Załącznik nr 5 do zarządzenia nr 189/2025

COURSE SPECIFICATION

Course code: 0912.7.LEK.B.A

Course title in Polish: Anatomia
Course title in English: Anatomy

1. Placement of the course within the study programme

1.1. Field of study	Medicine
1.2. Mode of study	full-time
1.3. Level of study	uniform Master's study
1.4. Profile of study	General academic
1.5. Course specification author	prof. dr hab. Marcin Sadowski
1.6. Contact	msadowski@ujk.edu.pl

2. Generał characteristics of the course

2.1. Language of instruction	English
2.2. Entry requirements	The preliminary biology and chemistry program in the field of high school matura exam at advanced level

3. Detailed characteristics of the course

3.1. Type of classes	Lectures (L): 80 h, Practical classes (PC): 120 h
3.2. Place of course delivery	Courses in the teaching rooms of JKU
3.3. Form of assessment	1. Lectures: MCQ exam in the 2nd semester 2. Practical classes: credit without grade in the 1st semester, credit with grade in the 2nd semester
3.4. Teaching methods	Lecture: informative lecture with oral transmission of knowledge and the use of visual means Practical classes: analysis of anatomical models, specimens and imaging together with dissecting of selected specimens
3.5.a. Basic reading list	Moore KL, Agur AMR, Daley AF. Clinically Oriented Anatomy, the latest edition + ebook, Wolters Kluwer, Lippincott Wiliams & Wilkins. Frank H. Netter. Atlas of Human Anatomy, the latest edition, Elsevier. Szpinda M et al. Mianownictwo anatomiczne. Edra Urban & Partner, Wrocław, 2025.
3.5.b. Supplementary reading list	Drake RL, Vogl AW, Mitchell AWM. Gray's Anatomy for Students. The anatomical basis of clinical practice. The latest edition, Elsevier. Goulden DJ. Neuroanatomy BRS. Edra Urban & Partner.

4. Objectives, content and learning outcomes

4.1. Course objectives (taking into account the form of classes)

CO1 – to provide students with knowledge in the scope of anatomy of the skeletal, muscular, nervous, circulatory, respiratory, digestive, genital, urinary, endocrine, sensory organs and integumentary system
CO2 – to familiarize students with the knowledge and understanding of the topography in human anatomy
CO3 – to prepare students to make a proper assessment of individual systems in various clinical situations as well as to make suggestions for the management
CO4 – to prepare to use the knowledge of topographic anatomy in both diagnostic and therapeutic medical procedures
CO5 – to create awareness of acquiring knowledge from different sources and seeking help
CO6 – to create appropriate ethical attitude towards the body of the living and the dead human
Lectures: CO1, CO2, CO4, CO5

Practical classes: CO1, CO2, CO3, CO4, CO6

4.2. Course content (taking into account the form of classes)

Lectures

SEMESTER I

1. History of anatomy as a science. Organs, systems and proportions of the human body. Directions, planes, and axes of the body.
2. Musculoskeletal system of the upper limb (skeleton, joints, muscles). Part I: Pectoral girdle, arm, and forearm.
3. Musculoskeletal system of the upper limb, Part II: Hand and carpal tunnel. Blood supply of the upper limb.
4. Structure of a spinal nerve. Brachial plexus and its constituent parts. Injuries to the nerves of the upper limb. Axilla: boundaries and contents. Cubital fossa. Lymphatic vessels of the upper limb.
5. Development of the skeletal system. Clinical aspects of the upper-limb skeleton.
6. Bones and muscles of the lower limb. Joints and clinical aspects of the lower-limb skeleton.
7. Gateways to the lower limb (obturator canal, greater and lesser sciatic foramina, subinguinal space).
8. Muscles and fasciae of the lower limb. Popliteal fossa and tarsal tunnel. Blood supply of the lower limb.
9. Lumbar and sacral plexuses. Palsies of the nerves of the lower limb.
10. Topographic anatomy of the thorax and back. Topographic lines of the thorax and back. Sites of bone marrow aspiration. Fasciae and walls of the thorax. Muscles of the thorax. Intercostal spaces. Blood supply and innervation of the thoracic wall and back. Diaphragm and sites of reduced resistance (hernias).
11. Muscles of the back. Vertebral canal: boundaries and contents. Mammary gland: structure, blood supply, and innervation. Lymphatic drainage of the breast.
12. Mediastinum: topography, divisions, and contents of its individual compartments. Pleural cavities (walls and recesses). Thoracentesis.
13. Respiratory tract: trachea; main, lobar, and segmental bronchi. Bronchopulmonary segment. Lungs: morphology and topography. Lymphatic drainage of the lungs. Mechanism of respiration.
14. Heart: topography, external anatomy, coronary arteries, and cardiac veins. Internal anatomy of the heart: cardiac chambers, fibrous skeleton, and valves. Surface projections of the valves on the thoracic wall and sites of cardiac valve auscultation. Cardiac conduction system. Myocardial infarction.
15. Development of the respiratory and cardiovascular systems.

