



**48SJO-ANATO**  
**ECTS: 17.00**  
**CYCLE: 2023**

## Course syllabus - part A Anatomy

### SUBJECT MATTER CONTENT

#### LECTURE

Topographical and clinical anatomy of the: vertebral column, skull, central nervous system, cranial nerves, head and neck. Cranial cavities and fossa, borders, foramina and canals, its contents and clinical anatomy. Clinical anatomy of paranasal sinuses. External, middle and inner ear. Clinical anatomy of the cranial nerves the location and signs of their injury. General terms. The back and upper limb: bones of the arm, forearm, and hand, joints and their movements, muscle, origin and insertions and function, innervation, and vessels. Topographical elements of the upper limb and back. Chest: lung and pleura (morphology, innervation, and blood supply), the heart (morphology, function, valves, innervation and vasculature, the pulmonary, peripheral, and fetal circulations). Division and content of the mediastinum. The development of peritoneum. The organs of the abdomen and pelvis, the morphology, location and topography, innervation, and vascularization. Lymph drainage of the organs and structures of the chest, abdomen, and pelvis. Lower limb: the bones of pelvis, thigh, leg, and foot, joints, movements and range of motion, muscle, origin and insertions and function, innervation, and vascularization. Topographical elements of the lower limb. Clinical, radiological, and descriptive anatomy.

#### CLASSES

General terms: planes and axes, terms of direction and relation, lines used for the body description, types of bones. Bones, joints and ligaments: types and classification of joints (principal and accessory structures of synovial joints). Types of movements. Vertebral column: parts and structural elements of the vertebra, typical and atypical cervical, thoracic, and lumbar vertebra, sacrum and coccyx. Structure and function of intervertebral disc. Syndesmoses, synchondroses and synovial joints of vertebral column. True and false ribs, parts. Parts of sternum. Joints of thoracic cavity. Origin and insertion of the muscles Skull: bones of chondrocranium and desmocranium, neurocranium and splanchnocranium. Topographical elements of the skull (cavities and fossa) and its communication (foramina and canals and their content). Joints of the skull. General terms of nervous system. Central, peripheral and autonomic nervous system. Anatomic, clinical and functional division of the nervous system. Meninges of encephalon and spinal cord. Cerebrospinal fluid spaces and circulation; ventricles. Telencephalon, diencephalon, mesencephalon, rhinencephalon, spinal cord (division, structure, function). Blood supply of brain and spinal cord. Descending and ascending pathways of spinal cord. Pyramidal and extrapyramidal pathways, sensory pathways. Cranial nerves: nuclei, pathways. Clinical anatomy of the central nervous system: clinical effects of the lesions on different levels, basic signs. Head and neck: muscles, fascia, origin and insertion, function. Taste, olfactory, visual, auditory, vestibular pathways. Clinical anatomy of cranial nerves: lesion, paralysis, signs of the injury on different levels. Larynx: structure, innervation, blood supply. Thyroid gland. Salivary glands. Sensory, motor, and autonomic innervation of head and neck. Blood supply, venous drainage, lymphatic drainage of head and neck.

**Legal acts specifying learning outcomes:**  
3112022

**Disciplines:** medical sciences

**Status of the**

**course:**Obligatoryjny

**Group of courses:**A -

przedmioty podstawowe

**Code:** ISCED 0912

**Field of study:**Medicine

**Scope of**

**education:**Medicine

**Profile of education:**

General academic

**Form of studies:** full-time

**Level of studies:** uniform

master's studies

**Year/semester:** /1

**Types of classes:** Lecture,  
Classes

**Number of hours in semester:**Lecture: 40.00,  
Classes: 160.00

**Language of instruction:**English

**Introductory subject:**

Biology

**Prerequisites:** Knowledge  
about human morphology and  
physiology

**Name of the organisational unit conducting the**

**course:**Katedra Anatomii

**Person responsible for the**

**realization of the**

**course:**prof. dr hab. n. med.

Jerzy Gielecki, dr n. med.

