



Clinical Anatomy – optional course

1. IMPRINT	
Academic Year	2024/2025
Department	Faculty of Medicine
Field of study	Medicine
Main scientific discipline	Medical sciences
Study Profile	General academic
Level of studies	Uniform MSc
Form of studies	Full time studies
Type of module / course	Non-compulsory
Form of verification of learning outcomes	completion
Educational Unit / Educational Units	DEPARTMENT OF DESCRIPTIVE AND CLINICAL ANATOMY CENTER OF BIOSTRUCTURE RESEARCH Warszawa, ul. Chałubińskiego 5, tel./fax 629-52-83 e-mail : anatomy@wum.edu.pl
Head of Educational Unit / Heads of Educational Units	Prof. Bogdan Cizek, MD, PhD
Course coordinator	Tymon Skadorwa, MD, PhD DEPARTMENT OF DESCRIPTIVE AND CLINICAL ANATOMY CENTER OF BIOSTRUCTURE RESEARCH Warszawa, ul. Chałubińskiego 5, tel./fax 629-52-83 e-mail : tskadorwa@wum.edu.pl
Person responsible for syllabus	(Tymon Skadorwa, MD, PhD DEPARTMENT OF DESCRIPTIVE AND CLINICAL ANATOMY CENTER OF BIOSTRUCTURE RESEARCH Warszawa, ul. Chałubińskiego 5, tel./fax 48 22 629-52-83 e-mail : tskadorwa@wum.edu.pl
Teachers	Dr. Tymon Skadorwa, MD, PhD Dr. Maciej Ciołkowski, MD, PhD Dr. Robert Franczyk, MD PhD Dr. Arkadiusz Kowalczyk, MD Mr. Michał Grzegorzczak, PhD

Mr. Krzysztof Dąbrowski, PhD
 Dr. Olga Wierzbieniec, MD
 Dr. Kamila Sońnicka, MD

2. BASIC INFORMATION

Year and semester of studies	Year 1, Semesters 1 and 2 (winter and summer)	Number of ECTS credits	2.00
FORMS OF CLASSES		Number of hours	ECTS credits calculation
Contacting hours with academic teacher			
Lecture (L)			
Seminar (S)		30	2.00
Classes (C)			
e-learning (e-L)			
Practical classes (PC)			
Work placement (WP)			
Unassisted student's work			
Preparation for classes and completions			

3. COURSE OBJECTIVES

O1	To acquire the knowledge about the construction and usage of anatomical terminology according to the internationally accepted "Terminologia Anatomica".
O2	To be able to name and describe all the anatomical structures dissected during the laboratory classes, understand their development as well as topographical relations.
O3	To understand the relationship between the structure and function of tissues, organs and systems of the human body.
O4	To be able to recognize the anatomical structures in images acquired using various imaging modalities (computed tomography, magnetic resonance imaging, ultrasound imaging, endoscopy).
O5	To understand the principles of biomechanics (movements of joints, function of muscles).
O6	To describe anatomical background of central and peripheral nervous system damage.
O7	To know the spatial, topographical relationships between organs.
O8	To know the surface projections of the organs (e.g. projection of the cardiac valves on the surface of the chest)
O9	To differentiate the normal conditions from pathology basing on post mortem and in vivo methods.

4. STANDARDS OF LEARNING – DETAILED DESCRIPTION OF EFFECTS OF LEARNING

Code and number of the effect of learning in accordance with standards of learning	Effects in the field of: <i>(in accordance with appendix to the Regulation of Minister of Science and Higher education from 29th of September 2023)</i>
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Knowledge – Graduate* knows and understands:

A.W1	structure of the human body in the topographical approach (upper and lower limb, chest, abdomen, pelvis, back, neck, head) and the functional approach (skeletal system, muscular system, urinary system, reproductive system, nervous system and sensory system, integumentary system); appropriate Polish and English anatomical, histological and embryological terminology;
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Skills– Graduate* is able to:

A.U3	explain the anatomical basis of the physical examination;
A.U4	infer the relationships between anatomical structures on the basis of in vivo diagnostic examinations, in particular in radiology;

* In appendix to the Regulation of Minister of Science and Higher education from 29th of September 2023, graduate”, not student is mentioned.

5. ADDITIONAL EFFECTS OF LEARNING *(non-compulsory)*

Number of effect of learning	Effects in the fields of:
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Knowledge – Graduate knows and understands:

K1	Palpation sites of arterial pulse, nerves, internal organs, muscles, bones and joints
K2	Principles of anatomical research methodology

Skills– Graduate is able to:

S1	Understand and use images of anatomical structures obtained from anatomical dissections, medical imaging modalities, as well as medical and anatomical iconography
S2	Analyse biomechanics of the joints
S3	Recognize pulse palpation sites, palpation sites of major nerve trunks and typical osseous points
S4	Recognize basic anatomical structures essential for the medical practitioner in specimens and models (see basic points list) in at least 90%
S5	Recognize the remaining anatomical structures in specimens, models, medical images (sonography, X-ray, computed tomography, magnetic resonance imaging) in at least 65%
S6	Design a simple scientific research study in anatomy

Social Competencies – Graduate is ready for:

SC1	Show respect for the human body (corpse), social groups, religious feelings for the sake of their welfare
SC2	Further self-education with medical confidentiality

6. CLASSES		
Form of class	Class contents	Effects of Learning
Seminars 1-23	WINTER SEMESTER	
S1 – Seminar 1	Axial skeleton, Vertebrae, Ribs.	A.W1, A.U3, AU4
S2 – Seminar 2	Upper extremity.	A.W1, A.U3, AU4
S3 – Seminar 3	Lower extremity.	A.W1, A.U3, AU4
S4 – Seminar 4	Bones of the skull 1.	A.W1, A.U3, AU4
S5 – Seminar 5	Bones of the skull 2.	A.W1, A.U3, AU4
S6 – Seminar 6	Joints, fossae, canals and spaces of the skull.	A.W1, A.U3, AU4
S7 – Seminar 7	Radiology in osteology. Repetition.	A.W1, A.U3, AU4
S8 – Seminar 8	Introduction. Spinal cord. Spinal nerve.	A.W1, A.U3, AU4
S9 – Seminar 9	Cerebral hemisphere.	A.W1, A.U3, AU4
S10 – Seminar 10	Diencephalon. Lateral and third ventricles.	A.W1, A.U3, AU4
S11 – Seminar 11	Brainstem, cerebellum. Fourth ventricle. Roots of cranial nerves.	A.W1, A.U3, AU4
S12 – Seminar 12	Cross-sections of the CNS.	A.W1, A.U3, AU4
S13 – Seminar 13	Vascular anatomy of the CNS.	A.W1, A.U3, AU4
S14 – Seminar 14	Identification of elements of the CNS pathways.	A.W1, A.U3, AU4
S15 – Seminar 15	Radiologic anatomy of the CNS.	A.W1, A.U3, AU4
S16 – Seminar 16	Skin. Neck: triangles, fascias, veins. Cervical plexus.	A.W1, A.U3, AU4
S17 – Seminar 17	Neck: muscles. Thyroid gland, parathyroids. CCA.	A.W1, A.U3, AU4
S18 – Seminar 18	Larynx, trachea. ECA. Vagus, accessory nerve. Sympathetic trunk.	A.W1, A.U3, AU4
S19 – Seminar 19	Muscles of face. Facial nerve and artery. Parotid gland.	A.W1, A.U3, AU4
S20 – Seminar 20	Oral cavity, teeth, gums, tongue, palate. Hypoglossal nerve.	A.W1, A.U3, AU4
S21 – Seminar 21	Infratemporal fossa. Nasal cavity. Trigeminal nerve.	A.W1, A.U3, AU4
S22 – Seminar 22	Orbit, eye. Dura mater. Dural sinuses.	A.W1, A.U3, AU4
S23 – Seminar 23	Ear. Hearing organ. Temporal bone. Radiologic anatomy of Head and Neck.	A.W1, A.U3, AU4
Seminars 24-47	SUMMER SEMESTER	
S24 – Seminar 24	Back.	A.W1, A.U3, AU4
S25 – Seminar 25	Thoracic wall. Breast.	A.W1, A.U3, AU4
S26 – Seminar 26	Thoracic cavity.	A.W1, A.U3, AU4
S27 – Seminar 27	Respiratory system.	A.W1, A.U3, AU4
S28 – Seminar 28	Heart.	A.W1, A.U3, AU4

S29 – Seminar 29	Posterior mediastinum.	A.W1, A.U3, AU4
S30 – Seminar 30	Radiologic anatomy of the thorax.	A.W1, A.U3, AU4
S31 – Seminar 31	Abdominal wall.	A.W1, A.U3, AU4
S32 – Seminar 32	Peritoneum.	A.W1, A.U3, AU4
S33 – Seminar 33	Stomach, celiac trunk, duodenum. Superior mesenteric artery.	A.W1, A.U3, AU4
S34 – Seminar 34	Jejunum, ileum. Large intestine. Inferior mesenteric artery.	A.W1, A.U3, AU4
S35 – Seminar 35	Liver, spleen, pancreas. Portal vein.	A.W1, A.U3, AU4
S36 – Seminar 36	Urinary system. Retroperitoneal space.	A.W1, A.U3, AU4
S37 – Seminar 37	Male genital organs.	A.W1, A.U3, AU4
S38 – Seminar 38	Female genital organs.	A.W1, A.U3, AU4
S39 – Seminar 39	Pelvic floor. Perineum.	A.W1, A.U3, AU4
S40 – Seminar 40	Radiologic anatomy of abdomen and pelvis.	A.W1, A.U3, AU4
S41 – Seminar 41	Shoulder and arm.	A.W1, A.U3, AU4
S42 – Seminar 42	Forearm.	A.W1, A.U3, AU4
S43 – Seminar 43	Hand.	A.W1, A.U3, AU4
S44 – Seminar 44	Gluteal region. Thigh.	A.W1, A.U3, AU4
S45 – Seminar 45	Leg.	A.W1, A.U3, AU4
S46 – Seminar 46	Foot.	A.W1, A.U3, AU4
S47 – Seminar 47	Radiologic anatomy of the limbs.	A.W1, A.U3, AU4

7. LITERATURE

Obligatory

1. Moore KL, Dalley AF, Agur AMR. Clinically oriented anatomy. Philadelphia: Wolters Kluwer/Lippincott Williams & Wilkins
The basic textbook to prepare for the laboratory classes and theoretical tests. Multiple choice questions are written according to this book and lectures. Please read clinical blue boxes as well – they will expand your understanding of clinical importance of anatomical structures you learn about. Some of clinical issues may be also included in the tests.
2. Snell RS. Clinical neuroanatomy. Philadelphia: Wolters Kluwer Health/Lippincott Williams & Wilkins; 2010
The basic textbook of clinical neuroanatomy. We recommend it for the CNS section.
3. Fitzgerald MJT, Gruener G, Mtui E. Clinical Neuroanatomy and Neuroscience. Saunders; 2012
A comprehensive textbook of clinical anatomy of the central nervous system. We recommend it for the CNS section.
4. Dauber W, Feneis H. Pocket atlas of human anatomy : Founded by Heinz Feneis. Stuttgart ; New York: Thieme
An illustrated dictionary of anatomical nomenclature based on Terminologia Anatomica, useful for practical classes, repetitions and practical tests.
5. FIPAT. Terminologia Anatomica. International Anatomical Terminology. Stuttgart, New York: Thieme; 2011
The official anatomical terminology. The reference book in case of any discrepancies regarding the terminology used by various authors.

Supplementary

1. Gilroy AM, MacPherson BR, Ross LM, Schünke M, Schulte E, Schumacher U. Atlas of anatomy. New York: Thieme; 2012
A good and popular anatomical atlas. Our recommendation.

2. Sobotta – Atlas of Human Anatomy or Atlas of Anatomy
There are numerous editions of one of the most popular anatomical atlases worldwide. Editors and publishers are different, but illustrations are the same.
3. Rohen JW, Yokochi C, Lütjen-Drecoll E. Color atlas of anatomy: A photographic study of the human body. Baltimore: Lippincott Williams & Wilkins; 2011
An atlas with photographs of real anatomical specimens.

8. VERIFYING THE EFFECT OF LEARNING

Code of the course effect of learning	Ways of verifying the effect of learning	Completion criterion
<i>e.g. G.K1, G.S1, K1</i>	<i>This field defines the methods used for grading students e.g. pop quiz, test, written report etc.</i>	<i>e.g. threshold number of points</i>
A.W1 A.U3, A.U4	<p>In terms of knowledge: Theoretical MCQ Test at the end of each semester (single best answer test).</p> <p>In terms of skills: Oral check - naming of selected structures with a standardized assessment method described in detail with examples on the e-learning platform of the Department.</p> <p>In terms of social competences: prolonged observation by a teacher, clinical problem solving in groups.</p>	30 questions MCQ Test, passing level: 60%

9. ADDITIONAL INFORMATION

(Please write here Information essential for the course instructor that are not included in the other part of the course syllabus, particularly the number of acceptable tries for passing a subject (§ 26, § 27 and § 28 of Study Regulations), including exam admission passes, and e.g. if the course is related to scientific research, detailed description of, information about the Science Club)

In order to complete each semester of the optional course, a student is required to pass an MCQ test (single best answer) in the e-learning platform. The test will contain 30 questions with a passing level of 60% of correct answers. In each semester a student will have 2 attempts to complete the course.

Class schedule (two times a week):

Tuesdays at 4.30-5.15 p.m. (starts on Oct. 15) &

Thursdays at 4.30-5.15 p.m. (starts on Oct. 3)

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ATTENTION

The final 10 minutes of the last class in the block/semester/year should be allocated to students' Survey of Evaluation of Classes and Academic Teachers.