

Course description

Part 1

General information about the course	
1. Major of study: medicine	2. Study level: unified MSc 3. Form of study: intramural
4. Year: 3	5. Semester: 5 & 6
6. Course name: Gross anatomy	
7. Course status: required	
8. Course contents and assigned learning outcomes	
Course contents 1. Anatomical nomenclatures of human body plans, regions and axis. 2. The skeletal system; bones of the upper and lower limb and joints, the vertebral column and joints, bony structures of the thoracic wall including imaging techniques. 3. Topography of musculoskeletal system of the upper limb and lower, innervation- brachial plexus and lumbar sacral plexus and blood circulation system including lymphatic drainage of the upper and lower limb, clinically oriented anatomy of the musculoskeletal system of the upper and lower limbs and imaging techniques. 4. The thoracic cavity anatomy and topography of the cardiovascular system and the respiratory system and clinically oriented anatomy of these systems including imaging techniques and diagnostic tools including noninvasive and invasive methods. 5. Topography and clinically oriented anatomy of the abdominal cavity including; the digestive system including upper and lower GI, blood supply and innervation the gut, The urinary system, male and female, the reproductive system of female and male, imaging techniques and other diagnostic tools. 6. Topography and the clinically oriented anatomy; head and neck, the bony structures, the sensory organs of the head and neck and the cranial nerves including basic diagnostic tools and outcomes. 7. Anatomy of the nervous system: Central and peripheral nervous system including sympathetic and parasympathetic system. Clinically oriented anatomy and imaging techniques and tools available in additional diagnosis procedures. Learning outcomes After the completion of the course the student should be able to identify the topography and physiological function and basic physical diagnosis including common pathologies in emergency medicine of the; musculoskeletal system, cardiovascular system, respiratory system, gastrointestinal system, urinary system, endocrine system, male and female reproductive system, the sensory organs and the central and peripheral nervous system. Learning outcomes / reference to learning outcomes indicated in the standards For knowledge – student knows and understands: A.W1, A.W2, A.W3. For skills student can do: A.U3, A.U4, A.U5. For social competencies student is ready to: 1) establish and maintain deep and respectful contact with the patient, as well as showing understanding of ideological and cultural differences; 2) guiding the patient's well-being; 3) compliance with medical confidentiality and patient's rights; 4) taking actions towards the patient based on ethical principles, with the awareness of social conditions and restrictions resulting from the disease; 5) perceiving and recognizing one's own limitations and self-assessing educational deficits and needs; 6) promoting health-promoting behavior;	

- 7) using objective sources of information;
- 8) formulating conclusions from own measurements or observations;
- 9) implementing the principles of professional camaraderie and cooperation in a team of specialists, including representatives of other medical professions, also in a multicultural and multinational environment;
- 10) formulating opinions on various aspects of professional activity;
- 11) assuming responsibility related to decisions taken as part of professional activities, including in terms of self and other people's safety.

9. Number of hours for the course		210
10. Number of ECTS points for the course		17
11. Methods of verification and evaluation of learning outcomes		
Learning outcomes	Methods of verification	Methods of evaluation*
Knowledge	Written evaluation – open questions Grade credit – MCQ and MRQ (multiple response questions)	MCQ
Skills	Report Observation Practical exam-PIN test in anatomy specimens	Practical PIN test
Competencies	Observation	Power point presentations and evidence based learning

* The following evaluation system has been assumed:

Very good (5,0) – the assumed learning outcomes have been achieved and significantly exceed the required level

Better than good (4,5) – the assumed learning outcomes have been achieved and slightly exceed the required level

Good (4,0) – the assumed learning outcomes have been achieved at the required level

Better than satisfactory (3,5) – the assumed learning outcomes have been achieved at the average required level

Satisfactory (3,0) – the assumed learning outcomes have been achieved at the minimum required level

Unsatisfactory (2,0) – the assumed learning outcomes have not been achieved

Course description

Part 2

Other useful information about the course		
12. Name of Department, mailing address, e-mail: Department of Human Anotomy anatom@sum.edu.pl		
13. Name of the course coordinator:		
Prof. dr hab. n. med. Grzegorz Bajor Sham Abdul Cader Mohamed M.D, Ph.D		
14. Prerequisites for knowledge, skills and other competencies:		
Basic knowledge of Human biology, Chemistry and Physics.		
15. Number of students in groups	In accordance with the Senate Resolution 15	
16. Study materials	Human Cadavers, Plastinated specimens, 3D presentations on multimedia, live dissection session,	
17. Location of classes	Department of Human Antomy – Dissection rooms (Anatomicum) Medyków 18, 40-752 Katowice	
18. Location and time for contact hours	Department of Human Antomy – Medyków 18, 40-752 Katowice Mondays- 12:30 p.m till 2:30.p.m Wednsdays- 12:30 p.m till 2:30 p.m Fridays- 12:30 till 2:30 p.m	
19. Learning outcomes		
Number of the course learning outcome	Course learning outcomes	Reference to learning outcomes indicated in the standards
P_W01 / C_K01	Anatomical, histological and embryological denominations in Polish and English	A.W1
P_W02 / C_K02	Human body structure in a topographic approach (upper and lower limbs, chest, abdomen, pelvis, back, neck, head) and functional (skeletal-articular system, muscular system, circulatory system, respiratory system, digestive system, urinary system, systems genital, nervous and sensory organs, joint shell)	A.W2
P_W03/C_K03	Topographic relations between individual organs	A.W3
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P_U01 / C_S01	Explain the anatomical basis of physical examination	A.U3
P_U02 / C_S02	infer about relationships between anatomical structures based on in vivo diagnostic tests, in particular in the field of radiology (review photos, tests using contrast media, computed tomography and nuclear magnetic resonance);	A.U4
P_U03/C_S03	Use anatomical, histological and embryological names in speech and writing	A.U5

