

**DESCRIPTION OF COURSE UNIT FOR DOCTORAL STUDIES
AT VILNIUS UNIVERSITY**

Scientific Area/eas, Field/ds of Science	Medical and Health Sciences (M 000): Medicine (M 001)			
Faculty, Institute, Department/Clinic	Faculty of Medicine Institute of Biomedical Sciences Department of Anatomy, Histology and Anthropology			
Course unit title (ECTS credits, hours)	Clinical Anatomy of the Trunk Region 8 credits (212 hours)			
Study method	Lectures	Seminars	Consultations	Self-study
Number of ECTS credits	-	-	1	7
Method of the assessment (in 10 point system)	<p>Presentation of the report: the report is presented on a chosen topic, which is coordinated with the coordinating lecturers. The doctoral student must analyze, review and present the newest scientific publications related to the relevant topic.</p> <p>Evaluation criteria:</p> <ul style="list-style-type: none"> - novelty and relevance of the submitted material (2 points); - general structure and scope of the report, clear presentation of the knowledge, argumentation, conciseness and specificity (2 points); - summary, problematic issues, presentation and justification of conclusions (2 points); - presentation of the application of the reviewed knowledge in the dissertation (2 points); - organization of visual aids, ability to participate in discussion, control of questions, oratory skills (2 points). <p>The minimal positive score is 5.</p>			
PURPOSE OF THE COURSE UNIT				
<p>To provide deeper knowledge on the systemic, clinical anatomy of organs and structures of trunk region, their development, variations, developmental defects and structural peculiarities, which are significant to clinic. To promote interest and deepening in the anatomy of the trunk region and the application of the acquired knowledge in solving the interdisciplinary problems of doctoral topics in various fields of science.</p>				
THE MAIN TOPICS OF COURSE UNIT				
<p><u>Embryogenesis and development of trunk structures and organs; sensitive periods.</u> Formation of body walls and cavities. Formation of celom, its defects, their anatomical and clinical expression, causes, possible mechanisms. Axial skeletal osteogenesis. Disorders of spinal development, their anatomical and clinical manifestations, causes, possible mechanisms of disorders. Neurulation, formation of the neural tube and neural patch. Spinal cord histogenesis. Neurocristopathy, open and closed defects of the neural tube, their anatomical and clinical manifestations, causes, possible mechanisms of malformation. Histogenesis of skeletal, cardiac and smooth muscles, and connective tissues. Development and defects of the skin and its appendages (hair, sebaceous, sweat and mammary glands), their anatomical and clinical manifestation, causes, possible mechanisms of defective formation. Development and defects of internal organs, their anatomical and clinical expression, causes, possible mechanisms of defective formation.</p> <p><u>Clinical anatomy of the back and chest areas.</u> Surface anatomy of the back and chest areas: skin, dermatomes, sites for optimal incisions; the main topographic points</p>				

and areas of muscles, blood vessels, nerves, and thoracic organs on the body surface. Breast topography, structure, microscopic and clinical anatomy. Applied anatomy of the spine, spinal muscles and spinal cord. Topography of the *regio suboccipitalis*. Spinal curves (norm, variations), joints, movements, applied anatomy. Topographic points of epidural block and lumbar puncture. Structure and topography of the thoracic walls – relationship between bony structures, muscles, blood vessels and nerves, applied anatomy. Sections of spine and thorax in different planes, X-ray anatomy, CT and MRI images.

Internal organs of the thorax. Topography and clinical anatomy of the pleura and pleural cavity. Lung structure, microscopic and topographic anatomy, relationship to surrounding structures, innervation and vascularization. Topography of the mediastinum: upper, posterior, middle (intermediate) and anterior sections, their contents and interrelationships of structures. Structure, microscopic, clinical anatomy, radiological anatomy of organs, located in mediastinum.

Clinical anatomy of abdominal region. Surface anatomy of abdominal and pelvic areas: skin, dermatomes, sites for optimal incisions. Regional topography of abdominal and pelvic organs (projections of bony structures, muscles, blood vessels, nerves and internal organs on the body surface). Applied anatomy of the abdominal walls. Topography and clinical anatomy of anterior abdominal wall structures. Topography of *regio inguinalis*, its clinical anatomy. Diaphragm and posterior abdominal wall topography and clinical anatomy. *Regio lumbalis*, topography of *spatium retroperitoneale*. Weak abdominal wall locations, localization of hernias, and clinical anatomy. Sections of abdomen and pelvis in different planes, X-ray anatomy, CT and MRI images.

Abdominal organs. Topography of the upper abdominal organs (stomach, duodenum, pancreas, liver, gallbladder, spleen) and lower abdominal organs (small and large intestine), and organs of retroperitoneal space. Topography of the peritoneum and its formations, peritoneal recesses and spaces, their clinical significance. Macroscopic and microscopic structure, radiological and clinical anatomy of abdominal organs.

Clinical anatomy of pelvic region. Bone pelvis (norm, variations, sex differences). Pelvic floor and perineum topography and clinical anatomy. Pelvic fasciae, interstitial spaces, their clinical significance. Topography, structure, microscopic, radiological and clinical anatomy, variations and anomalies of male and female pelvic organs.

RECOMMENDED LITERATURE SOURCES

1. Anderson M.W., Fox M.F. Sectional Anatomy by MRI and CT, 4th Edition. Elsevier, 2016.
2. Baggish M.S., Karram M.M. Atlas of Pelvic Anatomy and Gynecologic Surgery, 5th Edition. Elsevier, 2020. <https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20180004107>
3. Bohndorf K., Anderson M.W., Davies A.M., Imhof H., Woertler K. Imaging of Bones and Joints: A Concise, Multimodality Approach. Thieme, 2016.
4. Dalley A.F., Agur M.R. Moore's Clinically Oriented Anatomy (9th Ed.). Lippincott Williams and Wilkins, 2022.
5. Fusco P., Blanco R., Tran D.Q., Marinangeli F. Ultrasound-guided nerve blocks of the trunk and abdominal wall, 1st Edition. Edra, 2022.
6. Gray's Anatomy: The anatomical basis of clinical practice. 42nd Edition (edited by S.Standring). Elsevier, 2022. <https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20170037291>
7. Gotway M.B. Netter's Correlative Imaging: Cardiothoracic Anatomy, 1st Edition. Saunders, 2013. <https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20090393642>
8. Kim E.E., Murad V., Paeng J.-C., Cheon G.-J. Atlas and Anatomy of PET/MRI, PET/CT and SPECT/CT (eBook), 2nd Edition. Springer, 2022.

9. Moeller T.B., Reif E. Pocket Atlas of Sectional Anatomy, Vol. 2: Thorax, Abdomen, and Pelvis. CT and MRI, 4th Edition. Thieme, 2013.
10. Paulsen F., Waschke J. Sobotta Atlas of Anatomy, Vol. 2. 16th Edition. 2018.
<https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20170020062>
11. Pawlina W., Ross M.H. Histology: A Text and Atlas: With Correlated Cell and Molecular Biology, 8th Edition, Lippincott Williams & Wilkins, 2018.
12. Sadler T.W. Langman's Medical Embryology, 14th edition, Lippincott Williams & Wilkins, 2018.
13. Torigan D.A., Kitazono M., Major N.M. Netter's Correlative Imaging: Abdominal and Pelvic Anatomy: with Online Access, 1st Edition. Saunders, 2012.
<https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20090393630%20>
14. Wacker F.K., Lippert H., Pubst R. Arterial Variations in Humans: Key Reference for Radiologists and Surgeons: Classifications and Frequency, 1st Edition. Thieme, 2017.

CONSULTING LECTURERS

1. Coordinating lecturer: Janina Tutkuvienė (Prof. Dr. HP).

2. Arūnas Barkus (Assoc. Prof. Dr.).

3. Renata Šimkūnaitė - Rizgeliienė (Prof. Dr.).

4. Eglė Marija Jakimavičienė (Assoc. Prof. Dr.).

APPROVED:

By Council of Doctoral School of Medicine and Health Sciences at Vilnius University:
29th of September 2022

Chairperson of the Board: Prof. Janina Tutkuvienė