

COURSE OF STUDY: *MEDICINA E CHIRURGIA*

ACADEMIC YEAR: *2024-2025*

INTEGRATED COURSE: *ANATOMIA UMANA 1*

ACADEMIC SUBJECT: *ANATOMIA 1 (8CFU)*

CANALE LZ

Main information on teaching	
Year of study	SECOND
Disbursement period	I semeser (23.09.2024-24.01.2025)
University credits (CFU/ETCS):	9+1 CFU
SSD	BIO 16/HUMAN ANATOMY
Language of delivery	italian
Frequency mode	Mandatory ($\geq 67\%$ of total hours) [signature on sheet presented on the desk]

Teacher	
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Receipt	every day upon reservation via e-mail in anatomy and histology, Policlinico di Bari, entrance via Storelli, mezzanine floor, last room on the left or on Teams

Organization of teaching			
Hours			
Total	Didactic Lectures	Practical activities (lab, PBL)	Studio individuale
102 hours	90 hours	12 hours /student	100 hours
CFU/ETCS			
10 CFU	9 CFU	1 CFU professionalizing	10 CFU

Training objectives	<p>The training activity aims to transmit to students the knowledge useful for understanding the following fundamental aspects of human morphology:</p> <ol style="list-style-type: none">1. All systems/equipment satisfy precise functional needs2. All systems/apparatus include various organs that are functionally interconnected3. The cardiovascular, nervous and endocrine systems preside over the functional interconnection between all anatomical systems. <p>On this basis, knowledge of the main concepts regarding:</p> <ol style="list-style-type: none">a. Normal macroscopic structure of the main organs and systems with particular attention to their topographical setting, including their vascularization, lymphatic drainage and innervationb. Microscopic structure related to functionc. Functional considerations applied to understanding morphological structure. <p>The course is structured in a regional/topographic manner with hours of frontal teaching and interactive laboratories of surface, regional and topographic, functional and clinical anatomy on the Anatomage Table, of osteology and of microscopic anatomy carried out with small groups of students. During the discussion of the regions of the body and the organs present there, particular attention will also be paid to highlighting the possible clinical implications deriving from the alteration of the normal anatomy. The objective of the training</p>
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	activity is for the student to achieve macroscopic morphological and microscopic structural knowledge of the human body, in relation to all systems with the exception of the Central and Peripheral Nervous System.
Prerequisites	For a fruitful study of the subject and for an adequate understanding of the teaching materials, mastering many notions of cell biology, cytology, histology and human embryology is a prerequisite.

Teaching methods	<p>The teaching of the course is divided into frontal lessons carried out with the aid of image projection with particular attention to highlighting the possible clinical implications deriving from the alteration of normal anatomy (60% of the total frontal lessons) and multimodal active learning with 5 flipped classrooms (student management on selected topics; 18%), 7 case based learning (CBL: aortic dissection, cardiac tamponade, Lyme disease, Takayasu arteritis, cancer of the tongue and esophagus, splenic rupture, hypoplasia of the anterior pituitary gland, thymoma; 22%). The professionalizing activities, carried out in small groups (15 students) who interact with the tutor and with each other with the aim of activating interdisciplinary and collaborative approaches between peers aimed at encouraging virtuous group dynamics, will be organized as Microscopic Anatomy exercises (2 hours) , Osteology (2 hours), Problem-based learning (PBL) activated with virtual dissection using the Anatomage Table (4 experiences of 2 hours each on headache and thrombosis of the transverse sinus, unstable angina, pleural mesothelioma, urinary symptoms due to prostatitis or cancer of the cervix). During the course, there will be hours of self-learning: students in small groups will be able to practice using the virtual anatomical table (Anatomage) and view anatomical sections of the human body. During the Human Anatomy 1 course, all the topics in the program are covered in order to provide the student with a complete framework of knowledge essential for the training of a future doctor together with a correct study method. The frontal teaching provided by the course teachers is integrated with professionalizing activities on macroscopic, microscopic, topographical, functional and clinical anatomy topics.</p>
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Expected learning outcomes with indication for each Dublin Descriptor (DD)	<p>The human anatomy I course aims to present the anatomical-functional characterization of the human body at a macroscopic, microscopic and ultrastructural level, also in the temporal dimension that goes from embryonic development, to organogenesis, to somatic growth up to aging.</p> <p>At the end of the course the student will have to know the essential morphological and biomechanical characteristics, the modes of operation and the general control mechanisms of the systems, systems, organs, tissues, cells of the human organism, as well as the their main morpho-functional correlates in normal conditions.</p>
DD1 Knowledge and understanding	<p>At the end of the course, the student knows and understands the morphology, structural and functional organization of the human body, at a macroscopic, microscopic, topographical level of the systems and organs of the human body (the locomotor system and the visceral organs of splanchnology).</p>
DD2 Applied knowledge and understanding	<p>At the end of the course, the student possesses the ability to connect the macroscopic, structural, topographic organization of the systems and organs with the corresponding functions. The student recognizes the macroscopic structure and regional location of the organs, connecting it to the notions of surface, radiological and clinical anatomy of the living subject with particular attention to a topographical setting of the same, including their vascularization, lymphatic drainage and innervation applied on corpses, on anatomical models, on drawings and diagrams. The student identifies and interprets anatomical regions and structures, also considering that knowledge of functions applies to understanding structure. You are also able to begin to apply anatomical</p>

