# DESCRIPTION OF THE COURSE OF STUDY

| | | |
|---|---|---|
| **Course code** | **0912-7LEK-B1.1-A** | |
| **Name of the course in** | Polish | **Anatomia** |
| | English | **Anatomy** |

## 1. LOCATION OF THE COURSE OF STUDY WITHIN THE SYSTEM OF STUDIES

| | |
|---|---|
| **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*** | Practical |
| **1.5. Specialization*** | lack |
| **1.6. Unit running the course of study** | Faculty of Medicine and Health Sciences |
| **1.7. Person/s preparing the course description** | prof. dr hab. Tadeusz Kuder, dr n. med. Michał Spałek |
| **1.8. Person responsible for the course of study** | dr hab. n. med. Marcin Sadowski |
| **1.9. Contact** | emsad@o2.pl |

## 2. GENERAL CHARACTERISTICS OF THE COURSE OF STUDY

| | |
|---|---|
| **2.1. Affiliation with the module** | Morphological sciences |
| **2.2. Language of instruction** | English |
| **2.3. Semesters in which the course of study is offered** | 1st, 2nd semester |
| **2.4. Prerequisites*** | The preliminary biology and chemistry program in the field of high school matura exam at basic level |

## 3. DETAILED CHARACTERISTICS OF THE COURSE OF STUDY

| | | |
|---|---|---|
| **3.1. Form of classes** | | **lectures 75 h (40+35), classes 60 h (30+30),practical classes 90 h (45+45)** |
| **3.2. Place of classes** | | Courses in the teaching rooms of the JKU |
| **3.3. Form of assessment** | | lecture credit for each semester, exam (IInd semester)<br>classes – credit with grade of each semester<br>practical classes – credit with grade of each semester |
| **3.4. Teaching methods** | | Lecture – informative lecture with oral transmission of knowledge and the use of visual means<br>Classes- conversational lecture, discussion connected with the lecture, demonstration with description, practical classes |
| **3.5. Bibliography** | **Required reading** | 1. K.L. Moore, A.M.R. Agur, A.F. Daley: Clinically Oriented Anatomy 7th ed. + ebook, Wolters Kluwer, Lippincott Wiliams & Wilkins, 2013<br>2. Frank H. Netter Atlas of Human Anatomy: Including Student Consult Interactive Ancillaries and Guides, Publisher: Saunders 6th edition, 2014<br>3. P.W. Tank, T.R. Gest.: Atlas of Anatomy, Lippincott Wiliams & Wilkins 2008<br>4. J.H. Spodnik. Mianownictwo anatomiczne. Edra Urban & Partner, Wrocław, 2017 |
| | **Further reading** | 1. Drake RL, Vogl AW i Mitchell AWM: Gray's Anatomy for Stu-dents. The anatomical basis of clinical practice. Publisher: Churchill Livingstone 3rd edition, 2014<br>2. R. Kudak, D. Kachlik, O. Volny: MemorixAnatomy, Edra Ed., 2016 |

## 4. OBJECTIVES, SYLLABUS CONTENT AND INTENDED TEACHING OUTCOMES

**4.1. Course objectives** ***(including form of classes)***

**Lectures, Classes, Practical Classes**

**4.1. Aims**

C1-W – provide students with the knowledge in the scope of anatomy of the skeletal, muscular, nervous, circulatory, respiratory, digestive, genital, urinary, endocrine, sensory organs and integumentary system.

C2-W – familiarize the student with the knowledge and understanding of human anatomy in topographic term.

C3-U – prepare the student to make a proper assessment of individual functional systems in various clinical situations as well as suggesting the way of further proceedings.

C4-U – prepare to use the knowledge of topographic anatomy of human in both diagnostic and therapeutic medical procedures.
C4-K – awareness of the possibility of acquiring knowledge from different sources and seeking the help of other people.
C5-K -creation of appropriate ethical attitude towards the body of the living and the dead man.

**4.2. Detailed syllabus** ***(all form of classes)***

Program of lectures

The history and basic concepts of anatomy. The topography of human body, directions, location, axes, planes, parts. Integumentary system.
Topographic and functional anatomy of the locomotor system.
Topographic and functional anatomy of central and peripheral nervous system and sense organs.
Topographic and functional anatomy of all organs of the head and neck.
Topographic and functional anatomy of all organs in the thorax.
Topographic and functional anatomy of all organs in the abdomen and pelvis.
Selected aspects of the anatomy in different imaging modalities.

