

<i>Name of the course</i>	Anatomy			Course code	
<i>Type of study program Cycle</i>	Integrated university study, medicine			Year of study	I.
<i>ECTS points value:</i>	18	<i>Semestar</i>	II.	<i>Number of hours per semester (l+s+p)</i>	210 (60+62+88)
<i>Course status:</i>	Mandatory	<i>Preconditions:</i>	enrolment	<i>Comparative conditions:</i>	
<i>Course attendance:</i>	1 st year medical students			<i>Hours of instructions:</i>	According to the schedule
<i>The course leader</i>	Prof. Katarina Vukojević MD PhD MSc				
<i>Contact hours/consultations:</i>	Upon e-mail confirmed appointment				
<i>E-mail adresa i broj telefona:</i>	katarina.vukojevic@mef.sum.ba				
<i>Teachers and associates</i>	prof. Dragica Bobinac, prof. Ivica Grković, prof. Ana Marušić, assoc. prof. Natalija Filipović, asst prof. Josip Mišković, asst prof. Marko Ostojić, asst prof. Josip Novaković, asst prof. Pejana Rastović, Josip Lesko MD PhD, Zdenka Zovko, dipl. ing. MLD, Mirko Maglica MD, Ilija Perutina MD				
<i>Contact hours/consultations:</i>	Upon e-mail confirmed appointment				
<i>E-mail address and phone number</i>					
<i>The aims of the course</i>	<p>The aims of this course are:</p> <p>To understand the structure of the human body.</p> <p>To enable students to acquire knowledge about the structure of the human body through systematic and topographic anatomy and thus enable them to understand the normal and pathological morphology of man, the relationship between surface forms and deeper structures and the relationship of these structures as a framework for life processes.</p> <p>Clinical importance of individual regions and coping in spatial orientation within the human body.</p> <p>Master in detail the systematic, functional and topographic anatomy of all regions, as well as the functional anatomy of the locomotor system, cardiovascular, respiratory, digestive, urinary and sexual systems and peripheral nervous system, including the basics of organization of major motor and sensory systems.</p> <p>Systemic anatomy: features of organs, their blood supply and innervation. According to this approach, organs are grouped according to a common function. The emphasis is on general anatomical principles important for understanding the structure and function of the human body.</p> <p>Topographic anatomy: characteristics of organs with regard to their location and interrelationship with surrounding structures (position in the body). All organs belong to a body system and a specific anatomical region.</p>				

<p><i>Learning outcomes</i></p>	<p>Upon completion of the anatomy course, the successful student should acquire the following knowledge, skills and attitudes:</p> <p>A) Knowledge (REMEMBER, UNDERSTAND, APPLY, ANALYSE AND EVALUATE) measurable outcomes: (1) explain the concepts of anatomical terminology, (2) describe the similarities and distinguish the peculiarities of the structure of individual organs of each of the basic structural groups: a) somatic structures (skin, fascia, bones, joints / joints, muscles ...), b) visceral structures (solid and hollow organs), c) “supply and control structures”; vascular and nervous systems, (3) divide the human body into regions (separated by "anatomical boundaries"), describe the content of regions and assemble anatomical structures (tissues and organs) with regard to common functional features in (organic) systems, (4) apply fundamental knowledge of anatomy on specific clinical situations, (5) show projections of clinically relevant anatomical structures on a normal, living body and connect the features of the material with the function of individual anatomical structures (for important movements, activities, reflexes), (6) connect knowledge of anatomy and principles physical examination of the patient, (7) compare representations of anatomical structures with different radiological methods (native radiography, contrast studies, CT, MRI, ultrasound), (8) interpret representations of anatomical structures on cross sections of the body in different heights and directions, (9) recognize and name parts of isolated and / or dissected organs of the body.</p> <p>B) Skills (PERCEPTION, READY, GUIDANCE) measurable outcomes: (1) identify, manipulate, orient, group, disassemble: a) presented anatomical structures and regions of the body (preparations and models), b) surface anatomical landmarks on the body, c) cross-sections and views of isolated and in-situ visceral and somatic structures, d) cross-sections of the human body at various heights and directions. (2) communication skills of daily oral answer to questions about the anatomical features of individual organs / body parts, (3) perform supervised dissection of individual body parts and practice the program provided basic clinical skills (suturing, injections, endotracheal intubation, lumbar puncture, catheterization).</p> <p>C) Attitudes (ACCEPTANCE, REACTION, ACQUISITION OF VALUES) measurable outcomes: (1) take into account the existence of differences in the “normality” of the human body (variations in structure) with regard to age, sex, physique and body position, respiratory stages, pregnancy, 2) accept the existence of anatomical anomalies and differences in relation to textbook descriptions of the so-called. "Standardized body", (3) adapt to practical work with a dead human body and evaluate the importance of the donation program in anatomy, (4) agree to and adapt to the needs of teamwork in small groups in practical classes, and raise awareness of the need for continuous independent and group working on "maintaining" knowledge and understanding of body structure for the future of studies and professional careers.</p>
<p><i>Content of the syllabus/ performance plan (in short)</i></p>	<p>Systemic anatomy: characteristics of organs, their blood supply and innervation. In a systematic approach, organs are grouped according to common function. Special emphasis in teaching is on general</p>

