Showed good knowledge during the presentation but made minor non-principal errors when answering questions.
Satisfactory 65-69 60-64 55-59	–Prepared on time, relevant to the topic, with own ideas, but not neatly; presented 3 slides and 3 microphotographs; –Includes fewer than 6 significant tables; –Uses fewer than 5 references;

50-54	–Plan not fully developed; –Includes fewer diagrams, tables, and images; –Answered questions confidently but made principal errors.
Unsatisfactory 25-49 0-24	–Did not prepare 3 slides and 3 microphotographs on time or prepared them late, not neatly or without own ideas; –Includes fewer than 6 significant tables; –No references provided; –No plan; –Made major mistakes or could not answer questions during the presentation; –Could not defend the presentation.

Assessment Checklist
Evaluation Criteria for Multimedia Presentations

Step №	Evaluation Criteria for Steps	Level			
		Excellent 90-100	**Good** 70-89	**Satisfactory** 50-69	**Unsatisfactory** 0-49
1.	-Slide cover shows the title of the presentation; presentation plan included; sufficient number of slides; list of references and internet sources provided.	9-10	7-8,9	5-6,9	0-4,9
2.	-Content of the presentation corresponds to the topic and set objectives.	9-10	7-8,9	5-6,9	0-4,9
3	-Slides are arranged in logical sequence.	9-10	7-8,9	5-6,9	0-4,9
4.	-Style of explaining material (conciseness, clarity, proper structure).	9-10	7-8,9	5-6,9	0-4,9
5	-Sufficient use of modern sources of information.	9-10	7-8,9	5-6,9	0-4,9
6	-Ability to generalize information and draw clear, precise conclusions.	9-10	7-8,9	5-6,9	0-4,9
7	-Level of audience engagement / directing the presentation.	9-10	7-8,9	5-6,9	0-4,9
8	-Ability to present information clearly, competently, and systematically.	9-10	7-8,9	5-6,9	0-4,9
9	-Ability to defend own opinion and calmly accept criticism.	9-10	7-8,9	5-6,9	0-4,9
10	-Slide quality (visuals, aesthetics, etc.).	9-10	7-8,9	5-6,9	0-4,9

Checklist for Independent Work of Students (SIW/SIWT)

№	**Assessment Criteria**	**Level**			
		Excellent	**Good**	**Satisfactory**	**Unsatisfactory**

1	Presentation and test tasks	40	28	20	0
2	Defense of case studies	40	28	20	0
3	Glossary preparation	20	14	10	0
	Total:	100	70	50	0

Presentation

Type of Assessment	**Grade**	**Assessment Criteria**
Presentation	**Excellent** Corresponding to the following grades: A (4,0; 95-100%); A- (3,67; 90-94%)	-The student prepared the presentation independently, on time, with no fewer than 20 slides; -Used at least 5 literature sources; -Slides are informative and clear; -During the defense, the student demonstrates deep knowledge of the topic; -Answers all questions during the discussion without mistakes.
	Good Corresponding to the following grades: B+ (3,33; 85-89%); B (3,0; 80-84%) B- (2,67; 75-79%) C+ (2,33; 70-74%)	- The student prepared the presentation independently, on time, with no fewer than 20 slides; -Used at least 5 literature sources; Slides are informative and clear; -During the defense, the student demonstrates good knowledge of the topic; -Gives answers during the discussion with minor mistakes.
	Satisfactory Corresponding to the following grades: C (2,0; 65-69%) C- (1,67; 60-64%) D+ (1,0; 50-54%)	-The student prepared the presentation independently, on time, with no fewer than 20 slides; -Used at least 5 literature sources; Slides are not sufficiently informative; -During the defense, the student makes significant mistakes on the topic.
	Unsatisfactory Corresponding to the following grades: FX (0,5; 25-49%) F (0; 0-24 %)	-The presentation was not submitted on time, or contains fewer than 20 slides; -Fewer than 5 literature sources were used; -Slides are not informative; -During the defense, the student makes serious errors on the topic; -The student demonstrates poor mastery of their material.