Marcelina Łopińska

**e-mail:**

jerzy.gielecki@uwm.edu.pl

marcelina.lopinska@uwm.edu.pl

**Additional remarks:**

Topographical elements of head and neck. Clinical and radiological anatomy. Topographical and clinical anatomy of the back and upper limb. Spinal nerve and clinical anatomy of the brachial plexus. Bones and joints and muscles of the upper limb. Topographical elements of the upper limb and its clinical correlations. Heart - morphology, topography, and clinical anatomy. Systemic, pulmonary, and fetal circulation. The autonomic nervous system, morphology, division, and its clinical relevance. Topographical and clinical anatomy of the mediastinum. The development of the peritoneum. Topographical and clinical anatomy of the abdominal and pelvic structures. Topographical and clinical anatomy of the lower limb.

## **TEACHING OBJECTIVE**

The aim of the study: each of the students should know the anatomical nomenclature in English, he/she should identify and recognized the principles of the proper human topographical description, axes, and the planes of the human body and the cavities of the human bodies. The students understand the basis of embryological development for comprehensive anatomical structures. They know in detailed the proper structure of tissues and organs, and they understand the relationship between them and their structures and function. They also know the palpable anatomy. The students have the knowledge and they analyze movements of the joints . They understand the anatomy of various organs in the topographical and systematic and descriptive approach. They are able to identify and correctly name each anatomical structure on the basis of prosections and dissections of the human bodies and on the basis of radiological images ( X-ray, CT, MRI and angiography) and the individual living people as well. The students have the anatomical basis for the interpretation of radiological images with elements of ultrasound, CT and MRI. They apply the theoretical basis of anatomy into the clinic and they properly interpret the clinical situations and clinical cases. They treat the human bodies and the human remains with the highest respect. Each of the students can work alone and in a small discussion group. Together with colleagues, they solve the problems on the basis of anatomical clinical cases.

## **DESCRIPTION OF THE LEARNING OUTCOMES OF THE COURSE IN RELATION TO THE DESCRIPTION OF THE CHARACTERISTICS OF THE SECOND LEVEL LEARNING OUTCOMES FOR QUALIFICATIONS AT LEVELS 6-8 OF THE POLISH QUALIFICATION FRAMEWORK IN RELATION TO THE SCIENTIFIC DISCIPLINES AND THE EFFECTS FOR FIELDS OF STUDY:**

**Symbols for outcomes related to the discipline:**

M/NMA\_P7S\_WG+++ , M/NMA\_P7S\_KO+

**Symbols for outcomes related to the field of study:**

A.W1.+ , A.W2.+ , A.W3.+ , K.5.+ , K.8.+ , A.U5.+ , K.7.+ , KA7\_KO1+ , A.U4.+ , A.U3.+

## **LEARNING OUTCOMES:**

### **Knowledge:**

W1 - The student know anatomic, histological, and embryological nomenclature in the Polish and English languages

W2 - The student know the composition of the human body in terms of its topography (upper and lower limbs, the chest, abdomen, pelvis, back, neck, head) and functions (the osteoarticular system, muscular system, cardiovascular system, respiratory tract, digestive system, urinary tract, procreation systems, nervous system and sense organs, the common integument);

W3 - The student know the topographic relations between individual organs;

### **Skills:**

U1 - The student can explain the anatomical grounds of physical examination

U2 - The student can formulate conclusions as to the relations between anatomical structures based on intravital diagnostic tests, especially of the radiological type (plain film, tests with contrast agents, computer tomography, and nuclear magnetic resonance)

U3 - The student can use the anatomic, histological, and embryological nomenclature in speech and writing.

### **Social competence:**

K1 - The student has the ability perceiving and recognizing one's own limitations and self-assessing educational deficits and needs;

K2 - The student has the ability use of objective sources of information;

K3 - The student has the ability formulate conclusions from own measurements or observations;

K4 - The student treats human bodies and remains with dignity and respect

### **TEACHING FORMS AND METHODS:**

Lecture(W1;W2;W3;U1;U2;U3;K1;K2;K3;K4;):PowerPoint presentation, interactive lecture

Classes(W1;W2;W3;U1;U2;U3;K1;K2;K3;K4;):Prosecting and dissection classes based on dissection preparations, preparation of anatomical structures