Program of classes

Basic description of the anatomy of human body. Axes, planes, directions and parts.
Integumentary system-the skin and its appendages. Methods of imaging of the skin as well as its appendages (USG, mammography, MR).
Bone structure
Spine: Typical structure of vertebrae. Construction of the vertebrae in the individual section of the spine. Connection of vertebrae: joints, syndesmosis, synchondrosis. Connections of the spine with the skull. Movements in the joints of the head. Curvature of the spine. Mechanics and function of the spine. Methods of imaging of the spine (X-ray, CT, MR).
Thorax: structure and function.
Construction of the typical rib. Variability of ribs' construction. Construction of sternum. Connections within the chest. Superior and inferior thoracic aperture. Functions and mechanics of the chest. Methods of imaging of the chest wall (usg, X-ray, CT, MR).
The bones of the upper limb. The rim of the upper limb: the clavicle and the scapula. The humerus. Forearm bones: ulna and radius. The hand: bones of the wrist, metacarpal bones, bones of the fingers. Methods of imaging of bones of the upper limb (X-ray, CT, MR).
Connections of the bones of the upper limb. Joints and syndesmosis of the upper limb's rim. Shoulder joint. Elbow joint. Connections of the forearm's bones. Hand joints. Movements in the individual joints of the upper limb. Methods of imaging diagnosis of the bones' connections of the upper limb (usg, X-ray, MR, CT).
Bones of the lower limb. The rim of the lower limb: the ilium, ischium, and pubis. The sacrum. The femur. The leg bones: tibia, fibula. Foot bones, tarsal bones, metatarsal, bones of toes. Methods of imaging of bones of the lower limb (X-ray, CT, MR).
Connections of the bones of the lower limb. The bones of the pelvis. Hip-joint. Knee-joint. Connections of the bones of the leg. Foot joints. Method of imaging diagnosis of the connections of the lower limb's bones (usg, X-ray, MR, CT).
Skull.
Cranial bones. Craniofacial bones. Connections of skull bones. The base of the skull: anterior, middle and posterior. The orbit. Nasal cavity. Paranasal sinuses. Temporal fossa. Infratemporal fossa. Pterygopalatine fossa. Mandibular fossa. Methods of imaging of the skull (X-ray, CT, MR).
Test number 1
Central nervous system and peripheral nervous system. Sensory organs.
Brain: cerebral hemispheres, cerebellum, brain stem. Medulla oblongata. Metencephallon – pons and cerebellum. Mesencephalon –cerebral peduncle, midbrain tectum. Diencephalon – hypothalamus and thalamus. Telencephalon – telencephalon impar and hemispheres. Division of cerebral cortex functions. Basal nuclei. Ventricular system. Cerebrospinal fluid. Cerebral meninges. Topography of the brain. Medulla spinalis – topography. Pathways (tracts) of medulla. Pathways of the spinal cord. Cranial and spinal nerves. Cervical plexus – topography, nerves, innervation area, paralysis symptoms. Brachial plexus – topography, nerves, innervation area, paralysis symptoms. Intercostal nerves – topography, innervation area, paralysis symptoms. Lumbosacral plexus – topography, nerves, innervation area, paralysis symptoms.
Sensory organs – structure and functions. The organ of smell. Optic nerve. Vestibulocochlear organ. Sense of taste. Superficial sensory receptors. Deep sensory receptors. Methods of picture diagnosis of the nervous system (usg, CT, MR).
Test number 2
Head and neck
Topographic, functional and radiologic anatomy of all organs of the head and neck.
Test number 3
Resit test – 1st semester
Thorax
Topographic, functional and radiologic anatomy of all organs in the thorax.
Test number 4
The abdomen

| |
|---|
| Topographic, functional and radiologic anatomy of all organs of abdomen.<br>Test number 5<br>The pelvis<br>Topographic, functional and radiologic anatomy of all organs of pelvis.<br>Test number 6<br>The back and limbs<br>Topographic, functional and radiologic anatomy all organs of the upper and lower limbs.<br>Test number 7<br>Resit test 4, 5, 6, 7 |

**4.3. Education outcomes in the discipline**

| Code | A student, who passed the course | Relation to teaching outcomes |
|---|---|---|
| within the scope of **KNOWLEDGE:** | | |
| W01 | knows anatomical, histological and embryological terminology in English and Latin; | A.W1. |
| W02 | knows human anatomy topographically (upper and lower limb, chest, abdomen, pelvis, back, neck and head) and functionally (respiratory system, digestive system, urogenital system, nervous system and sense organs, integumentary system); | A.W2. |
| W03 | describes topographical relations between individual organs; | A.W3. |
| within the scope of **ABILITIES:** | | |
| U01 | explains the anatomical basis for clinical examination; | A.U3. |
| U02 | makes conclusions as to the relationship between anatomical structures on the basis of *in vivo* diagnostic tests, in particular in the field of radiology (plain images, tests using contrast agents, CT scans and magnetic resonance imaging); | A.U4. |
| U03 | uses anatomical, histological and embryological terminology both in written and oral communication; | A.U5. |