Compiling a glossary

Type of	**Score**	**Assessment Criteria**

Assessment		
Compiling a glossary	**Excellent** 95-100; 90-94	-The student compiled the glossary according to the topic, on time, independently, neatly, without errors, with at least 10 terms; -The meanings were correctly explained and formulated.
	Good 85-89; 80-84 75-79; 70-74 баллға сәйкес	-The student compiled the glossary according to the topic, on time, independently, neatly, with at least 10 terms; -The meanings were correctly explained, but minor non-critical errors were made during formulation..
	Satisfactory 65-69; 60-64 55-59; 50-54	-The student compiled the glossary according to the topic, on time, independently, with at least 10 terms; -However, the work was not neat, and significant errors were made during formulation..
	Unsatisfactory 25-49 0-24	-The student did not compile the glossary on time and according to the topic, or submitted it on time but not independently and not neatly; -The glossary contains fewer than 10 terms required by the topic; -Significant errors were made during formulation.

Checklist for midterm Examination

Testing - assessed according to a multi-point (multi-grade) knowledge evaluation system.

Multigrading System of Knowledge Assessment

Letter Grade	**Grade Point (GPA)**	**Percentage (%)**	**Traditional Grade**
A	4,0	95-100	Excellent
A-	3,67	90-94	
B+	3,33	85-89	Good
B	3,0	80-84	
B-	2,67	75-79	
C+	2,33	70-74	
C	2,0	65-69	Satisfactory
C-	1,67	60-64	
D+	1,33	55-59	
D-	1,0	50-54	
FX	0,5	25-49	Unsatisfactory
F	0	0-24	

11.	**Learning Resources**

Electronic resources, including but not limited to: databases, animations, simulators, professional blogs, websites, and other electronic reference materials (e.g., videos, audio recordings, digests).	1. South Kazakhstan Medical Academy Electronic Library – https://e-lib.skma.edu.kz/genres 2. Republican Interuniversity Electronic Library (RIEL) – http://rmebrk.kz/ 3. Digital Library "Aknurpress" – https://www.aknurpress.kz/ 4. Electronic Library "Epigraph" – http://www.elib.kz/ 5. Epigraph – Multimedia Textbook Portal – https://mbook.kz/ru/index/ 6. IPR SMART Electronic Library System – https://www.iprbookshop.ru/auth 7. Legal Information System "Zan" – https://zan.kz/ru 8. Medline Ultimate (EBSCO) – https://research.ebsco.com/ 9. eBook Medical Collection (EBSCO) – https://research.ebsco.com/ 10. Scopus – https://www.scopus.com/

Electronic textbooks

1. Kahle, W. et al. Color Atlas and Textbook of Human Anatomy : In 3 Volumes. Vol. 1: Locomotor System / W. Kahle, H. Leonhardt, W. Platzer. - 4th edition - Нью-Йорк, 1992. - 435 https://rmebrk.kz/book/1007683
2. Kahle, W. et al. Color Atlas and Textbook of Human Anatomy : In 3 Volumes. Vol. 2: Internal Organs / W. Kahle, H. Leonhardt, W. Platzer. - 4th edition - Нью-Йорк, 1992. – 372 https://rmebrk.kz/book/1007684
3. Kahle, W. et al. Color Atlas and Textbook of Human Anatomy : In 3 Volumes. Vol. 3: Nervous System and Sensory Organs / W. Kahle, H. Leonhardt, W. Platzer. - 4th edition - Нью-Йорк, 1992. – 376 https://rmebrk.kz/book/1007685
4. Susan Standring Gray - 42nd Edition - UK: Elsevier, 2020. – 2941 https://rmebrk.kz/book/1186064
5. Frank H. Netter Netter Atlas of Human Anatomy. Classic Regional Approach. - Eight edition - PA: Elsevier, 2023. – 1148 https://rmebrk.kz/book/1186042
6. Jonh T. Hansen Netter - 4th edition - PA: Elsevier, 2019. – 630 https://rmebrk.kz/book/1186043
7. Anatomy & Physiology : A simplified guide to the structures and systems of the human body. / Jason Curtis.: Strength and Conditioning Course, 2020. – 181 https://rmebrk.kz/book/1178693
8. K. Sembulingam, Prema Sembulingam Essentials of Medical Physiology. - Sixth Edition - India: Jaypee Brothers Medical Publishers,2012. – 1097 https://rmebrk.kz/book/1186092
9. Анатомия человека = Human Anatomy : учебное пособие / Е. С. Околокулак, Ф. Г.