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20. Forms and topics of classes		Number of hours
21.1. Lectures		
1. General terms and plans of human body. Axial skeleton, joints of the upper and lower limb, thoracic cavity and the pelvis, Muscles of the Upper and Lower Limb, Brachial plexus and lumbo-sacral plexus, arterial and venous blood supply to the Upper and Lower limb, Clinically oriented anatomy of the Upper and lower limbs including imaging techniques and presentation of the cases (evidence base learning)		10
2. The thoracic cavity- skeletal system and joints, innervation and blood supply, topography and region of the anterior and posterior thoracic wall, The cardiovascular system, The respiratory system, The mediastenum, Clinically oriented anatomy including imaging techniques invasive and noninvasive methods, basic physical diagnosis of the thoracic cavity including the cardiovascular and respiratory system and evidence base learning.		10
3. The abdominal cavity,- divisions, walls, regions, topography of the internal organs, Blood supply and innervation of the internal organs of the abdomen, Upper and lower GI (gastro intestinal tract), Hepatic portal system and basic clinical anatomy of the portal system, Basic clinically oriented anatomy of the gastro intestinal tract including evidence base learning		10
4. Anatomical topography and variation of the urinary system, common anatomical abnormalities of the kidneys, ureter, and imaging techniques of the urinary tract, clinically oriented anatomy		6
5. The male reproductive system- anatomy and topography, imaging methods, common symptomatology and evaluation in clinically oriented anatomy.		2
6. The female reproductive system- - anatomy and topography, imaging methods, common symptomatology and evaluation in clinically oriented anatomy.		2
7. Head and neck: The skull-bones, fossas, cavities, basic approach in clinically oriented anatomy of ENT, Neurosurgery and ophthalmology specialties		4
8. The cranial nerves and the cervical plexus		4
9. The sensory organs of the head and neck, basic clinical anatomy of the eyes and the external and middle ear.		2
10. The central and peripheral nervous system, imaging techniques and common neurological systems and evaluation of the basic diagnosis criteria in patients with central and peripheral nerve palsies. Evidence base case learning		10
23.3. Labs		
1. Osteology: General terms. Axial skeleton, vertebral column, thoracic cage, Bones and joints of upper limb, Bones of pelvic girdle and femur. Bones and joints of lower limb and Clinical anatomy of the upper and lower limb skeleton including radiological evaluation.		15
2. Back and upper limb: Regions of back and upper limb, spinal nerves and the brachial plexus, muscle, fascia, arterial blood supply, venous drainage and lymphatic drainage of the upper limb, physical evaluation of the clinical point of view in the upper limb and clinical evaluation of basic anatomical abnormalities and evidence base learning including imaging techniques of the upper limb and the back.		15
3. Hip and the lower Limb: Pelvic girdle, thigh and the regions, spinal nerves and the lumbo-sacral plexus, muscles and fascia, arterial blood supply, venous drainage and lymphatic drainage of the lower limb, physical evaluation of the clinical point of view in the lower limb clinical evaluation of basic anatomical abnormalities and evidence base learning including imaging techniques of the lower limb and the back.		15
4. Thoracic wall and the thoracic cavity: Thorax. Regions of thorax, topographical lines of thorax. Muscles of thorax, diaphragm. Thoracic nerves, intercostal nerves, sympathetic		15