### **FORM AND CONDITIONS OF VERIFYING LEARNING**

#### **OUTCOMES:**

Lecture (Oral exam) - -understanding and analysis of clinical anatomy problems using 3 problem based question -

Lecture (Written exam) - (yes/no questions test) - solved 100 MCQ questions type - true / false (max. 500 points) - passing 70% -

Lecture (Exam) - - practical examination (standardized examination) - recognize and name selected anatomical structures in accordance with the applicable anatomical nomenclatures in English - passing 70% -

Classes (Colloquium test) - - solved 20 MCQ questions type - true / false (max. 100 points) - passing 70% -

Classes (Evaluation of the work and cooperation in the group) - - small teaching group classes and problem based classes with "brainstorm" discusion -

Classes (Colloquium practical) - - recognize and name selected 20 anatomical structures in accordance with the applicable anatomical nomenclatures in English (max. 100 points) - dep. 70% (28 points) -

#### **BASIC LITERATURE:**

1. Gielecki J, Żurada A, *Clinical Anatomy Bones Joints and Ligaments with 3D phantogram atlas*, Wyd. MedRadEd, R. 2018

2. Richard Drake A. Wayne Vogl Adam Mitchell,, *Gray's Anatomy for Students*, Wyd. Elsevier, R. 2019

3. Peter Abrahams, Johannes Boon, Jonathan Spratt, Marios Loukas, Albert VanSchoor, *McMinn and Abrahams' Clinical Atlas of Human Anatomy 8th Edition*, Wyd. Elsevier, R. 2019

4. Frank H. Netter, *Atlas of Human Anatomy*, Wyd. Elsevier Urban Partner, R. 2022

5. Gielecki J, Żurada A, *Axial Skeleton Clinical anatomy of skull and spine*, Wyd. MedRadEd, R. 2016

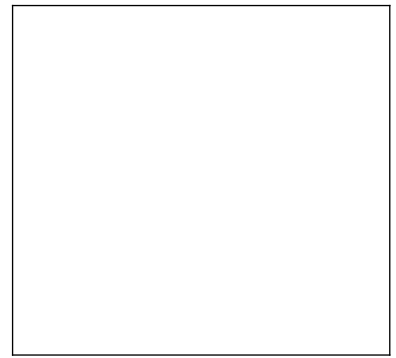
6. Torsten Bert Moeller Torsten Bert Moeller Emil Reif, *Pocket Atlas of Sectional Anatomy Computed Tomography and Magnetic Resonance Imaging*, Wyd. Thieme, R. 2017

7. Michael Schuenke, Erik Schulte, Udo Schumacher, Lawrence M Ross,

Edward D Lamperti, Markus, *THIEME Atlas of Anatomy Series*, Wyd. Thieme, R. 2021

**SUPPLEMENTARY LITERATURE:**

1. Gielecki J, Żurada A, gajda G, Cybulski W, *The Brain Matters. CD English-Latin-Polish Atlas of Neuroanatomy*, Wyd. Górnicki, R. 2008
2. Ioukas M, Stephen W. Carmichael, *Gray's Anatomy Review*, Wyd. Elsevier, R. 2021
3. David L. Felten, Anil Shetty, *Netter's Atlas of Neuroscience*, Wyd. Elsevier, R. 2021



## Detailed description of ECTS credits awarded - part B

**48SJO-ANATO**

**ECTS: 17.00**

**CYCLE: 2023**

### Anatomy

The number of ECTS credits awarded consists of:

1. Contact hours with the academic teacher:

- participation in: Lecture	40.0 h
- participation in: Classes	160.0 h
- consultation	4.0
	Total: 204.0 h.

2. Independent work of a student:

Preparation for exercises, self-education	61.00 h
Preparation for credits	80.00 h
Preparation for the exam	80.00 h

Total: 221.0 h

contact hours + independent work of a student Total: 425.0 h

1 ECTS credit = 25-30 h of an average student's work, number of ECTS credit = 425.0 h : 25.0 h/ECTS = 17.00 ECTS on average: 17.0 ECTS

- including the number of ECTS credits for contact hours with the direct participation of an academic teacher: 0,00 ECTS points,

- including the number of ECTS credits for hours of independent work of a student: