

SYLLABUS
concerning the cycle of education 2021-2027

Academic Year 2021/2022

1. BASIC INFORMATION

1.1. Basic information concerning this subject / module

Subject / Module	Anatomy
Course code / module *	A/A
Faculty of (name of the leading direction)	College of Medical Sciences
Department Name	Department of Correct Anatomy
Field of study	Medical
Level of education	Uniform Master studies
Profile	General academic
Form of study	Stationary / non-stationary
Year and semester	1st year, 2nd semester
Type of course	Obligatory
Coordinator	Dr n. med. K. Balawender
Asistants	Dr n. med. K. Balawender - lectures Lek. Anna Pliszka

* - According to the resolutions of the Faculty of Medicine

1.2. Forms of classes, number of hours and ECTS

Lecture	Exercise	Conversation	Laboratory	Seminar	ZP	Practical	Self-learning	Number of points ECTS
30	45	-	-	25	-	-	15	11

1.3. The form of class activities

classes are in the traditional form

classes are implemented using methods and techniques of distance learning

1.4. Examination Forms / module (exam, credit with grade or credit without grade)

2. REQUIREMENTS

Knowledge about the structure and functioning of the human body at the high school level.

3. OBJECTIVES, OUTCOMES, AND PROGRAM CONTENT USED IN TEACHING METHODS

3.1. Objectives of this course/module

C1	Understanding the detailed anatomical structure of the human body based on descriptive anatomy, which divides the human body into particular systems considered in sequence: bone, muscle, digestive, respiratory, urogenital, internal, vascular, nervous, common and sensory organs.
C2	Understanding correct human body structure, determines the functions of organs, systems and the organism as a whole. Dynamic development of imaging techniques of human body structures; radiology, computed tomography, magnetic resonance imaging and others that enable the visualization of structures and the interpretation of topographical relations between them, requires knowledge of normal anatomy. The student of the medical faculty, having knowledge in all the above-mentioned areas, acquires the ability to interpret the construction of the living subject to a degree that enables understanding of clinical issues and is prepared to the extent necessary to expand it in subsequent years of study and informed practical medical practice.

3.2 Outcomes for the course / module (to be completed by the coordinator)

EK (the effect of education)	The content of learning outcomes defined for the class (module)	Reference to directional effects (KEK)
EK_01	He knows anatomical appointments in Polish and English.	A.W1
EK_02	Knows the structure of the human body in the topographical aspect.	AW2
EK_03	Has detailed knowledge of the structure of the macroscopic organs of the circulatory system, respiratory system, digestive system, urinary system, genital system, sensory organs and the shell of the common body.	A.W2
EK_04	Knowledge of the structure and structural-functional correlation of the osteoarticular and muscular system.	A.W2
EK_05	Describes topographical relations between individual organs knows basic functional systems, their specialization, connections and symptoms of damage.	A.W3
EK_06	Can explain the anatomical basis of the physical examination (the site of the valves and points of their auscultation, the boundaries of the lungs and the pleura, the pupillary reflex).	A.U3
EK_07	Defines, recognizes and indicates relations between anatomical structures in the documentation of life-long imaging of structures, especially in the field of radiology and imaging diagnostics.	A.U4
EK_08	Uses in speech and writing anatomical appointment.	A.U5

3.3 Content curriculum (filled by the coordinator)

A. Lectures

Problems of the lecture

Lecture 1

Organization of anatomy classes. Practical classes, rules during anatomy labs.

Rules for passing exercises, tests, practical applications and tests, textbooks

Basic anatomical concept; axes, body surfaces, surfaces, body areas.

Lecture 2

Bone structure. Bone connections. Bone remaining. Upper limb and its joints.

Lecture 3

Muscle tissue division. Muscles of the upper limb girdle. Axillary fossa and axillary cavity. Vessels and nerves of upper limb. Arm muscles. Shoulder and arm Area.

Lecture 4

Muscles of the forearm and hand. Antecubital fossa. Vessels and nerves of the forearm. Hand muscles. Brachial plexus.