SEMESTER II

16. Topographical considerations: topographical regions of the abdomen, horizontal and vertical lines. Horizontal planes of the abdomen. Muscles and fasciae of the abdomen. Topography of the anterolateral abdominal wall. Supraumbilical and infraumbilical parts of the rectus sheath. Contents of the rectus sheath. Posterior surface of the anterior abdominal wall. Inguinal canal. Walls of the inguinal canal. Contents of the inguinal canal. Congenital and acquired inguinal hernias.
17. General characteristics of the peritoneum. Relationship of organs to the peritoneum: intraperitoneal position, extraperitoneal position. Development of the primitive gut. Development of the peritoneum. Topography of the peritoneum and division of the peritoneal cavity: supracolic compartment of the greater sac, infracolic compartment of the greater sac. Peritoneum in the pelvis. Lesser omentum. Greater omentum. Omental bursa. Abdominal organs after completion of development.
18. Abdominal part of the gastrointestinal tract: abdominal part of the esophagus, stomach, small intestine (duodenum, jejunum, ileum), large intestine (cecum, colon, rectum). Liver. Portal circulation. Gallbladder and biliary tract. Pancreas. Topography of the great blood vessels within the abdominal cavity.
19. Topographical anatomy of the pelvic organs. Topography of blood vessels and neural structures. Pelvic regions. Planes and dimensions of the bony pelvis. Anal canal. Ischioanal fossa. Examination *per rectum*. Urinary system: kidneys, ureters, urinary bladder, male and female urethra.
20. Reproductive system. Male reproductive system. Internal male genital organs: testis, epididymis, ductus deferens, prostate gland, seminal glands (seminal vesicles), bulbourethral glands. External male genital organs: penis and scrotum. Female reproductive system. Internal female genital organs: ovary, uterine tube, uterus, vagina. External female genital organs.
21. Development of the bones of the skull. General characteristics of the skull. Neurocranium: calvaria, external surface of the cranial base. Internal surface of the cranial base; anterior, middle, and posterior cranial fossae. Facial skeleton (viscerocranium). Selected topographical regions of the skull: temporal fossa, infratemporal fossa, pterygopalatine fossa, orbit, nasal cavity.
22. Surface anatomy of the head and neck. Regions of the head and neck. Muscles and fasciae of the head: muscles of facial expression. Cranial nerve VII. Muscles of mastication. Structure and mechanics of the temporomandibular joint. Mandibular nerve (V3).
23. Anatomy of the nasal cavity: nasal vestibule, nasal cavity proper. Blood supply and innervation of the nasal cavity. Cranial nerves I and V2. Components of the olfactory pathway. Paranasal sinuses. Anatomy of the oral cavity: oral vestibule, oral cavity proper. Blood supply and innervation of the oral cavity. Tongue: extrinsic and intrinsic muscles of the tongue, blood supply and

innervation of the tongue. Cranial nerve XII. Topography and structure of the salivary glands. Blood supply and innervation of the salivary glands. Pharynx—regions of the pharynx; anatomy, blood supply, and innervation of the pharynx.
24. Anatomy and function of the visual organ (eye). Orbit: structure and contents. Muscles associated with the visual organ. Structure of the eyeball. Protective apparatus of the eye. Cranial nerves II, III, IV, V1, and VI. Visual pathway and ocular reflexes. Structure and function of the auditory and vestibular system. External, middle, and inner ear. Cranial nerve VIII.
25. Neck. Muscles of the neck: superficial, middle, and deep groups; cervical fasciae. Triangles of the neck and their contents. Cervical plexus. Thyroid and parathyroid glands: topography, structure, blood supply, and innervation. Topography and structure of the cervical parts of the trachea and esophagus. Cranial nerves X and XI. *(Larynx—topography of the larynx. Anatomy of the larynx: laryngeal cartilages, muscles of the larynx, ligaments and membranes of the larynx. Blood supply and innervation of the larynx. Topic covered during dissection classes).*
26. Development of the nervous system. Central nervous system (CNS). Hierarchical organization of the CNS and functions of its individual divisions (telencephalon, diencephalon, midbrain, metencephalon, and medulla oblongata). Major neurotransmitter systems of the brain.
27. Functional systems: Part I. Motor systems: pyramidal system, extrapyramidal system and basal nuclei, and cerebellum.
28. Functional systems: Part II. Limbic system. Selected sensory systems.
29. Blood supply of the brain. Cerebral arteries. Cerebral veins. Venous drainage of the brain. Ventricular system of the brain and circulation of cerebrospinal fluid. Clinical aspects of disorders of cerebrospinal fluid circulation.
30. Autonomic nervous system

Practical classes

Block I – Upper Limb

Fundamentals of the anatomical description of the human body. Axes, planes, directions, and regions. Bones, joints, and muscles of the upper limb. Vessels of the upper limb (arteries, veins, lymphatic vessels, and lymph nodes). Brachial plexus: structure, short branches, and long branches of the plexus. Signs of injury to the nerves of the brachial plexus. Topographic anatomy of the upper limb: axilla, cubital fossa, carpal tunnel.

Written (test) and practical ('pins') assessment No. 1 – upper limb.

Block II – Lower Limb

Bones, joints, and muscles of the lower limb. Vascular supply of the lower limb (arteries, veins, lymphatic vessels, and lymph nodes). Lumbar and sacral plexuses: structure and nerves of the plexuses. Signs of injury to the nerves of the lumbar and sacral plexuses. Topographic anatomy of the lower limb: muscular lacuna, vascular lacuna, femoral canal, femoral triangle, adductor canal, popliteal fossa, and tarsal tunnel.

Written (test) and practical ('pins') assessment No. 2 – lower limb.

Block III – Thorax and Back

Axial skeleton and its articulations. Muscles of the thorax and back. Vascular supply and innervation of the thorax and back. Mediastinum – divisions and contents. External and internal anatomy of the heart. Thoracic part of the trachea, bronchi. Topography and structure of the lungs, pleura. Topography of the organs within the thorax, aspects of the clinical anatomy of the thorax and back.

Written (test) and practical ('pins') assessment No. 3 – thorax and back.

Block IV – Abdominal Cavity and Pelvis

General topography of the abdominal cavity. Peritoneum, mesenteries, peritoneal cavity. Abdominal walls. Abdominal part of the gastrointestinal tract: abdominal part of the esophagus, stomach, small intestine (duodenum, jejunum, ileum), large intestine (cecum, colon, rectum). Liver. Portal circulation. Gallbladder and biliary tract. Pancreas. Spleen. Organs of the retroperitoneal space: kidneys, abdominal parts of the ureters, adrenal glands. Innervation and vascular supply of the abdominal cavity. Topographic anatomy of the pelvic cavity. Pelvic cavity – muscles of the pelvic floor and walls, vascular supply and innervation of the pelvis. Pelvic part of the urinary system. Perineum: muscles and fasciae of the perineum, vascular supply and innervation of the perineum. Female and male genital organs. Rectum and anal canal.

Written (test) and practical ('pins') assessment No. 4 – abdominal cavity and pelvis.

Block V – Head and Neck

General characteristics of the skull. Neurocranium: calvaria, external and internal surfaces of the cranial base. Facial skeleton (viscerocranium). Selected topographic regions of the skull. Regions of the head and neck. Muscles and fasciae of the head and neck. Structure and mechanics of the temporomandibular joint. Anatomical structure of the nasal cavity: nasal vestibule, nasal cavity proper, vascular supply and innervation of the nasal cavity. Paranasal sinuses. Structure of the oral cavity: oral vestibule, oral cavity proper, vascular supply and innervation of the oral cavity, tongue, topography and structure of the salivary glands. Pharynx – divisions of the pharynx; anatomical structure, vascular supply, and innervation of the pharynx. Larynx. Neck. Muscles of the neck: superficial, middle, and deep groups; cervical fasciae. Triangles of the neck and their contents. Cervical plexus. Thyroid gland and parathyroid glands. Anatomical structure and function of the organ of vision (eye) and the organ of hearing and balance.

Written (test) and practical ('pins') assessment No. 5 – head and neck.

Block VI – Central Nervous System (CNS)

Development of the nervous system. Segmental organization of the CNS and the functions of the individual divisions of the brain (telencephalon, diencephalon, midbrain, metencephalon, and medulla oblongata). Functional systems: selected sensory systems, limbic system. Motor systems: pyramidal system, extrapyramidal system, and cerebellum. Vascular supply of the brain: arteries and veins of the brain. Ventricular system of the brain and circulation of cerebrospinal fluid. Neuroimaging methods (ultrasonography, computed tomography, magnetic resonance imaging). Selected clinical aspects of the nervous system.