trunk, visceral plexus and ganglia. Breast- Lymphatic nodes and vessels of breast. Lungs-Parietal pleura & visceral pleura, pleural cavity. Lungs, bronchopulmonary segments, trachea, bronchi. Arteries, veins, lymphatic nodes and vessels of lungs. Topographical elements of the lungs. Anatomical aspects of physical examination of the lungs. Heart -right & left atrium. Right & left ventricle. Valves & orifices of the heart. Endocardium. Myocardium. conducting system of heart. Pericardium & pericardial cavity. Vessels & nerves of the heart. Topographical elements of the heart. Selected problems of cardiology. X-ray, CT, MR imaging and other methods, Clinically oriented anatomy of the respiratory and cardioascular system including ewidence base learning.	
5. Abdomen - abdominal wall. Peritoneum & progression of perineum Abdominal regions & planes. Muscles, fasciae, vessels & nerves of the abdominal wall, Topographical elements of the abdominal wall. Rectus sheath. Inguinal canal. Inguinal triangle. Weak places, inguinal, umbilical, lumbar hernia & hernia of linea alba. Peritoneal cavity. Recesses, fossae and folds of the peritoneal cavity. Greater & lesser omentum, omental bursa. Preperitoneal space. Anatomy of superior and inferior part of digestive system - an overview. Supracolic part of the abdominal cavity and the infracolic part of the abdominal cavity. Retroperitoneal space- Abdominal part of aorta. Superior & inferior mesenteric artery. Inferior vena cava. Abdominal visceral lymph nodes & vessels. Clinically oriented anatomy including none invasive and invasive methods of diagnosis of the Gastro intestinal tract, ewidence base learning of the GI tract	15
6. Retroperitoneal space and the urinary organs & tract: pelvis- muscles & spaces of pelvis Urinary organs: Pelvic diaphragm & muscles of urogenital triangle, superficial & deep perineal space, Topographical elements of pelvis. Perineal region. Arteries, veins, lymphatic nodes and vessels of pelvis. Lymphatic trunks and ducts. Clinically oriented anatomy including none invasive and invasive methods of diagnosis of the urinary system including retroperitoneal space, ewidence base learning of the urinary system	15
7. Male genital organs and male genital system: Male internal genital organs: testis, epididymis, ductus deferens, seminal vesicle, spermatic cord, prostate, bulbo-urethral gland. Descent of the testes. Male external genitalia: scrotum, male urethra, penis, perineum. Erection, ejaculation, coitus. Nerves, arteries, veins, lymphatic nodes &vessels of male genital organs. X-ray, CT, MR imaging, ANGIO-CT, USG of the pelvis, basic clinical approach and methods of invasive and none invasive diagnostic tools including ewidence base learning.	5
8. Female genital organs and female genital system: Female internal genital organs: ovary, uterine tube, uterus, vagina. Epoophoron, paraoophoron. Female external genital organs: pudendum, clitoris, female urethra. Ligaments of uterus. Nerves, arteries, veins, lymphatic nodes & vessels of female genital organs. Topographical elements of female pelvis. X-ray, CT, MR imaging, ANGIO-CT, USG of the pelvis, , basic clinical approach and methods of invasive and none invasive diagnostic tools including ewidence base learning.	5
9. The skull: Neurocranium- calvaria, frontal bone, parietal bone, occipital bone, sphenoid bone, ethmoid bone, temporal bone and viscerocranium, cranial walls, cavities and fossass of the skull, cranial communications.	10
10. Head and neck: Regions of the head and neck, head and neck muscles, triangles of the neck, cervical plexus, cranial nerves, external nose, nasal cavity, paranasal sinuses, arteries & veins of the nose, nerves of the nose. oral vestibule, oral cavity proper, glands of oral avity, major salivary glands and minor salivary glands, teeth, tongue & muscles of tongue, arteries & veins of the oral cavity, nerves of the oral cavity, Ear & CN VIII, Eye & CN II CN III CN IV CN VI, Pharynx: nasopharynx, oropharynx, laryngopharynx, pharyngeal muscles, arteries & veins of the pharynx, nerves of the pharynx. Larynx: laryngeal cartilages, laryngeal joints, laryngeal muscles, laryngeal cavity, arteries &	20

veins of the larynx, nerves of the larynx. Topographical elements of head & neck. X-ray, CT, MR imaging, ANGIO-CT, USG and basic clinical approach and methods of invasive and none invasive diagnostic tools including evidence base learning.	
11. The Central Nervous system: general terms of neuroanatomy. General anatomy of cerebrum. Telencephalon. Diencephalon, Mesencephalon (midbrain), Rhombencephalon and Spinal cord & spinal nerve. CSF (cerebro spinal fluid) The autonomous nervous system, Pyramidal and extrapyramidal system, The limbic and reticular system, Topographical elements of central and peripheral nervous system. X-ray, CT, MR imaging, ANGIO-CT, USG and basic clinical approach and methods of invasive and none invasive diagnostic tools including evidence base learning.	20
24. Readings	
For reading: Moore clinically oriented Anatomy Netters Neuro Anatomy and Color Atlas Of Human Anatomy Vol. 1-3. Anatomy Atlas : Atlas of Human Anatomy - Frank H. Netter, MD Urban & Partner or Atlas Of Human Anatomy - Sobotta Urban & Partner For Anatomical Nomenclature: Memorix anatomy- Edra Urban & Partner Additional none mandatory books: Netters Neuro Anatomy and Color Atlas Of Human Anatomy Vol. 1-3. Gray's Anatomy Anatomy an Essential textbook Bates guide to Physical Examination, Moore Essential Clinical Anatomy	
25. Detail evaluation criteria	
In accordance with the recommendations of the inspection bodies Completion of the course – student has achieved the assumed learning outcomes by successfully passing the practical and theoretical part of the course work and obtaining positive results Detail criteria for completion and evaluation of the course are specified in the course regulations The course regulation is established by the Department prior to the Deans acceptance	