Lecture 5

Lower limb bones. Lower limb articulations. Lower limb girdle muscles. Lumbar plexus. Sacral plexus.

Lecture 6

Hamstrings. Shin muscles. Anatomy of the popliteal fossa. Vascularization of the lower limb.

Lecture 7

Short feet muscles. Innervation of lower limb. Clinical aspects of foot anatomy.

Lecture 8

Spine and chest bones. Muscles, fascias of the chest and back. Vascularization and innervation of the chest wall.

Lecture 9

Trachea and bronchi. Lungs. Pleura. Mediastinum. Diaphragm.

Lecture 10

Anatomy and embryological development of the heart. Vessels and innervation of the heart. Pericardium. Fetal circulation. Radiological anatomy of the chest.

Lecture 11

Muscles and triangles of the neck. Cervical plexus. Thyroid gland. Vessels and nerves of the neck. Larynx.

Lecture 12

Surgical anatomy of the anterior abdominal wall. Peritoneum. Stomach, duodenum, jejunum and ileum. Large intestine.

Lecture 13

Liver, bile ducts, spleen, pancreas. Main vessels of the abdominal cavity. Innervation of the abdominal organs.

Lecture 14

Kidneys, ureter, urinary bladder. Lesser pelvis – topographic relations, vessels and nerves.

Lecture 15

Male internal and external genital organs. Internal and external female genital organs.

Test from the lectures - date to establish with lecturer

B. Problems of exercises

UPPER AND LOWER LIMB

1. Introduction to anatomy. Books and atlases presentation. Tips for studying. Student should prepare for 1st exercise from following anatomical structures and being able to differentiate anatomical structures on specimens:

Shoulder (Pectoral) girdle. Scapula and clavicle. Free part of upper limb. Humerus. Forearm bones: ulna and radius. Bones of hand: carpal bones (wrist), metacarpal bones I-V, phalanges of fingers. Student should know anatomy structures of each bone.

2. Joints of shoulder girdle: sternoclavicular joint and acromioclavicular joint (articular surfaces, joint (articular) capsule, ligaments, range of movements). Joints of free part of upper limb. Glenohumeral (shoulder) joint: articular surfaces, articular capsule, glenoid labrum, ligaments, range of movements). Elbow joint: humero-ulnar joint, humero-radial joint, proximal radio-ulnar joint (surfaces, capsule, ligaments, movements). Interosseous membrane of forearm. Distal radio-ulnar joint, radiocarpal joint (surfaces, articular disc, movements). Joints of hand: metacarpal articulations, intermetacarpal joints, metacarpophalangeal joints, interphalangeal joints (surfaces and types of movements). Student should know the type of the joint and name articular surfaces.

X-ray anatomy of the bones and joints of the upper limb.

3. Muscles of shoulder girdle: supraspinatus muscle, infraspinatus muscle, teres minor muscle, teres major muscle, subscapularis muscle, deltoid muscle- origin and insertion, innervation, function. Muscles of thorax (chest) and muscles of back attached to the upper limb: trapezius muscle, latissimus dorsi muscle, levator scapulae muscle, rhomboideus major and minor muscles, serratus posterior superior and inferior muscles, serratus anterior muscle, pectoralis major and minor muscles, subclavius muscle.

Student should know the origin, insertion, innervation, and effect on limb's movements of EVERY MUSCLE in the human body.

Axilla and axillary cavity: boundaries: axillary inlet, floor, anterior, posterior, medial and lateral wall. Contents of the axilla.

Quadrangular and triangular space – content and boundaries.

4. Spinal nerve – definition, branches, origin.

Brachial plexus - definition, topography, trunks, cords, branches. Short branches of plexus. Long branches of the brachial plexus with range of innervation. Cutaneous nerves. Student must pay special attention to axillary, median, ulnar, radial, and musculocutaneous nerve – learn range of innervation, course, and the EFFECT OF INJURY/ PARALYSIS.

Skin innervation of upper limb.

Brachial regions, brachial fascia, medial and lateral intermuscular septum. Muscle compartments of arm.

Anterior group of brachial muscles: biceps brachii muscle, coracobrachialis muscle, brachialis muscle (origin, insertion, innervation, function).

Posterior group of brachial muscles: triceps brachii.

Student should know the origin, insertion, innervation, and effect on limb's movements of EVERY MUSCLE in the human body.

5. Antebrachial fascia, intermuscular septa. Anterior compartment of the forearm: muscles in the superficial flexor compartment: pronator teres, flexor carpi radialis, palmaris longus, flexor digitorum superficialis and flexor carpi ulnaris; muscles in the deep flexor compartment: flexor digitorum profundus, flexor pollicis longus and pronator quadratus.

Posterior compartment of the forearm: superficial layer: extensor carpi radialis brevis, extensor digitorum, extensor carpi ulnaris and extensor digiti minimi; deep layer: supinator, abductor pollicis longus, extensor pollicis brevis, extensor pollicis longus and extensor indicis.

Intrinsic muscles of the hand: palmaris brevis, interosseous, adductor pollicis, (thumb adductor), thenar, hypothenar and lumbrical muscles.

Student should know the origin, insertion, innervation, and effect on limb's movements of EVERY MUSCLE in the human body.

6. Superficial and deep veins of the upper limb – topography.

Arteries of the upper limb - subclavian, brachial, radial and ulnar artery - topography, branches. Ulnar artery and superficial palmar arch. Radial artery and deep palmar arch
Cubital fossa – boundaries and content.

Flexor retinaculum (transverse carpal ligament) - boundaries, content.

Extensor retinaculum - boundaries, content.

Carpal tunnel: limitations, content.

Guyon's canal - boundaries, content.

Anatomical "snuffbox" – boundaries, content.

Palmar aponeurosis.

Upper limb's nerves: median, ulnar, and radial – revision.

TRIAL PIN TEST from upper limb

7. Pelvic girdle.

Hip bone: ilium, ischium, pubis.

Bones of free part of the lower limb: femur, tibia, fibula, patella. Bones of foot: tarsal bones, metatarsal bones, phalanges of toes. Student should know anatomy structures of each bone.

X-ray anatomy of bones and joints of the lower limb.

Joints of pelvic girdle: sacro-iliac joint, pubic symphysis. Joints of free part of lower limb: hip joint (surfaces, capsule, ligaments, range of movements), knee joint (surfaces, capsule, ligaments, range of movements). Ankle (talo-crural) joint. Intertarsal joints - surfaces, range of movements. Transverse tarsal (midtarsal) joint. Tarsometatarsal and intermetatarsal joints. Metatarsophalangeal and interphalangeal joints. Interosseous membrane of leg. Arches of the foot: longitudinal and transverse. Plantar aponeurosis.

8. Muscles of pelvic girdle - attachment, function, innervation. Student should know the origin, insertion, innervation, and effect on limb's movements of EVERY MUSCLE in the human body.

Iliac fascia. Obturator foramen, obturator canal, greater and lesser sciatic foramen, common lacuna: vascular lacuna and muscular lacuna, pudendal (Alcock's) canal, popliteal fossa, ankle tarsal tunnel – boundaries, content.

Lumbar plexus. Sacral plexus. – branches, origin of each branch, range of innervation, topography, effect of injury/paralysis.

Cutaneous innervation of the lower limb.

External and internal iliac artery - branches.

Corona mortis – definition.

9. Medial and lateral intermuscular septum of the thigh.

Anterior compartment of the thigh: sartorius, quadriceps femoris muscle: rectus femoris, vastus lateralis, vastus intermedius, vastus medialis - origin and insertion, function, innervation.

Medial compartment of the thigh: gracilis, pectineus, adductor longus, adductor brevis, adductor magnus and obturator externus.

Posterior compartment of the thigh: biceps femoris, semitendinosus, semimembranosus - attachment, function, innervation.

Student should know the origin, insertion, innervation, and effect on limb's movements of EVERY MUSCLE in the human body.

Fascia lata. Iliotibial tract.

Greater and lesser sciatic foramen. Foramen above and below the piriformis - limits, content.

Femoral triangle: boundaries, content.