Written (test) and practical ('pins') assessment No. 6 – CNS

Note: The detailed schedule of practical-class material and the dates of individual classes and assessments will be presented in separate documents and will be available to students on the Department of Anatomy notice board and website. The dates of the written assessments will be communicated to students, and the assessments will be administered simultaneously to the entire year group.

4.3. Course learning outcomes

Course learning outcomes (code)	Upon completion of the course, the student	Alignment with programme learning outcomes
	in the area of knowledge knows and understands:	
W01	human anatomy topographically and functionally, including topographical relations between individual organs along with anatomical, histological and embryological terminology in English	A.W1
	in the area of skills knows how to:	
U01	explain the anatomical basis for clinical examination	A.U3
U02	make conclusions as to the relationship between anatomical structures on the basis of intravital diagnostic tests, in particular in the field of radiology (plain and contrast X-ray images, computed tomography and magnetic resonance imaging);	A.U4
	in the area of social competences is able to:	
K01	recognize their own limitations and self-evaluate educational deficiencies and needs	K.S5
K02	use reliable information sources	K.S7

K03	conclude on the basis of own surveys and observations	K.S8
K04	introduce rules of social conduct and teamwork to the group of specialists, including specialists form other medical professions also in the multicultural and multinational environment	K.S9
K05	give opinions concerning various aspects of professional activity	K.S10
K06	take responsibility for own decisions made during professional activities including own safety and safety of other people.	K.S11

4.4. Assessment methods for learning outcomes

Assessment method (+/-)

Course learning outcomes (code)	Written and practical exam	Written and practical test		In-class activity	Independent study	Group work	Observation

Type of classes

1: / 2:	L	PC	...	L	PC	...	L	PC	...	L	PC	...	L	PC	...	L	PC	...	L	PC	...
W01	+	+		+	+					+	+			+			+			+	
U01	+	+		+	+					+	+			+			+			+	
U02	+	+		+	+					+	+			+			+			+	
K01-K06											+						+		+	+	

Annotation. 1: form of classes; 2: learning outcomes

4.5. Assessment criteria for learning outcomes

Type of classes:

LECTURE (L) (including classes conducted with the use of distance learning methods and techniques)

Grade	Assessment criteria
3,0	Student mastered knowledge and skills specified in 4.3 sufficiently – obtained 60-68% of possible points (including practical part: 24 to 27 out of 40 points)
3,5	Student mastered knowledge and skills specified in 4.3 fairly good – obtained 69-76% of possible points (including practical part: 28 to 30 out of 40 points)
4,0	Student mastered knowledge and skills specified in 4.3 good – obtained 77-84% of possible points (including practical part: 31 to 34 out of 40 points)
4,5	Student mastered knowledge and skills specified in 4.3 more than good – obtained 85-92% of possible points (including practical part: 35 to 37 out of 40 points)
5,0	Student mastered knowledge and skills specified in 4.3 very good – obtained 93-100% of possible points (including practical part: 38 to 40 out of 40 points)

Type of classes:

PRACTICAL CLASSES (PC) (including classes conducted with the use of distance learning methods and techniques)

Grade	Assessment criteria
3,0	Student mastered knowledge and skills specified in 4.3 sufficiently – obtained 60-68% of possible points (at least 12 out of 20 points)
3,5	Student mastered knowledge and skills specified in 4.3 fairly good – obtained 69-76% of possible points
4,0	Student mastered knowledge and skills specified in 4.3 good – obtained 77-84% of possible points

4,5	Student mastered knowledge and skills specified in 4.3 more than good – obtained 85-92% of possible points
5,0	Student mastered knowledge and skills specified in 4.3 very good – obtained 93-100% of possible points

The final exam consists of two parts: a theoretical component (written test) and a practical component ("pins"). The exam is deemed passed upon attainment of a final score of at least 60%. The final score is the arithmetic mean of the percentage scores obtained in the theoretical and practical components of the examination. Detailed rules and procedures governing the completion of individual progress tests and the examination are set out in the Regulations of the Department of Anatomy.

5. ECTS credit allocation – student workload

Category	Student workload (full-time mode)	Student workload (part-time mode)
NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER (CONTACT HOURS)	**200**	
Participation in lectures*	80	
Participation in seminars/laboratories*	120	
INDEPENDENT STUDY (NON-CONTACT HOURS)	**150**	
Preparation for lectures*	40	
Preparation for seminars/laboratories*	60	
Preparation for examination/test*	50	
TOTAL HOURS	**350**	
ECTS CREDITS for the course	**14**	

*** delete as appropriate**

Approved for implementation (date and legible signatures of course instructors in the given academic year):

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