<p>DD3-5 Soft skills</p>	<p>knowledge in solving problems of physiology, pathology, physical and instrumental semiotics and anatomical-clinical correlates.</p> <p>Critical and judgment skills - (Dublin 3 descriptor) At the end of the course, the student will have the ability to integrate their anatomical knowledge, managing its complexity, with the data of physiology, pathophysiology and physical and semiotics instrumental. The student will be able to recognize the macro- and microscopic structure of the organs in the healthy subject and begin to formulate judgments on anatomical alterations and their implication in the main processes that lead to the most common pathological states; you will have to refer to the knowledge of surface and topographic anatomy in the execution of physical semiotic maneuvers and in the interpretation of instrumental semiotic data. In summary, at the end of the course the student must be able to integrate the knowledge and skills learned to recognize the differences between physiological and non-physiological anatomical structures.</p> <p>Communication skills – (Dublin 4 Descriptor) At the end of the course, the student will have the ability to understand anatomical terminology, accurately describe the normal morphology and structure of the human body, also knowing how to effectively use the communication tools specific to scientific publications and communications (see active sessions learning with the use of flipped classroom, CBL and PBL).</p> <p>Ability to learn – (Dublin 5 Descriptor) At the end of the course, the student will have acquired the ability to autonomously update the contents of human anatomy, using the updating methods typical of scientific investigation in the biomedical field.</p>
<p>Teaching contents (Programme)</p>	<p>1. General anatomy 1.1. Definitions 'Normal' human anatomy, systematic anatomy, topographic anatomy. Tissues, multi-tissue units, organs. Organic apparatus (or systems): apparatus of 'relational life' (or somatic), apparatus of 'vegetative life' (or visceral). Hollow organs: Mucous membrane and intima; Submucosal tunic; Tunica muscularis and tunica media; Adventitial tunic; Serous tunic. Full organs.</p> <p>1.2. General topographical anatomy Topographic divisions of the human body. General organization of the human body. Types of organization: cavitory and non-cavitory. Examination of the layers: superficial layer, deep layer. Surface spaces. Deep spaces: serous spaces, extraserous spaces. Meningeal spaces.</p> <p>1.3. General systematic anatomy Integumentary system: skin (or skin), subcutaneous (or hypodermis). Locomotor system (or osteo-arthro-muscular system). General information on bones, general information on joints. Joints by contiguity (or diarthrosis), joints by continuity (or synarthrosis). General information on skeletal muscles. Vascular (circulatory) systems: blood vascular system, large circulation (systemic or general circulation), small circulation (pulmonary circulation). Lymphatic vascular system: blood, lymphatic and immune systems. Digestive system: alimentary canal, glands attached to the alimentary canal. Respiratory system: airways (or respiratory), lung. Urinary system: kidney, urinary tract. Genital (or reproductive) systems: gonads, genital tract. Endocrine system.</p> <p>2. Gross anatomy 2.1. Head. Surface anatomy and superficial regions. Neural (or encephalic) part: fronto-parieto-occipital region, temporal region, auriculo-mastoid region. Facial part (or splanchnic): eye region, eyelids, conjunctiva, nose region, external nose, vestibule of the nose, mouth region, lips, cheeks, vestibule of the mouth, parotid-masseteric region.</p>

Skeleton (skull). Neurocranium (or braincase): external examination, cavity of the neurocranium, vault, base. Splanchnocranium (or facial massif): external examination, cavity of the splanchnocranium, orbital cavity, nasal cavity, oral cavity (or buccal), infratemporal and pterygo-palatine cavities.

Temporomandibular joint.

Muscles: fur muscles, skeletal muscles, temporalis muscle, masseter muscle, pterygoid muscles. Cavities and deep spaces. Neural part: meninges and intracranial (or brain) meningeal spaces. Endocranial organs: brain (only brief mentions), pituitary, epiphysis, internal carotid artery (endo-cranial tract), anterior cerebral artery, middle cerebral artery, vertebral artery (exo- and endo-cranial tract), basilar artery, posterior cerebral artery, encephalic (or Willis) arterial polygon, cerebral veins. Facial part: spaces of the orbital cavity. Eyeball fascia, pre- and retro-fascial compartments, eyeball and its appendages (only brief notes). Internal nose, nasal cavity, paranasal sinuses, mouth, tongue, sublingual gland, isthmus of the fauces, parotid space, parotid gland, branches of the external carotid artery.

2.2. Spine (or posterior region of the trunk).

Surface anatomy and superficial regions: cervical (or nuchal) region, thoracic (or dorsal) region, abdomino-pelvic (or lumbo-sacrum-coccygeal) region.

Skeleton (spine): general characteristics of the vertebrae, cervical vertebrae, thoracic vertebrae, lumbar vertebrae, sacrum, coccyx. Intrinsic joints of the spine: joints between the bodies and between the articular processes. Extrinsic joints of the spinal column: cranio-vertebral joints, cost-vertebral joints, sacroiliac joint, vertebral canal.

Muscles: spino-appendicular muscles, trapezius muscle, latissimus dorsi muscle, spino-costal muscles, vertebral joint muscles.

Cavities and deep spaces: meninges and spinal meningeal spaces, spinal cord, spinal nerve roots (only brief notes).

2.3. Neck

Surface anatomy and superficial regions: supra-hyoid region, sub-hyoid region, carotid (or sternocleidomastoid) region, supraclavicular region, occipital trigone.

Walls: front and side walls. Cervical bands: superficial, medium and deep.

Supra-hyoid muscles, hyoid bone, sternocleidomastoid muscle, sub-hyoid muscles, scalene muscles. Posterior wall: cervical spine, deep cervical fascia and prevertebral muscles. Deep spaces: submandibular space, submandibular gland. Median unpaired visceral space: thyroid and parathyroid glands, pharynx, trachea (cervical section), esophagus (cervical section). Retro-pharyngeal space. Orthosympathetic (cervical spine) (outline). Vascular-nervous (or carotid) space: right common carotid artery and cervical section of the left one, internal carotid artery (cervical section), internal jugular vein, vagus nerve (cervical section), deep lateral-cervical lymph nodes. Ssupraclavicular space: cervical plexus (outline), primary trunks of the brachial plexus (outline), subclavian artery, vertebral artery (cervical section), subclavian vein, supraclavicular lymph nodes, lymphatic collectors (cervical section).

2.4. Chest

Surface anatomy and superficial regions: sternal region, costal region, breast.

Walls. Anterior and lateral walls: sternum and ribs, sterno-costal joints, thoraco-appendicular muscles, intrinsic muscles of the thorax, intercostal spaces and their contents. Posterior wall: thoracic spine. Inferior wall: diaphragm. Upper chest opening.

Cavity.

Mediastinum: subdivisions. Vascular organs: heart, ascending aorta, thoracic arch and descending, coronary arteries, innominate (or brachio-cephalic) artery, left common carotid artery (thoracic tract), left subclavian artery (thoracic tract). thoracic), superior vena cava, innominate (or brachio-cephalic) veins, azygos vein system, inferior vena cava (thoracic tract), pulmonary artery, pulmonary veins, thoracic duct (thoracic tract). Blood, lymphatic and immune system organs:

- thymus, mediastinal lymph nodes, thoracic duct. Organs of the airways and the alimentary canal: trachea (thoracic tract), main bronchi and bronchial tree, esophagus (thoracic tract), nervous organs (briefs only): phrenic nerve), vagus nerve, thoracic orthosympathetic nerve, splanchnic nerves.

Pleuro-pulmonary space: pleurae, lungs.