Femoral canal, femoral ring, adductor canal /of Hunter/- limits, content.

Saphenous opening, cribriform fascia.

Femoral hernia – basic pathophysiology.

10. Anterior and posterior intermuscular septum of leg. Anterior compartment of the leg: tibialis anterior, extensor digitorum longus, fibularis (peroneus) tertius, extensor hallucis longus muscles - attachments, function, innervation.

Lateral compartment of the leg: fibularis (peroneus) longus, fibularis (peroneus) brevis - attachment, function, innervation.

Posterior compartment of the leg: superficial layer - gastrocnemius, soleus, plantaris muscles, deep posterior compartment of the leg - popliteus, flexor hallucis longus, flexor digitorum longus, tibialis posterior muscles.

Student should know the origin, insertion, innervation, and effect on limb's movements of EVERY MUSCLE in the human body.

Popliteal fossa, ankle tarsal tunnel – boundaries, content.

Retinacula: flexor retinaculum, superior and inferior extensor retinacula - boundaries, content.

Topography and range innervation of the tibial and common peroneal (fibular) nerves – revision.

Cutaneous innervation of the lower limb.

11. Short muscles of the foot: the dorsal and plantar muscles of the foot. Dorsal foot muscles: extensor digitorum brevis, extensor hallucis brevis. Plantar foot muscles: medial and lateral eminence muscles, middle plantar muscles.

Femoral artery - topography, branches, accompanying veins. Popliteal artery - course, division. Anterior and posterior tibial arteries - the course, branches.

Vascular network of the knee joint.

The system of superficial and deep veins of the lower limb - practical remarks.

Anatomy of a living person: viewing and palpation bone points, muscles and tendons on the lower limb, pulse tests of typical places.

12. 1st PIN TEST FROM UPPER AND LOWER LIMB during exercise

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Attention: 1st WRITING TEST (FROM UPPER AND LOWER LIMB) – other date to establish with teacher

THORAX

13. Orientation lines and regions of thorax. General construction of the spine (division into segments, curvature, spinal canal) Spine function. Structure of the vertebrae. Differences in the structure of the vertebrae in individual segments of vertebral column. Joints of vertebral column: syndesmoses, synchondroses, synovial joints. Structure and function of the intervertebral disc. Characteristics of the ribs. Sternum – parts and morphology. Connection of ribs with a sternum and vertebral column. General structure, shape variability and mechanics of thoracic cage. Human anatomy- defining bone points of the thorax (cervical incision and xiphoid process, rib arch, subcostal angle, spinous processes of the vertebrae).

Ribs counting.

X-ray anatomy of the bones of the spine and chest.

14. Muscles of thoracic wall: pectoralis major, pectoralis minor, subclavius, serratus anterior.

The mammary gland – structure. Drainage routes of the lymph from the gland.

Intercostal muscles and innermost layer.

Topography of the neurovascular cord in the intercostal space.

Place of the pleural drainage.

Dorsum - orientation lines and regions. Muscles of the back superficial - trapezius, latissimus dorsi, rhomboid major and minor, levator scapulae, serratus posterior superior and inferior. Erector spinae.

Student should know the origin, insertion, innervation, and effect on limb's movements of EVERY MUSCLE in the human body.

15. Ascending aorta and aortic arch with branches.

Branches of the subclavian artery (vertebral artery, internal thoracic artery, costocervical trunk, thyrocervical trunk with their branches).

Vascularization of the chest walls. Thoracic aortic wall/ parietal/ branches (posterior intercostal arteries, superior phrenic arteries, subcostal arteries).

Venous outflow from the thoracic walls. Veins of thorax – superior vena cava, brachiocephalic veins. Azygos vein, hemiazygos vein, accessory hemiazygos vein.

Phrenic nerves – topography and origin, course, range of innervation.

Vagal nerves – origin, topography, and function in chest.

Innervation of thoracic wall. Intercostal nerves – origin, course.

Brachial plexus - supraclavicular part – definition.

Diaphragm - definition, parts of the diaphragm, origin, insetion Diaphragm openings with their spinal levels and contents.

Diaphragmatic hernia (Bochdalek's vs. Morgagni's).

16. Mediastinum – division (anterior, posterior, middle) and contents of each.
Pleura - definition, division, function.
Pulmonary ligament, mesentery of the lung, pleural recesses.
Pleural vascularization and innervation.
Trachea - definition, topographical relations, tracheal wall construction.
Tracheal bifurcation and the difference between the right and left main bronchi.
Tracheal vascularization and innervation.
Lungs - topographical relations, general structure.
Pulmonary function (ventilation of the lungs, diffusion of gases through alveolar-capillary barrier).
Division of intrapulmonary bronchial tree. Terminal and respiratory bronchioles.
Broncho-pulmonary segments. Structure of the lung parenchyma – lobes, segments, pulmonary acini. Functional and nutritional vascularization of lung – student should know the difference.
Pulmonary innervation.
Lung lymphatic system.
Mechanics of breathing and types of breathing.
Thymus - structure, topographic relations, function.

17. Heart - topographic relations in the chest (location, shape, fixation).
General terms of the heart: base, apex, surfaces.
The heart wall: endocardium, myocardium, epicardium.
Pericardium - definition, division (pericardial sinuses),
Right and left atrium, right and left ventricles.
Coronary groove, anterior and posterior interventricular sulcus.
Heart valves – structure and function. Auscultation sites of the heart valves.
Coronary arteries – topography, origin, main branches.
Conducting system.
Heart innervation. The influence of the autonomic nervous system on myocardial function and the conductive system.
CT-scans, angio-CT and MRI of chest.

18. 2nd PIN TEST FROM THORAX during exercise

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Attention: 2st WRITING TEST (FROM UPPER AND LOWER LIMB) – other date to establish with teacher

ABDOMEN & PELVIS

19. Abdominal regions. Lines and planes dividing of the abdomen.

Anterolateral abdominal wall (fascia, muscles, nerves, vessels).

Superficial fascia of abdomen: Camper's and Scarpa's fascia.

Deep fascia.

Abdominal wall - layers.

Abdominal muscles - attachments, innervation, vascularization, activity.

Structure of the rectus abdominis muscle sheath above and below the arcuate line and its contents.

The internal surface of the anterior abdominal wall – arcuate line, median, medial and lateral umbilical folds – with contents.

Supravesical fossa, medial inguinal fossa, lateral inguinal fossa.

20. Pelvis – bones and anatomical their structures.

Sacroiliac and sacrococcygeal joints – revision.

Pubic symphysis.

Pelvic ligaments.

The inguinal canal – boundaries of inguinal rings (superficial and deep), walls, course, and contents of the canal.

Places of reduced resistance of the abdominal wall.

Concept of a hernia.

Abdominal hernia – types (inguinal, umbilical, epigastric, incisional), moreover student should anatomical relations in straight and oblique inguinal hernia.

Lanz' point, McBurney's point – topography, function in appendicitis procedure incision.

21. Peritoneum – layers, parietal vs. visceral peritoneum, functions.

Peritoneal cavity, peritoneal recesses (student must pay special attention to topography of Morrison's and Douglas' recess)

Intraperitoneal and primary extraperitoneal, secondary extraperitoneal position of organs.

Omental bursa - location and restrictions: omental /epiploic/ foramen, omental recesses, organs adhering to them.

Greater omentum: gastrophrenic, gastrocolic, gastrosplenic ligaments – with contents.

Mesentery – definition.

22. Gastrointestinal (GI) tract walls - layers, innervation (Auerbach's and Meissner's plexus).

Gastrointestinal tract parts with main functions

Esophagus – topography in chest and abdomen, division into parts, innervation (with topography of vagal nerves in relation to the esophagus), vascularization.

Stomach – parts, anatomical structures of internal and external surface. Vascularization. Structure and activity of the pylorus.

Duodenum – parts, anatomical structures of internal and external surface. Major and minor duodenal papilla. Vascularization.

Jejunum and ileum - location of the course, parts. Vascularization.

Differences between jejunum and ileum.

Meckel diverticulum - location, practical importance, “rule of 2’s”.

Colon (caecum, ascending, transverse, descending, sigmoidal, rectum) - location, function, vascularization, attitude to the peritoneum. Vascularization.

Appendix – function, location variants, appendicitis signs (Blumberg’s, Jaworski’s, Rovsing’s). Vascularization.

23. Rectum: internal and external surfaces’ anatomical structures: flexures, folds, ampulla, anorectal junction, columns, pectinate line, anal pecten, anocutaneous line. Innervations (sympathetic vs. parasympathetic). External vs. internal venous rectal plexus. Hemorrhoids formation - etiology. Arterial vascularization – plexuses and their origins. X-ray, CT-scans and MRI of abdomen targeted at GI tract.

24. Liver – function, surfaces, location, external structure, division into lobes and segments.

Liver hilum structures and their topography.

Bile - origin, physiological significance.

Diaphragmatic surface: impressions, bare area, triangular ligaments, round ligament, falciform

Structures on the visceral surface: groove for vena cava, fissure for venous ligament, fossa for gallbladder, fissure for ligament teres / round ligament/.

Extra- and intrahepatic bile ducts and their topography.

Gallbladder – parts, external structure, location, function.

Common bile duct; sphincter of bile duct, hepatopancreatic ampulla /of Vater/, sphincter of ampulla /of Oddi/.

Pancreas - position, division into parts, function.

Pancreatic ducts (Wirsung's and Santorini's) and their topography.

Spleen - position, internal and external structure, ligaments, function.

Vascularization of liver, bile duct, pancreas and spleen.

25. Vascularization of abdominal organs (esophagus, stomach, small and large intestines, colon, rectum, liver, pancreas, spleen, bile duct) - revision

Abdominal aorta - location, branches and their topography.

Branches of celiac trunk.

Inferior vena cava - the tributaries, the areas from which it collects the blood.

Formation and topography of the portal vein.

Portal circulation in the abdominal cavity and its physiological significance.

Portal hypertension – definition, pathophysiology, collateral circulation; esophagus, renal, rectal and retroperitoneal circulation.

Darmond's arches, Riolan's arch, Hunter's arch.

Remnants of fetal circulation in the abdominal cavity (ligamentum arteriosum, lig. venosum, lig. teres hepatis) – student must know from which fetal structures they form.

The autonomic nervous system – the physiology of the sympathetic and parasympathetic parts in relation to the organs of the digestive tract.

Sympathetic and parasympathetic innervation of GI tract.

26. Retroperitoneal space – boundaries and general contents.

Kidney – function, right vs. left kidney's position in relation to spinal vertebrae.

Renal fascia, perirenal fat capsule, capsule of kidney. Gerota's fascia – definition.

Renal hilum – content.

Differences between right and left kidney.

Structure in the frontal section: lobes, segments- superior, anterior superior, anterior inferior, inferior, posterior.

Renal cortex - columns. Renal medulla – pyramids.

Renal vascularization: renal arteries, interlobar arteries, arcuate arteries, interlobular arteries, afferent and efferent glomerular arteriole, straight arterioles.

Adrenal glands - location, external structure, function.

Urine outflow route: major and minor calices, renal pelvis.

Ureter – abdominal, pelvic, intramural parts of ureter and their course. Innervation and

vascularization.

Urinary bladder - external structure, relation to the peritoneum. Parts of the bladder: apex, body, fundus, of urinary bladder. The structure of the bladder mucosa - trigone of urinary bladder. Vascularization and innervation of the bladder.

Urethra - the course, the difference in the structure of the male and female urethra.

Innervation.

27. Perineum – urogenital triangle, anal triangle - boundaries.

Colles' fascia.

Pelvic diaphragm, urogenital diaphragm - parts, structure, importance.

Internal iliac artery - visceral and parietal branches.

Corona mortis – definition.

Lumbar plexus, sacral plexus - revision.

The pudendal nerve - topography and range of innervation.

Pudendal canal – revision.

Ischiorectal fossa.

28. Scrotum – layers (skin, superficial “Dartos” fascia, external spermatic fascia, cremaster muscle, internal spermatic fascia, and tunica vaginalis), cutaneous innervation. Cremaster muscle – function, innervation, origin.
Testes – functions, structure, tunica albuginea, descending process.
Epididymis - structure, function, parts.
Ductus deferens - structure, function, parts, innervation, vascularization. Ductus deferens’ position in relation to ureters
Spermatic cord – CONTENTS, course.
Prostate gland – position in relation to bladder, structure, detailed topographic relations, vascularization, innervation.
Seminal vesicles - position in relation to prostate, functions.
Penis - external and internal structure, vascularization, and innervation.
Erection and ejaculation mechanism.
Urethra - the course, division into prostatic, membranous, spongy parts, vascularization, and innervation.

29. Ovary – location, ligaments, vascularization, function.
Uterus: body, fundus, cavity, isthmus, cervix, cervical canal.
Position of the uterus.
Uterine ligaments.
Endometrium, myometrium, perimetrium, parametrium – definitions.
Uterine (fallopian) tube - division into parts, walls, vascularization.
Vascularization of female genital organs.
Female pudendum, vestibule of the vagina and lesser and greater vestibular (Bartholin’s) gland, urethral meatus, clitoris, labia majora and minora, hymen, vaginal rugae.
Female urethra.
Anatomy of insemination and fertilization.
Ectopic pregnancy – definition.
Heterotopic pregnancy – definition.

30. 3rd PIN TEST FROM ABDOMEN & PELVIS during exercise

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Attention: 3rd WRITING TEST (FROM ABDOMEN & PELVIS) – other date to establish with teacher

3.4 TEACHING METHODS

Communicative methods.

Lecture: lectures with multimedia presentation, providing students with in-depth scientific knowledge in the field of anatomy, solving research problems.

Seminars / seminars: discussion, preparation of a research problem and research methodology based on scientific publications, searching and collecting literature data on the basis of scientific publications, work with databases, development of experimental results, statistical analysis, formulation and analysis of applications, participation in writing a scientific publication and preparing a congress message.

Observation-based methods: demonstration, multimedia presentation.

Methods based on the practical activity of students: practical classes in the dissecting room.

Methods of intra-articular imaging of anatomical structures: X-ray, CT, NMR

Teaching aids: a virtual anatomical table, anatomical models, boards, didactic films.

4 METHODS AND EVALUATION CRITERIA

4.1 Methods of verification of learning outcomes

Symbol of effect	Methods of assessment of learning outcomes (Eg.: tests, oral exams, written exams, project reports, observations during classes)	Form of classes
EK_01	Observation during classes	Prosective exercises, seminars
EK_02	Colloquium, exam	Exercises, lectures
EK_03	Colloquium, practical exam, test exam	Exercises, seminars,
EK_04	Observation during classes, colloquium, test exam	Lectures, exercises, seminars
EK_05	Colloquium, exam	exercises, seminars
EK_06	Observation during the course of the prosector classes, colloquium, exam	Lectures, exercises, seminars
EK_07	Colloquium, practical exam	exercises,
EK_08	Observation during the course of the prosector classes, practical exam, test exam	Prosective exercises, seminars

4.2 Conditions for completing the course (evaluation criteria)

The condition of passing the course is to achieve all the results of the training, in particular, to lectures - written test (MCQ test), verified learning outcomes: EK_02, EK_03, EK_04, EK_06,

Exercises - credit with an assessment including:

- attendance
- activity on exercises

- grades from partial tests
- observation of the student's work and attitudes. Verified learning outcomes EK_01- EK_08, seminars - credit including:
- attendance
- student activity

Verified learning outcomes EK_01, EK_03, EK_04, EK_05, EK_08,

Exercises and seminars

1. systematic, full participation in the exercises
2. colloquia during the year with the assessment from the next sections of the anatomy in a topographical view.
3. test with single-choice and / or open problem questions

Knowledge assessment, verified learning outcomes:

Written test

- 5.0 - has knowledge of each of the contents of education at the level of 92% -100%
- 4.5 - has knowledge of each of the content of education at the level of 84% -92%
- 4.0 - has knowledge of each of the content of education at the level of 76% -84%
- 3.5 - has knowledge of each of the content of education at the level of 68% -76%
- 3.0 - has knowledge of each of the content of education at the level of 60% -68%
- 2.0 - has knowledge of each of the contents of education below 60%

Assessment of skills, verified learning outcomes:

- 5.0 - the student actively participates in classes, recognizes and is able to correctly name individual anatomical units on phantoms and in the human body; can relate knowledge of the detailed human anatomy, especially in the area of the musculoskeletal system and the nervous system with the function and tasks of individual organs.
- 4.5 - the student actively participates in the classes, with little help from the teacher he recognizes and is able to properly name individual anatomical units on phantoms and in the human body; can relate knowledge of the detailed human anatomy, especially in the area of the musculoskeletal system and the nervous system with the function and tasks of individual organs.
- 4.0 - the student actively participates in classes, with minor corrections of the teacher, commits minor mistakes, recognizes and is able to properly name individual anatomical units on phantoms and in the human body; can relate knowledge of the detailed human anatomy, especially in the area of the musculoskeletal system and the nervous system with the function and tasks of individual organs.
- 3.5 - the student participates in activities with corrections and teacher's instructions recognizes and is able to properly name individual anatomical units on phantoms and in the human body; can relate knowledge of the detailed human anatomy, especially in the area of the musculoskeletal system and the nervous system with the function and tasks of individual organs.
- 3.0 - the student participates in classes, with numerous corrections and instructions from the teacher, but commits minor mistakes and recognizes and correctly names individual anatomical units on phantoms and in the human body; can relate knowledge of the detailed human anatomy, especially in the area of the musculoskeletal system and the nervous system with the function and tasks of individual organs.
- 2.0 - the student passively participates in classes, commits blatant errors in the diagnosis and proper naming of anatomical units, and can not link knowledge of the detailed human anatomical structure with the function and tasks of individual organs.

Knowledge evaluation, verified learning outcomes: EK_01-EK_05

Assessment of skills, verified learning outcomes: EK_06-EK_08

5. TOTAL STUDENT WORKLOAD REQUIRED TO ACHIEVE THE DESIRED RESULT IN HOURS AND ECTS CREDITS

Activity	Hours / student work
Hours of classes according to plan with the teacher /e-learning	100
Preparation for classes	85
Participation in the consultations	2
Preparation for tests	90
Participation in colloquia	6
SUM OF HOURS	283
TOTAL NUMBER OF ECTS	11

6. TRAINING PRACTICES IN THE SUBJECT / MODUL

Number of hours	---
Rules and forms of apprenticeship	---

7. LITERATURE

Obligatory sources:

1. **Textbook of Anatomy (Volume 1,2,and 3 Set); 4th Edition 2023; V. Singh**
2. **Photographic Atlas of Anatomy, edition 2021 or previous, C. Yokochi, J. W. Rohen, E. Lutjen-Drecoll or McMinn and Abrahams' Clinical Atlas of Human Anatomy**
3. **Sobotta Atlas of Anatomy; F. Paulsen, J Waschke or Atlas of Human Anatomy; F. H. Netter**
4. **Weir & Abrahams Imaging Atlas of Human Anatomy, 2020 edition or previous**

STUDENTS ARE ALLOWED TO HAVE ONLY PAPER ATLASES DURING ANATOMY EXERCISES (NOT ON ELECTRONIC DEVICES WHICH ARE BANNED IN PROSECTORY ROOMS) DUE TO RESPECT ISSUES FOR PEOPLE WHO DECIDED TO GIVE THEIR BODIES FOR ANATOMY STUDYING PURPOSES.

Additional literature:

1. Gray's Anatomy: The Anatomical Basis of Clinical Practice; S. Standring
2. McMinn's Clinical Atlas of Human Anatomy, 6th edition; Peter Abrahams, Johannes Boon, Jonathan D. Spratt
3. Sobotta anatomy flashcards, Netter anatomy flashcards