	<p>anatomical principles important for understanding the structure and function of the human body.</p> <p>Topographic anatomy: characteristics of organs with respect to their location and interrelationship with surrounding structures. According to the topographic access organs are grouped according to location ie position in the body.</p> <p>In practice, all the organs in the body belong to some anatomical region and some body system. Teaching units are organized to deal with the topographic regions of the head, neck, upper limbs, trunk and lower limbs</p>			
Format of instruction (mark in bold)	lectures	practicals	seminars	independent assignments
	Consultations	Mentorship	Field work	Other
Student responsibilities	<p>Students are required to come to class accurately and on time. For any absence the student is obliged to compensate with a colloquium, and the delay in classes will be treated as non-attendance. The colloquium is a short oral examination in which the student shows that he has mastered the basics of the material. Colloquium pass is a condition for taking the partial exam.</p> <p>It is obligatory to have a clean and neatly ironed white coat during the practicals. Students with long hair are required to tie their hair in a ponytail. Nails should be neatly trimmed. Students are required to prepare material in advance for each day.</p>			
Student monitoring and evaluation (mark in bold)	Class attendance	Class activities	Seminars	Practical work
	Oral exam	Written exam	Continuous assessment of knowledge	Essay
Detailed review of grading within the European Credit Transfer System				
STUDENT OBLIGATIONS	HOURS (ESTIMATION)	PORTION OF ECTS	PORTION IN GRADE	
Class attendance and engagement	(60+88+62) =210	7,0	0%	
Practical work	50	1,7	20%	
Colloquium or written exam	180	6,0	50%	
Oral exam	100	3,3	30%	
TOTAL	540	18		
<p>Additional clarifications:</p> <p>The anatomy exam consists of three parts: written, practical and oral.</p> <p>Two partial written exams will be held during classes. The first partial exam consists of 50 questions and the second partial exam consists of 100 multiple-choice questions. Each correct question brings one point.</p> <p>Also, during classes, students will do quizzes every day. Quizzes are not graded (only pass / fail is recorded), and depending on the success, the student can get up to three additional points on each partial exam, which are added together with the correct answers.</p>				

Based on the total number of points (correct answers from the partial exam + additional points), partial exams are graded as follows:

The written exam is graded as follows:

less than 60% correct answers = insufficient (1)

from 61% to 70% = sufficient (2)

from 71% to 80% = good (3)

from 81% to 90% = very good (4)

from 91% to 100% = excellent (5)

Once passed, the partial exam is valid for the entire academic year and that part of the material will not have to be taken again in writing.

After passing the written part, a practical exam follows. At the practical exam, 25 anatomical structures on the preparations will be marked. All types of preparations can be considered - human plasticized, plastic models as well as donor bodies. To pass the practical part, the student must correctly name and write at least 18 marked structures.

Less than 18 points = insufficient 1

18-19 points = sufficient 2

20-21 points = good 3

22-23 points = very good 4

24-25 points = excellent 5

After passing the practical exam, the oral part follows. At the oral exam, the student draws 7 cards with questions that are divided into the same number of categories. The student should orally demonstrate basic knowledge from all parts of the material he has extracted in order for his answer to be considered satisfactory.

The final grade is calculated based on the weight. The written exam carries 50% of the grade, the practical exam carries 20% of the grade, and the oral exam carries 30% of the grade.

During the exam deadlines, students who have not passed some of the partial exams must first pass the written part of the exam that did not pass on the partial exams. After passing the complete written exam, the student takes the practical exam, and after passing the practical exam, he takes the oral part of the exam.

<i>Required Literature:</i>	Drake, Vogl, Mitchell: Gray's Anatomy for Students. Elsevier, Churchill Livingstone, fourth edition, 2019 or newer versions upon availability F. Netter: Atlas of Human Anatomy. Elsevier - Health Sciences Division. Any edition.
<i>Optional literature:</i>	K. Moore: Clinically Oriented Anatomy. Lippincott Williams & Wilkins, sixth edition, 2010. or newer versions upon availability J. Sobotta: Atlas of Human Anatomy. Urban & Schwarzenberg. Any edition
<i>Additional information on the course:</i>	Student Survey Analysis of the quality of teaching by students and teachers Passage analysis on exams Report of the Office for Quality of Teaching Out-of-institutional Evaluation (visit of the Quality control teams)

Annexes: class calendar

<i>Broj nastavne jedinice</i>	TOPICS AND LITERATURE
<i>I.</i>	Title: UNIT 1: BONES AND JOINTS OF TRUNK Short description: Spine: number, division and basic parts of vertebrae characteristics of individual groups of vertebrae Sacrum and occipital bone

	<p>Promontory Articulatio atlantooccipitalis Atlantoaxial joint Characteristics of joint mechanics among articular extensions in each group of vertebrae Joints between vertebral bodies (intervertebral disc) Ligaments of the spine and a description of the movement of the spine as a whole Ribs: number, division and general appearance of ribs characteristics of individual groups of ribs three types of rib curling Costovertebral articulation Joint of ribs with sternum Sternum Clinical anatomy: spinal fractures intervertebral disc prolapse</p>
II.	<p>Literature: required and additional</p> <p>Title: UNIT 2: BONES AND JOINTS OF THE UPPER LIMB - SHOULDERS AND SHOULDER GIRDLE</p> <p>Short description: Scapula Clavicle Humerus Sternoclavicular joint Acromioclavicular joint Glenohumeral joint Syndesmosis coracoclavicularis Clinical anatomy: clavicle fractures fractures of the upper arm dislocation of the shoulder joint</p>
III.	<p>Literature: required and additional</p> <p>Title: UNIT 3: RADIOLOGICAL ANATOMY</p> <p>Short description: Radiography (native and contrast): - method of creation, division and interaction of X-rays - radiological tissue density and radiographic projections - radiogram quality: contrast, sharpness, resolution, magnification and distortion - bones, joints and soft tissues on the radiogram - principles of contrast radiography, types of contrast media - typical examples of hollow viscera, body cavities and blood vessels on contrast radiographs Computed tomography (CT): - method of creating and interpreting CT images - radiological tissue density in CT and projections of various organs Magnetic resonance imaging (MR): - method of creating and interpreting MR images - T1 and T2 time, and proton density of human body tissue Ultrasound: - method of creating and interpreting ultrasound</p>

	<p>- echo-tissue density of the human body and the principles of Doppler technique</p> <p>Endoscopic techniques:</p> <p>- foundations of laparoscopic, intraluminal and intraarticular endoscopic techniques</p>
	Literature: required and additional
IV.	Title: UNIT 4: BONES AND JOINTS OF THE UPPER LIMBS - FOREARMS AND HANDS
	<p>Short description:</p> <p>Ulna</p> <p>Radius</p> <p>Hand bones: carpus (recognition, proximal and distal order as a whole)</p> <p>metacarpus (description and recognition)</p> <p>articles (description and recognition)</p> <p>Elbow joint</p> <p>Hand joint</p> <p>Clinical anatomy: fractures of the radius</p> <p>fractures of the scaphoid bone of the carpus</p> <p>rupture of the annular ligament of the radius</p>
	Literature: required and additional
V.	Title: UNIT 5: BONES AND JOINTS OF THE LOWER LIMBS - PELVIS AND HIP
	<p>Short description:</p> <p>Pelvic bone</p> <p>Pelvic gridle (linea terminalis)</p> <p>Sacroiliac joint</p> <p>Symphysis pubica</p> <p>Femur</p> <p>Hip joint</p> <p>Clinical anatomy: pelvic fractures</p> <p>hip dislocations</p>
	Literature: required and additional
VI.	Title: UNIT 6: BONES AND JOINTS OF LOWER LIMBS - KNEE AND FOOT
	<p>Short description:</p> <p>Patella</p> <p>Tibia</p> <p>Fibula</p> <p>Tarusus (ankle bone, heel bone, recognition of cuboidal, navicular and cuneiform bones)</p> <p>Metatarsus - the bones of the forefoot (description and recognition)</p> <p>joints (description)</p> <p>knee joint</p> <p>Talocrural joint</p> <p>Talocalcaneonavicular joint</p> <p>Clinical anatomy: knee ligament injuries</p> <p>meniscus injuries, foot exarticulation</p>
	Literature: required and additional
VII.	Title: UNIT 7: NEUROCRANIUM