**4.4. Methods of assessment of the intended teaching outcomes**

| **Teaching outcomes** *(code)* | **Method of assessment (+/-)** | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Exam (three parts: written, practical and oral)** | | | **Tests** | | | **Project*** | | | **Effort in class*** | | | **Self-study*** | | | **Group work*** | | | **Others*** | | |
| | ***Form of classes*** | | | ***Form of classes*** | | | ***Form of classes*** | | | ***Form of classes*** | | | ***Form of classes*** | | | ***Form of classes*** | | | ***Form of classes*** | | |
| | *L* | *C* | *PC* | *L* | *C* | *PC* | *L* | *C* | ... | *L* | *C* | *PC* | *L* | *C* | .. . | *L* | *C* | *PC* | *L* | *C* | .. . |
| W01 | + | + | + | + | + | + | | | | + | + | + | | | | | + | + | | | |
| W02 | + | + | + | + | + | + | | | | + | + | + | | | | | + | + | | | |
| W03 | + | + | + | + | + | + | | | | + | + | + | | | | | + | + | | | |
| U01 | + | + | + | + | + | + | | | | + | + | + | | | | | + | + | | | |
| U02 | + | + | + | + | + | + | | | | + | + | + | | | | | + | + | | | |
| U03 | + | + | + | + | + | + | | | | + | + | + | | | | | + | + | | | |

****delete as appropriate***

| **4.5. Criteria of assessment of the intended teaching outcomes** | | |
|---|---|---|
| **Form of classes** | **Grade** | **Criterion of assessment** |
| **lecture (L)** | **3** | Student mastered knowledge and skills specified in 4.3 sufficiently – obtained 60-69% of possible points |
| | **3,5** | Student mastered knowledge and skills specified in 4.3 fairly good – obtained 70-79% of possible points |
| | **4** | Student mastered knowledge and skills specified in 4.3 good – obtained 80-89% of possible points |
| | **4,5** | Student mastered knowledge and skills specified in 4.3 more than good – obtained 90-95% of possible points |
| | **5** | Student mastered knowledge and skills specified in 4.3 very good – obtained 96-100% of possible points |
| **classes (C)*** | **3** | Student mastered knowledge and skills specified in 4.3 sufficiently – obtained 60-69% of possible points |
| | **3,5** | Student mastered knowledge and skills specified in 4.3 fairly good – obtained 70-79% of possible points |
| | **4** | Student mastered knowledge and skills specified in 4.3 good – obtained 80-89% of possible points |
| | **4,5** | Student mastered knowledge and skills specified in 4.3 more than good – obtained 90-95% of possible points |
| | **5** | Student mastered knowledge and skills specified in 4.3 very good – obtained 96-100% of possible points |
| **Practical classes*** | **3** | Student mastered knowledge and skills specified in 4.3 sufficiently – obtained 60-69% of possible points |
| | **3,5** | Student mastered knowledge and skills specified in 4.3 fairly good – obtained 70-79% of possible points |
| | **4** | Student mastered knowledge and skills specified in 4.3 good – obtained 80-89% of possible points |
| | **4,5** | Student mastered knowledge and skills specified in 4.3 more than good – obtained 90-95% of possible points |
| | **5** | Student mastered knowledge and skills specified in 4.3 very good – obtained 96-100% of possible points |

The final exam consists of three parts: practical, test, and oral.
There are full particulars related to the rules and procedures of the exam and credits in the Internal Regulation of the Anatomy Department.

## 5. BALANCE OF ECTS CREDITS – STUDENT'S WORK INPUT

| **Category** | **Student's workload** |
|---|---|
| | **Full-time studies** |
| ***NUMBER OF HOURS WITH THE DIRECT PARTICIPATION OF THE TEACHER /CONTACT HOURS/*** | **225** |
| *Participation in lectures** | **75** |
| *Participation in classes, seminars, laboratories** | **150** |
| *Preparation in the exam/ final test** | |
| ***Others**** | |
| ***INDEPENDENT WORK OF THE STUDENT/NON-CONTACT HOURS/*** | **200** |
| *Preparation for the lecture** | **50** |
| *Preparation for the classes, seminars, laboratories** | **150** |
| *Preparation for the exam/test** | |
| *Gathering materials for the project/Internet query** | |
| *Preparation of multimedia presentation* | |
| *Others** | |
| ***TOTAL NUMBER OF HOURS*** | **425** |
| **ECTS credits for the course of study** | **17** |

***Accepted for execution*** *(date and signatures of the teachers running the course in the given academic year)*

.....