2.5. Abdomen,-pelvis, perineum

Surface anatomy and superficial regions: sterno-costo-pubic region (epigastrium, mesogastrium, hypogastrium), cost-iliac region (flank), inguinal-abdominal region (iliac fossa), perineal region.

Walls.

Anterior and lateral walls: rectus muscle, external oblique muscle, internal oblique muscle, transversus muscle, inguinal canal.

Posterior wall: lumbo-sacral-coccygeal spine, bony pelvis, posterior wall muscles and fasciae, ilio-psoas muscle, lumbar plexus (outline), lumborum quadratus muscle, small pelvis muscles and fasciae, sacral plexus, pudendal and coccygeal (only sparse hints). Upper wall. Inferior wall: pelvic floor (or diaphragm). Muscles and fasciae of the perineum.

Abdominal cavity. Peritoneal space: large cavity. Supramesocolic compartment: liver, extrahepatic bile ducts, stomach, duodenum (upper tract or bulb), spleen, transverse mesocolon, transverse colon. Submesocolic compartment: mesenteric small intestine, cecum, vermiform appendix, ileopelvic (or sigmoid) colon. Pelvic compartment: uterus, broad ligament of the uterus. Uterine tube, ovary, ovarian sac. Small cavity (omental bursa or retrocavity of the epiploons). Retroperitoneal space: duodenum (descending, transverse and ascending tracts), pancreas, renal fascia, kidney, adrenal gland, renal pelvis (or pelvis), ureter (abdominal tract), ascending and descending colon, descending aorta (abdominal tract), celiac trunk and its branches: left gastric artery, lienal artery, common hepatic artery; superior and inferior mesenteric arteries, common and external iliac arteries, inferior vena cava (abdominal tract), common and external iliac veins, portal vein, orthosympathetic (lumbar tract), celiac and aortic-abdominal plexuses (outline), lymphatic vessels and retroperitoneal lymph nodes . Subperitoneal space: urinary bladder, ureter (pelvic tract), rectum (pelvic tract), urethra (pelvic tract), prostate, vas deferens (pelvic tract), seminal vesicle, ejaculatory duct. Internal iliac (or hypogastric) artery, internal iliac (or hypogastric) vein, lymphatic vessels and subperitoneal lymph nodes, orthosympathetic (sacred-coccygeal tract) (outline). Perineal spaces: -anterior part-

A. In the male: penile space, urethra (perineal tract), scrotal space, testis (or didymus), epididymis, vas deferens (scrotal tract).

B. In the female: urethra (perineal tract), vagina,. Perineal spaces: -posterior part, rectum (perineal tract or anal canal), ischio-rectal fossa.

2.6. Upper limb (or thoracic)

Surface anatomy and superficial regions.

Shoulder: scapular region, infraclavicular region, deltoid region, axillary region.

Arm: anterior region, posterior region.

Elbow: anterior region (or elbow crease), posterior region (or olecranon).

Forearm: anterior region (or volar or flexor), posterior region (or dorsal or extensor).

Wrist: anterior (or volar) region, posterior (or dorsal) region.

Hand: anterior carpo-metacarpal (or volar or palmar) regions, posterior (or dorsal) carpo-metacarpal regions, anterior (or flexor or palmar) region of the fingers, posterior (or extensor or dorsal) region of the fingers.

Skeleton: clavicle, scapula, humerus. Sternoclavicular and acromioclavicular joints. Scapulohumeral joint. Ulna, radius. Elbow joints (humeral-radio-ulnar).

Skeleton of the hand, radio-ulnar jointsdistal and radiocarpal, intercarpal, carpometacarpal, metacarpophalangeal and interphalangeal joints.

Muscles of the upper limb: deltoid, supraspinatus, infraspinatus, teres minor and major, subscapularis, biceps, coracobrachialis, brachialis, triceps, muscles of the forearm both flexor and extensor regions, muscles of the hand. Brachioradialis

muscle, pronator teres, palmaris major, palmaris minor, cubital anterior, flexor digitorum superficialis, flexor digitorum longus, flexor digitorum profundus, pronator quadratus, anconeus, extensor digitorum communis, extensor digitorum proper, cubitalus posterior, abductor longus of the thumb, extensor of the thumb, extensor of the thumb, extensor of the index finger, supinator, abductor of the thumb, flexor of the thumb, opponens of the thumb, adductor of the thumb, abductor of the little finger, flexor of the little finger, opponens of the little finger, lumbricals, palmar interossei. Superficial and deep spaces: superficial veins of the upper limb, axillary space (or cavity), axillary artery and vein, secondary trunks (or fascicles), brachial plexus (outlines), axillary lymph nodes, deep spaces of the arm, forearm, hand, deep arteries and veins, deep lymphatic vessels, ulnar nerves, median nerve, radial nerve (outline).

2.7. Lower limb (or pelvic).

Surface anatomy and superficial regions. Hip: posterior region (or gluteal), anterior region (or inguinal-femoral or Scarpa's triangle). Thigh: anterior region, posterior region. Knee: anterior region, posterior region (or popliteal). Leg: anterior region, posterior region.

Ankle: anterior region, posterior region.

Foot: upper (or dorsal) tarsometatarsal region, lower (or plantar) tarsometatarsal region, upper (or dorsal) region of the toes, lower (or plantar) region of the toes.

Skeleton: hip, femur, coxofemoral joint, tibia, fibula (or fibula), patella (or patella), knee joint, foot skeleton, tibio-fibulo-tarsal joint, intertarsal, tarsometatarsal, metatarsophalangeal and interphalangeal joints.

Muscles: large, medium and small glutes, quadriceps femoris, sartorius, adductor longus, brevis, large muscles, biceps muscle, semitendinosus, semimembranosus, popliteus. **DORSIFLEXOR MUSCLES OF THE FOOT** Anterior tibial muscle, Extensor digitorum longus, extensor hallucis longus, peroneal muscles: anterior, long and brevis. **PLANTARFLEXOR MUSCLES OF THE FOOT**: gastrocnemius, soleus, plantaris, popliteus, tibialis posterior, flexor digitorum longus, flexor hallucis longus. Achille's tendon. **MUSCLES OF THE FOOT**: Abductor hallucis, flexor hallucis brevis, adductor hallucis, abductor hallucis, flexor brevis of the 5th toe, opponens of the 5th toe, quadratus sole, lumbricals of the foot, plantar and dorsal interossei, extensor digitorum brevis.

Superficial and deep spaces: superficial veins of the lower limb, deep hip spaces, femoral space, femoral artery and vein, femoral nerve (outline), deep inguinal lymph nodes, buttock spaces. Ischial (or sciatic) nerve (outline). Deep spaces thigh, leg, foot, deep arteries and veins, deep lymphatic vessels.

3. Microscopic anatomy

3.1. Blood and lymphatic vascular systems: heart, pericardium, endocardium, myocardium, contraction (or common) myocardium, conduction (or specific) myocardium, epicardium, elastic type arteries, muscular type arteries, blood capillaries, muscular type veins, connective veins, capillaries and lymphatic collectors.

3.2. Blood, lymphatic and immune systems: bone marrow, thymus, spleen, lymph nodes, mucosa-associated lymphoid tissue (malt), pharyngeal tonsil, palatine tonsil, lingual tonsil.

3.3. Digestive system: mouth, major salivary glands, pharynx, esophagus, stomach, small intestine, duodenum, jejunum, ileum, liver, extrahepatic bile ducts, pancreas, large intestine.

3.4. Respiratory system: nasal cavity, larynx, trachea, bronchus, small bronchus, bronchiole, lung, pleura.

3.5. Urinary system: kidney, renal calyces, renal pelvis, ureter, urinary bladder, male and female urethra

3.6. Female genital system: ovary, uterine tube, uterus, vagina.

3.7. Male genital system: testicle, epididymis, vas deferens, seminal vesicle, ejaculatory duct, prostate.

	<p>3.8. Endocrine system: pituitary, neurohypophysis and its connections with the hypothalamus, adenohypophysis and its connections with the hypothalamus, epiphysis, thyroid, parathyroid, cortico-adrenal, medullo-adrenal, pancreatic islets, diffuse endocrine system.</p> <p>3.9. Locomotor system: bones, joints, muscles.</p> <p>3.10. Integumentary system: skin, epidermis, dermis, skin appendages, subcutaneous (or hypodermis), breast.</p>
Reference texts (in alphabetical order)	<p>Anatomia del Gray, Edra, 40° edizione in italiano, tuttavia si consiglia l'acquisto della nuova edizione (41°) in inglese.</p> <p>Atlante di Anatomia Umana, Edi Ermes</p> <p>Autori Vari: Anatomia Umana sistematica e funzionale, Edi Ermes, 5° edizione</p> <p>Autori Vari: Anatomia Umana Topografica, Edi Ermes, 2° edizione</p> <p>Eroschenko, Atlante di Istologia e Anatomia Microscopica con correlazioni funzionali, 9°ed., Antonio Delfino Editore</p> <p>Lumley, Anatomia di superficie. Le basi anatomiche dell'esame clinico, CEA</p> <p>Moore-Dalley, Anatomia Umana, CEA</p> <p>Netter, Atlante di Anatomia Umana, Edra, 4° edizione</p> <p>Prometeus, Atlante di Anatomia Umana, Edises, 3° edizione</p> <p>Rohen, Atlante fotografico di anatomia umana. Edizione italiana, Piccin</p> <p>Sobotta Atlante di Anatomia Umana, Edra, 24° edizione.</p>
Notes to reference texts	<p>For all texts, excellent iconography to memorize and reproduce on paper to form and remember a three-dimensional vision of the organs and their structure (the self-generated conceptual maps are useful).</p>
Teaching materials	<p>The teaching material can be found at:</p> <p>https://www.uniba.it/it/docenti/girolamo-francesco/attivita-didattica/materiale-didattico</p>

Assessment	
Learning assessment methods	<p>The assessment methods are organized in such a way as to adequately evaluate the active participation of students in lectures, practical exercises and PBL through direct interaction between the teacher and the students. During the lessons the students constantly interact to clarify or deepen the notions exposed and the teacher asks the students questions relating to the topics covered using the https://ahaslides.com/ platform according to the multiple choice quiz methodology, with the aim of verifying the effectiveness of learning in real time. Other questionnaires are administered with the aim of evaluating during the course and at the end of the course the interest, the degree of in-depth analysis and the effectiveness of the various methods of delivery of the course: traditional versus active. Part of the lessons are carried out directly by the students with recognition during the evaluation of the level of depth achieved. The same applies to active participation in all the other different methods of teaching the course.</p> <p>Verification method: written test with 24 multiple choice quizzes on splanchnology and the musculoskeletal system and 1 Anatomage section to be briefly described in 60 minutes; 3/10 of the final grade), followed by ORAL test (open questions with short answers, comments on anatomical drawings, viewing of eSlides (7/10 of the final grade including the active involvement of the student in the various activities described above The written test remains until January of the following year, after which it lapses. The results of the test are communicated online via the Essetre system. The rules of the final exam are detailed in the first introductory lesson.</p>
Evaluation criteria	<p>The evaluation criteria of the oral test take into account the degree of knowledge of the subject, the clarity of the presentation, the appropriateness of language, the use of anatomical terminology and the ability to establish logical connections between the topics. In particular, the objectives presented in the 'Expected learning outcomes' section are briefly repeated: knowing the anatomical terminology, the general concepts of anatomical formations: skin, fascia, bones,</p>

	<p>joints, skeletal muscles, viscera, serous membranes, vessels and nerves (somatic and visceral); macroscopic and microscopic organization of the planned organs; regional division of the human body; correlation between the structure of the organs and the functions performed by them; anatomical basis of clinical anatomy; identify surface landmarks in the living body; anatomical structures in their dynamism; position and relationships of normal organs in Anatomage sections in different planes, in radiological images; microstructures of organs under the optical microscope and in photograms; begin to reason and interpret the problems deriving from clinical history, physical examination and morphological investigations in the living by applying the anatomical knowledge underlying the clinical problems of patients.</p>
<p>Criteria for measuring learning and attributing the final grade</p>	<p>Score 29-30 with honors: the student has an IN-DEPTH knowledge of the subject, has excellent communication skills and masters medical-scientific language. Score 26-28: the student has a GOOD knowledge of the subject and explains the topics clearly using appropriate medical-scientific language; Score 22-25: the student has a DISCRETE knowledge of the subject, even if limited to the main topics and explains the topics quite clearly with a fair amount of language; Score 18-21: the student has the MINIMUM knowledge of the subject and explains the topics clearly enough although her language skills are poorly developed; Exam not passed: the student DOES NOT HAVE THE MINIMUM KNOWLEDGE required of the main contents of the course. The ability to use specific language is very poor or non-existent and he is not able to apply the acquired knowledge independently.</p>