	<p>Short description: Neurocranial bones (occipital, sphenoid, frontal, parietal, temporal bone) Skull sutures and landmarks Skull base and calvary (anterior, middle and posterior cranial fossa) Clinical anatomy: skull base fracture</p> <p>Literature: required and additional</p>
<i>VIII.</i>	<p>Title: UNIT 8: VISCEROCRANIUM</p> <p>Short description: Bones of viscerocranium (ethmoid, lacrimal, zygomatic, nasal, palatine bone, vomer, upper and lower jaw) Oral cavity, nasal cavity, orbit, paranasal sinuses Temporomandibular joint Clinical anatomy: dislocation of the temporomandibular joint</p> <p>Literature: required and additional</p>
<i>IX.</i>	<p>Title: UNIT 9: BASIC DIVISION OF THE NERVOUS SYSTEM</p> <p>Short description: Division of the nervous system Basics of organization and structure of the cerebrum and cerebellum Meninges Ventricular system, cerebrospinal fluid and its secretion</p> <p>Literature: required and additional</p>
<i>X.</i>	<p>Naslov: UNIT 10: SPINAL CORD AND SPINAL NERVES</p> <p>Short description: Basics of the organization of the spinal cord and spinal nerves Spinal cord meninges Autonomic nervous system: sympathetic and parasympathetic Cerebral nerves, ganglia Clinical anatomy: intervertebral disc prolapse</p> <p>Literature: required and additional</p>
<i>XI.</i>	<p>Title: UNIT 11: BRAIN BASE AND CRANIAL NERVES</p> <p>Short description: The base of the brain, the outlets of the cerebral nerves at the base of the brain and the base of the skull Cerebral nerves, ganglia Cranial nerve nuclei and nerve fiber types</p> <p>Literature: required and additional</p>
<i>XII.</i>	<p>Title: UNIT 12: VENTRICULAR SYSTEM AND BLOOD VESSELS</p> <p>Short description: Blood vessels of the brain, spinal cord and their envelopes Ventricular system of the CNS Cerebrospinal fluid (production, circulation, resorption, function) Clinical anatomy: hydrocephalus</p> <p>Literature: required and additional</p>
<i>XIII.</i>	<p>Title: UNIT 13: BASICS OF ANGIOLOGY AND THE HEART</p> <p>Short description: Structure and function of arteries, veins and heart Classification of arteries and veins, arterioles, venules, capillary network</p>

	<p>Organization of blood circulation: The pulmonary and systemic circulation, functional and nutritional blood supply Anastomoses: true, potential, arterio-venous, erectile tissues End-arteries: anatomical and functional Venous flow, valves; vascular, muscular, and thoracic venous pump Foundations of lymph flow, lymph nodes, main lymph ducts Neurovascular supply of vessels: vasa et nervi vasorum Neurovascular supply of the heart: aa. et vv. coronariae, plexus cardiacus Heart incisions Clinical anatomy: consequences of aging on blood vessel walls bleeding and its cessation thrombosis and embolism varicose veins and venous valve insufficiency auscultation points of the heart pericardiocentesis fetal blood circulation Note: The blood vessel needs to be recognized, named, put in contact with the surrounding organs and body cavity / region through which it extends, and is described from proximal to distal (for arteries), ie from distal to proximal (for veins) with indication of branches (ie tributaries) and their irrigation territories We describe the heart as other hollow organs (see splanchnology)</p>
<i>XIV.</i>	<p>Literature: required and additional</p>
	<p>Title: UNIT 14: BASICS OF SPLANCHNOLOGY</p> <p>Short description: Division of visceral organs into hollow and solid (parenchymatous) Layers of the wall of hollow organs and relation to the cavity (lumen), 'beginning' and 'end' of the hollow organ Muscle layers (tunica muscularis) and the role of the sphincter Mucosa and features of 'junction zones' in the body The principle of the structure of solid organs and organizations into lobes, segments, lobules and the relationship to vascular and ductal branching Hilus and vascular segments of solid organs Relationships of visceral organs to serous membranes in the body Endocrine and exocrine glands, similarities and differences Paired and unpaired visceral organs: differences in position, supply and innervation Serous membranes, serous cavities and mesentery Principles of neurovascular supply of visceral organs (double blood flow of some organs) Clinical anatomy: obstruction of hollow organs obstruction (and consequences) of the glandular outflow tract visceral pain torsion of free peritoneal organs</p>
<i>XV.</i>	<p>Literature: required and additional</p>
	<p>Title: UNIT 15: REGIO PAROTIDEOMASSETERICA ET REGIO BUCCALIS</p> <p>Short description:</p>

	<p>Muscles (m. masseter, m. buccinator, m. digastricus, m. stylohyoideus) Fascia (fascia parotidea, fascia masseterica) Parotid gland Blood vessels: a. carotis externa (a. temporalis superficialis) v. retromandibularis, v. temporalis superficialis Nerves and ganglia: n. auriculotemporalis, n. facialis with branches, n. tympanicus, ganglion oticum Lymph nodes of the region Clinical Anatomy: Bell's palsy</p>
	Literature: required and additional
<i>XVI.</i>	Title: UNIT 16: EPICRANIUM ET REGIO TEMPORALIS
	<p>Short description: Epicranium (m. epicranium, m. temporalis, fascia temporalis, layers of the head, blood vessels and nerves of the head, head lymph nodes) Ear (external - ear, external auditory canal and eardrum, middle - walls, auditory ossicles, auditory tube; internal - bone and membrane labyrinth with parts, blood vessels and nerves of the ear) N. vestibulocochlearis Clinical anatomy: otitis media injury n. facialis</p>
	Literature: required and additional
<i>XVII.</i>	Title: UNIT 17: REGIO ORBITALIS
	<p>Short description: Orbit (bone element of the orbit and communication with the surrounding areas of the head) Eyeball (outer eyelid - sclera and cornea, middle eye layer - choroid, ciliary body and iris, inner eyelid - retina with optic nerve, optic apparatus of the eye – humor aqueous, lens, vitreous) Motor apparatus of the eye Blood vessels of the eye (a. and v. ophthalmica) Nerves and ganglia (n. opticus, n. oculomotorius, n. trochlearis, n. abducens, n. trigeminus, n. ophthalmicus with branches, ciliary ganglion, sympathetic plexus with a. ophthalmica) Protective and lacrimal apparatus of the eye (eyelid structure, m. orbicularis oculi, m. levator palpebrae sup., secretory and drainage lacrimal system) Clinical anatomy: paralytic strabismus miosis, mydriasis</p>
	Literature: required and additional
<i>XVIII.</i>	Title: UNIT 18: REGIO NASALIS, FOSSA INFRATEMPORALIS ET PTERYGOPALATINA
	<p>Short description: Face (mimic muscles, motor and sensory innervation of the face, a. et v. facialis, venous communication, facial system and cavernous sinus) Fossa infratemporalis et pterygopalatina (bone confinement and communication with surrounding areas of the head, ganglion pterygopalatinum, a. maxillaris, pterygoid venous plexus with communications) Temporomandibular joint Chewing muscles and chewing</p>

	<p>Nose (outer nose, nasal cavity, olfactory mucosa, a. et v. sphenopalatina, n. ophalctorius, n. maxillaris with branches) Paranasal sinuses (accommodation, openings of paranasal sinuses, vascularization and innervation) Clinical anatomy: neuralgia of trigeminal nerve epistaxis (locus Kisselbachi) sinusitis</p>
	Literature: required and additional
XIX.	<p>Title: UNIT 19: REGIO ORALIS ET MENTALIS. TRIGONUM SUBMANDIBULARE</p>
	<p>Short description: Suprahyoid muscles and platysma Oral cavity (lips, cheeks, gums and teeth, vestibule of the oral cavity, oral cavity in the narrow sense, tongue, a. et v. lingualis, ganglion submandibulare et sublinguale, n. mandibularis with branches, chorda tympani, hard and soft palate) Submandibular triangle (borders, submandibular and sublingual glands, n. mylohyoideus, submandibular lymph nodes) Clinical anatomy: tonsillectomy salivary gland stones</p>
	Literature: required and additional
XX.	<p>Title: UNIT 20: TRIGONUM CAROTICUM</p>
	<p>Short description: Muscles: m. sternocleidomastoideus and m. omohyoideus Cervical fascia Boundary of the carotic trigonum and lingual triangles Blood vessels: a. carotis communis, a. carotis externa et interna with branches, v. jugularis interna et externa, Nerves: n. glossopharyngeus, n. vagus, n. accessorius, n. hypoglossus, ansa n. hypoglossi, truncus sympathicus (general and cervical part) Pharynx Parapharyngeal space and communications with surrounding spaces Clinical anatomy: torticollis adenoidectomy Horner's syndrome palpation a. carotis communis</p>
	Literature: required and additional
XXI.	<p>Title: UNIT 21: TRIGONUM MUSCULARE ET FOSSA JUGULARIS</p>
	<p>Short description: Infrahyoid muscles and neck fascia Thyroid and parathyroid glands Larynx Trachea Blood vessels: truncus brachiocephalicus, venae brachiocephalicae, v. jugularis anterior Nerves: n. recurrent larynx Lymph of the head and neck</p>

	<p>Clinical anatomy: tracheotomy, conicotomy paresis of the vocal cords</p> <p>Literature: required and additional</p>
<i>XXII.</i>	Title: UNIT 22: REGIO CERVICALIS LATERALIS
	<p>Short description: Muscles: m. trapezius, mm. scaleni, m. splenius capitis, m. levator scapulae Fossa supraclavicularis major et minor Scalene apertures (borders, contents) Blood vessels: a. et v. subclavia with branches, venous angle Nerves: n. phrenicus, plexus cervicalis, plexus brachialis (generally and also branches of fasciculus) Clinical anatomy: upper thoracic orifice syndrome Erb and Klumpke's paralysis</p>
	Literature: required and additional
<i>XXIII.</i>	Title: UNIT 23: REGIO PECTORALIS ET FOSSA AXILLARIS
	<p>Short description: Muscles: pectoralis major, serratus anterior, latissimus dorsi, teres major, subscapularis, triceps brachii, subclavius, deltoideus Clavipectoral triangle, axillary concavity, axillary openings (borders) Blood vessels: a. et v. axillaris with branches, v. cephalica Plexus brachialis (n. dorsalis scapulae, n. thoracicus longus, n. suprascapularis, n. axillaris, n. thoracodorsalis, n. subscapularis) Lymph region Breast Clinical anatomy: lymphatic metastasis of breast cancer</p>
	Literature: required and additional
<i>XXIV.</i>	Title: UNIT 24: TOPOGRAPHIC ANATOMY OF THE ARM
	<p>Short description: Shoulder muscles (m. supraspinatus, m. infraspinatus, m. subscapularis, m. teres major et minor, m. deltoideus) Muscles that connect the trunk to the shoulder girdle (m. trapezius, m. latissimus dorsi) Chest muscles that move the upper limb (m. serratus anterior, m. pectoralis major, pectoralis minor) Arm muscles (m. biceps brachii, m. coracobrachialis, m. brachialis, m. triceps brachii) Arm fascia Grooves and canals of the arm and elbow region Blood vessels: a. et v. brachialis, a. cubitalis Nerves: n. musculocutaneus, n. radialis, sensory innervation of the arm Lymph of the hand Clinical anatomy: tendon rupture of m. bicipitis brachii palpation of the a. brachialis venipuncture</p>
	Literature: required and additional
<i>XXV.</i>	Title: UNIT 25: TOPOGRAPHIC ANATOMY OF THE FOREARMS AND HANDS
	Short description:

	<p>Forearm muscles The hand muscles according to groups Forearm fascia, retinaculum flexorum Forearm grooves and canals, carpal tunnels, Guyon's canal Blood vessels: a. et v. radialis, a. et v. ulnaris, arcus palmaris superficialis et profundus, superficial veins of the hands Nerves: n. medianus, n. ulnaris, sensitive innervation of the forearm and hand Clinical anatomy: tennis elbow palpation and puncture a. radialis preacher's hand, monkey's fist, claw-like fist carpal tunnel syndrome</p>
	Literature: required and additional
XXVI.	<p>Title: UNIT 26: TOPOGRAPHIC ANATOMY OF THE THORAX</p> <p>Short description: Thoracic wall muscles (mm. intercostales, mm. subcostales, m. transversus thoracis, mm. levatores costarum) Intercostal spaces Diaphragm Breathing mechanics Blood vessels: aa. et vv. intercostales Nerves: nn. intercostales, n. phrenicus Orientation lines on the chest wall Thoracic organs and spaces Trachea and principal bronchi Lungs (accommodation, lobes, hilus, functional and nutritional blood flow, lymph) Pleura (borders, pleural sinuses) Mediastinum Esophagus Thymus Thoracic lymphatic system Blood vessels: aorta, branches of the aortic arch, thoracic aorta and branches, truncus Pulmonalis, superior vena cava, brachiocephalic vein, azygos vein, hemiazygos vein Nerves: n. vagus, n. phrenicus, truncus sympathicus, n. splanchnicus major et minor) Projections of thoracic cavity organs Clinical anatomy: chest wall malformations pleural effusion and puncture intercostal nerve block lung tip tumor (symptoms) phrenic paresis physiological narrowing of the esophagus</p>
	Literature: required and additional
XXVII.	<p>Title: UNIT 27: FRONT ABDOMINAL WALL AND INGUINAL CANAL</p> <p>Short description:</p>

	<p>Abdominal wall muscles: rectus abdominis, obliquus externus abdominis, obliquus internus abdominis, transversus abdominis, pyramidalis</p> <p>Abdominal muscle fascia, fascia transversalis, flat abdominal muscle sheath (layers, contents), white line, lig. inguinale</p> <p>Weak points of the anterior abdominal wall</p> <p>Blood vessels, nerves and lymph of the anterior abdominal wall</p> <p>Orientation lines on the anterior abdominal wall, division into quadrants, projections of organs on the anterior abdominal wall</p> <p>Regio umbilicalis, folds of the peritoneum of the anterior abdominal wall</p> <p>Inguinal region</p> <p>Canalis inguinalis: walls, superficial and deep ring, contents, spermatic bundle, differences between man and woman, testicular lowering</p> <p>Clinical anatomy: inguinal hernias (difference between direct and indirect hernias)</p> <p>abdominal incisions</p>
XXVIII.	<p>Literature: required and additional</p> <p>Title: UNIT 28: PERITONEUM ET MESENTERIUM</p> <p>Short description: Development and position of peritoneum and mesentery</p> <p>Recesses, fossae and folds of the abdomen</p> <p>Division of the abdominal and peritoneal cavity</p> <p>Relationships of the peritoneum and abdominal organs</p> <p>Clinical anatomy: an approach to the bursa omentalis</p> <p>Literature: required and additional</p>
XXIX.	<p>Title: UNIT 29: TOPOGRAPHIC ANATOMY OF THE ABDOMINAL CAVITY</p> <p>Short description:</p> <p>Stomach</p> <p>Duodenum</p> <p>Spleen</p> <p>Pancreas</p> <p>Liver and bile ducts, gallbladder</p> <p>Jejunum and ileum</p> <p>Cecum and appendix</p> <p>Large intestine (ascending, transverse, descending, sigmoid, rectum, anal canal)</p> <p>Differences in the structure between the jejunum and ileum and between the small and large intestine</p> <p>Blood vessels: abdominal aorta with branches, inferior vena cava, portal circulatory system and its connection to other systems, the cavo-caval shunt</p> <p>Nerves: plexus coeliacus, splanchnic nerves, pars abdominalis systematis sympathici</p> <p>Abdominal lymph</p> <p>Clinical anatomy: diaphragmatic hernia</p> <p>gallstones (transmitted pain) and obstructive jaundice (differential</p>

	<p>diagnosis) percutaneous liver biopsy transmitted pain in appendicitis Meckel's diverticulum hemorrhoids</p>
	Literature: required and additional
XXX.	Title: UNIT 30: TOPOGRAPHIC ANATOMY OF THE BACK
	<p>Short description: Associated back muscles (m. trapezius, m. levator scapulae, m. rhomboideus major et minor, m. serratus posterior superior et inferior) Original back muscles: (lateral group and medial group) Muscles of the neck: m. longus capitis, m. longus colli, mm. suboccipitales Back and neck fascia Superficial anatomy of the back Vascularization and innervation of the back (branches of cerebral nerves) Clinical anatomy: lumbar puncture</p>
	Literature: required and additional
XXXI.	Title: UNIT 31: TOPOGRAPHIC ANATOMY OF THE RETROPERITONEUM
	<p>Short description: Muscles: quadratus lumborum, iliopsoas, psoas minor Blood vessels: aa. lumbales, vv. lumbales, v. lumbalis ascendens Nerves: n. subcostalis, plexus lumbalis (anterior branches of spinal nerves L1, L2, L3, L4) Kidneys Adrenal glands Urinary tract Clinical anatomy: kidney stones (transmitted pain, narrowing of the urethra)</p>
	Literature: required and additional
XXXII.	Title: UNIT 32: TOPOGRAPHIC ANATOMY OF THE FEMALE LESSER PELVIS
	<p>Short description: Pelvic floor muscles (diaphragma pelvis et urogenitale) Trigonum urogenitale, fascia and spaces surrounding the anal canal Bladder Female urethra Female genital organs: ovary, fallopian tube, uterus, vagina, external genitalia Blood vessels: a. et v. iliaca comunis, a. et v. iliaca interna with branches, a. et v. iliaca externa, a. et v. testicularis s. ovarica Nerves: plexus pudendus, pars pelvina et sacralis systematis parasymphatici Peritoneal female invaginations Clinical anatomy: suprapubic puncture and catheterization of the bladder vaginal examination</p>

	<p>episiotomy pudendal block</p> <p>Literature: required and additional</p>
<i>XXXIII.</i>	<p>Title: UNIT 33: TOPOGRAPHIC ANATOMY OF THE MALE LESSER PELVIS</p>
	<p>Short description: Male urethra Male genital organs: testis, epididymis, vas deferens, seminal vesicles, prostate gland, bulbourethral glands, external genitalia Peritoneal cavities in men Clinical anatomy: digitorectal examination (structures available for palpation) testicular torsion, varicocele of the testis vasectomy (access point, ligature structure segment)</p>
	<p>Literature: required and additional</p>
<i>XXXIV.</i>	<p>Title: UNIT 34: TOPOGRAPHIC ANATOMY OF THE THIGH</p>
	<p>Short description: Posterior pelvic muscles (gluteal muscles and rotators in the hip joint) Muscles (anterior, medial and posterior group) and thigh fascia Foramen suprapiriforme et infrapiriforme Gluteal region Foramen ischiadicum majus et minus Fossa ischiorectalis Regions of thigh (femoral trigonum, femoral canal, adductor canal) Blood vessels: a. et v. femoralis with branches Nerves: n. femoralis, n. obturator, n. ischiadicus Sensory innervation of the thigh Clinical anatomy: puncture of the a. and v. femoralis femoral hernia (differentiation of swellings in the femoral triangle) intramuscular injections in gluteal region</p>
	<p>Literature: required and additional</p>
<i>XXXV.</i>	<p>Title: UNIT 35: TOPOGRAPHIC ANATOMY OF THE LEG AND FOOT</p>
	<p>Short description: Leg muscles (anterior, lateral and posterior group) Foot muscles in groups Fossa poplitea Anterior and posterior leg region Pes - canalis tarsalis, dorsum et planta Blood vessels: a. et v. poplitea, a. tibialis anterior, a. tibialis posterior, a. dorsalis pedis, deep and superficial venous system of the leg) Nerves: n. fibularis, n. tibialis, n. plantaris med. et lat. Sensory innervation of the leg and foot Lymph of the leg and foot Clinical anatomy: Achilles tendon rupture pes planus, halux valgus varicose veins and venous thrombosis Steppage gait</p>
	<p>Literature: required and additional</p>