Гаджиева, С. А. Сидорович, Д. А. Волчкевич. — Минск : Вышэйшая школа, 2021. — 416 c. -: https://www.iprbookshop.ru/119959.html

10. Seyed Ali Khonsary Book Review: Atlas of Anatomy - Head, Neck, and Neuroanatomy. - Surgical neurology international 4/28/2020. - 85 с.// eBook Medical Collection EBSCO

11. Physiology of the development of the reproductive system of girls. Standards for determining physical and sexual maturity : study aid / A. V. Kazakova, O. V. Sazonova, M. Yu. Gavryushin, D. R. Rustyanova. — Москва : Ай Пи Ар Медиа, 2024. — 52 c. - https://www.iprbookshop.ru/136113

12. Gary F. Merrill. Our Marvelous Bodies : An Introduction to the Physiology of Human Health: B:2008.// eBook Medical Collection EBSCO

13. William J. Kovacs;Sergio R. Ojeda. Textbook of Endocrine Physiology: 2012.// eBook Medical Collection EBSCO

14. Leslie P. GartnerColor Atlas and Text of Histology. - 7th edition - USA: Wolters Kluwer, 2018. - 2259 - https://rmebrk.kz/book/1186044

15. Neelam Vasudeva, Sabita MishraTextbook of Human Histology: With Color Atlas and Practical Guide. - Eighth Edition - India: Jaypee Brothers Medical Publishers, 2016. - 353 - https://rmebrk.kz/book/1186062

16. Leslie P. Gartner Textbook of Histology. - Fourth edition - Philadelphia, PA: Elsevier, 2017. - https://rmebrk.kz/book/1186063

17. Křížková, Věra et alBlood and Blood Components, Hematopoiesis, Selected Methods Used in Cytology, Histology and Hematology Ed.: First edition. Prague : Charles University in Prague, Karolinum Press. 2021. // eBook Collection EBSCO

18. Author Unknown Temporal Bone Histology and Radiology Atlas San Diego, CA : Plural Publishing, Inc. 2018. // eBook Collection EBSCO

19. Manas DasThieme Test Prep for the USMLE®: Medical Histology and Embryology Q&A.New York : Thieme. 2018.// eBook Collection EBSCO

20. Носачёва, М. И. Латинский язык и основы медицинской терминологии = The Latin Language and Fundamentals of Medical Terminology : учебное пособие для иностранных студентов 1-го курса билингвального отделения (English Media) медицинских вузов / М. И. Носачёва ; под редакцией Н. И. Данилиной. — Москва : Ай Пи Ар Медиа, 2022. — 124 c.: https://www.iprbookshop.ru/106014

Laboratory/physical resources

Skeleton, set of bones, models, torso, electronic tablets, Pirogov interactive anatomical table, Pirogov anatomical panel.

Microscopes, a set of microscopic slides, an atlas of microphotographs.

Training simulators of the Center for Practical Skills.

Literature

Main literature:

1. Chaurasia's, B. D. Human Anatomy [Text]: textbook in 4 vol. Vol. 2. Lower limb, Abdomen and pelvis / B. D. Chaurasia's. - 7th ed. - New Delhi : CBS Publishers & Distributors Pvt Ltd, 2016.- 498 p. Перевод заглавия: Анатомия человека
2. Chaurasia's, B. D. Human Anatomy [Text]: textbook in 4 vol. Vol. 2. Lower limb, Abdomen

and pelvis / B. D. Chaurasia's. - 6 th ed. - New Delhi : CBS Publishers & Distributors Pvt Ltd, 2013. - 463 p.Перевод заглавия: Анатомия человека
3. Prives, M. Human Anatomy. Volume I [Текст] : учебник / M. Prives, N. Lusenkov, V. Bushkovich. - Moscow : Mir Publishers, 1989. - 608 p
4. Prives, M. Human Anatomy. Volume II [Текст] : учебник / M. Prives, N. Lusenkov, V. Bushkovich. - Moscow : Mir Publishers, 1989. - 440 p
5. Taylor S. E.Health Psychology. Oxford University Press, 2014
6. Tanner R. Physiology An Illustrated Review, 2013
7. Babsky, Y. B. Human Physiology. Volum 1: textbook / Y. B. Babsky, N. Y. Babsky. - Almaty : "Evero" , 2017. - 308 p
8. Babsky, Y. B. Human Physiology. Volum 2. : textbook / Y. B. Babsky, N. Y. Babsky. - Almaty : "Evero" , 2017. - 296 p
9. Babsky, Y. B. Human Physiology. Volum 3. : textbook / Y. B. Babsky, N. Y. Babsky. - Almaty : "Evero" , 2017. - 260 p
10. Jain, A. K. Textbook of physiology : textbook. Vol. 1 / A. K. Jain . - 7 th ed. - Nev Delhi : Avichal publishing company, 2017. - 596 p. Перевод
11. Jain, A. K. Textbook of physiology : textbook. Vol. 1 / A. K. Jain . - 6 th ed. - Nev Delhi : Avichal publishing company, 2015. - 590 p.
12. Jain, A. K. Textbook of physiology : textbook. Vol. 2 / A. K. Jain . - 6nd ed. - Nev Delhi : Avichal publishing company, 2015. - 1121 p.
13. Hall John E. Guyton and Hall textbook of medical physiology : textbook / John E. Hall. - 12th ed. - Philadelphia : Elsevier, 2013. - 907 p.
14. Hall John E. Guyton and Hall textbook of medical physiology : textbook / John E. Hall. - Philadelphia : Elsevier, 2016. - 927 p.
15. Smagulov , N. K. PUBLIC HEALTH : textbook .-Karaganda state medical universitety. - Almaty : LLP "Evero", 2013. - 404 p.
16. Inderbir Singh. Textbook of Human Histology.With Color Atlas and Practical Guide/8 th Edition.Jaypee Brothers Medical Publishers .2016.-302 p.Перевод Гистология человека
17. Dudek Ronald W. Embryology / Ronald W. Dudek. - 5th ed. - [s. l.] : Wolters Kluwer, 2014. - 158 p. Перевод заглавия: Эмбриология
18. Gartner Leslie P. Cell Biology and Histology / Leslie P. Gartner. - 8th ed. - [s. l.] : Wolters Kluwer, 2019. - 436 p. - (BRS. Board Review Series)Перевод заглавия: Клеточная биология и гистология
19. Shoibekova A. Zh. Latin and fundamentals of medical terminology for medical students with training english : book /Алматы: Эверо, 2016. - 164

Additional literature:

1. Netter, Frank H. Atlas of human anatomy. textbook/Frank H. Netter. Philadelphia. Elsevier. 2014. 531 p.
2. Clinical Atlas of Human Anatomy : textbook / Peter H. Abrahams [et.al.]. - 8th ed. - Edinburgh : Elsevier, 2019. - 393 p. Перевод заглавия: Клинический атлас анатомии человека
3. Sperelakis, Nikolas. Essentials of Physiology [Текст] = Основы физиологии: монография

/ Nikolas Sperelakis. - Boston : New York : Toronto, London, 1996. - 722 c
4. Netter F. H.Atlas of Human Anatomy. Saunders / Elsevier, 2014
5. Usmle Step 1. Anatomy [Text] : lecturer notes / J. White [et. al.]. - New York : [s. n.], 2019. - 386 p. - (Kaplan Medical). - ISBN 978-1-5062-3646-9 : б/ц Перевод заглавия: Шаг 1. Анатомия
6. Kharissova, N. M. Physiology of the digestive system : educational-methodical manual. - Almaty : Evero, 2015. - 428 p.
7. Textbook of Human Histology. Inderbir Singh /Sixth Edition/Inderbir Singh 2010.-386 p.
8. Перевод Учебник по гистологии человека

12. Discipline Policy

Students must:

1. Students must not be late for classes;
2. Do not miss classes without valid reasons;
3. Have anatomical gloves, forceps, and a scalpel;
4. Be active during practical classes;
5. Be able to work in a team;
6. Complete and submit Independent Work (SIW) on time and according to the schedule;
7. Do not engage in unrelated activities during class;
8. Be tolerant, open, and respectful toward classmates and instructors;
9. Observe ethical standards when working with anatomical specimens and human organs;
10. Handle department property with care;
11. Make up missed classes in a timely manner if the absence was for a valid reason;
12. Follow safety regulations in the classroom;

During lectures/practical classes/SIWT, learners are prohibited from:

Using mobile devices/gadgets;

Leaving the classroom (or leaving the workplace at a clinical/production base) without the instructor's permission.

Dress Code Requirements

The student must:

1. Wear a clean, ironed medical coat and a cap/head cover;

Have a neat hairstyle and short nails;

(For female students: bright makeup and bright nail polish are not permitted.)

Penalties

1. For the first violation of module policy, the student receives an oral warning from the instructor.
2. For repeated violations, the student must submit a written explanation addressed to the Head of the Department.
3. For systematic violations of discipline policy, the Head of the Department submits an official report to the Dean's Office.

Additional Regulations

A student who misses midterm control (MC1, MK2, Avg.MC) without a valid reason and receives an unsatisfactory grade for any type of control is **not allowed to take the final exam**.

A student who misses the control for a valid reason receives a make-up sheet from the Dean's Office immediately after returning to classes.
For **one unexcused lecture absence**, a penalty of **1.0 point** is deducted from the midterm control grade.
For **one unexcused SROP absence**, a penalty of **2.0 points** is deducted from the SROP grade.
Encouragement points are awarded according to department policy.
They are added to the midterm control grade.
For active participation in student scientific circles (SNC) and seminars for each discipline, students may receive **5 to 10 encouragement points**.
Important Notice
If students do not accumulate 50% of the current rating (i.e., 30 points), they are not allowed to take the final exam.

13.	**Academic policy based on the moral and ethical values of the academy**

According to www.ukma.kz — Regulations and Rules of SKMA. Academic Policy. Section 4 - Student Honor Code. Section 10 - Organization of the Educational Process. Section 12. Grading Policy.
Final Assessment
Students are admitted to the final exam only if they have fully mastered the discipline program and have obtained the required admission rating.
The final grade is calculated automatically based on:
the average grade of current control,
the average grade of midterm controls,
and the final exam grade.
Admission Rating (60%)
Admission Rating (60%) = Average Midterm Control Grade (20%) + Average Current Control Grade (40%) 1. Average Midterm Control Grade=Midterm 1+Midterm 2/ 2
Average Current Control Grade= The average arithmetic grade of current assessments, including:
practical and laboratory work
average SIW grade
minus penalty points.
Final Grade (100%)= Midterm avg. x 0,2+ avg. current control grade x 0,4 + final grade x 0,4
Final Grade (100%)= Admission Rating (60%)+ Final Exam (40%)
Example of Final Grade Calculation:
Penalty Points
Student missed **2 lectures** → 1.0×2 = **2.0 points penalty**
Missed **one SIW→2.0 points penalty**
Midterm 1–80 points
Midterm 2–90 points
Avg. Midterm=(80-2)+90=84 points
2
Current Control

Average grade for practical/lab classes → 80 points
SIW1 – 75 points
SIW 2–85 points
SIW N…– quantity SIW
Average SIW Grade=75 +85+N…=80 points
2+N…
Current Control with penalties:

avg. current control grade*=avg. current control grade+avg. SIW-KSIW=80+(80–2,0) =158=79,0
2 2 2
Admission Rating (60%)=Avg. Midterm x 0,2+ avg. current control grade 0,4=84 x 0,2+79,0×0,4=16,8+31,6=48,4 points
Final Exam (40%), Example: student answered **45 out of 50 questions correctly = 90%**
90×0.4=36.
Final Grade (100%)=AR(60%)+FG(40%)=48,4+36=84,4 points
Avg.MC 0,2+Avg. CCG 0,4+FEGx0,4=84,0x0,2+79,0x0,4+90x0,4=16,8+31,6+36=84,4 points
Avg.MC – average midterm control grade
Avg. CCG – average current control grade
FEG – final exam grade
MC 1 - Midterm control 1
MC 2 – Midterm control 2
AR – admission rating
KSIW– penalty coefficient for missing one SIW

14.	Approval and Revision		
Agreement with Library and Information Center «25» 06 2025г.	Protocol № 7	Head of the Library and Information Center Darbicheva R.I.	Signature
Approval at Academic Council of the Educational Program «26» 06 2025г.	Protocol № 6	Chairperson of the AC of the EP «Medicine» Auyezkhankyzy D.	Signature
Approval at the Department «15» 05 2025г.	Protocol № 10	Head of Department Ibraeva L.B.	Signature
Review at the Department «__» 2025г.	Protocol № __	Head of Department Ibraeva L.B.	Signature
Review at Academic Council of the Educational Program «__» 2025г.	Protocol № __	Chairperson of the AC of the EP «Medicine» Auyezkhankyzy D.	Signature