

**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); Odontology (M 002)			
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 Head and Neck 8 credits (216 hours)			
Study method	Lectures	Seminars	Consultations	Self-study
Number of ECTS credits	-	-	1	7
Method of the assessment (in 10 point system)	<p><u>Presentation of the report and its evaluation</u>: the report is presented on a target topic that is agreed upon with the coordinating lecturer of the course (the doctoral student must analyze, review, and present the latest scientific publications related to the chosen topic).</p> <p><u>Report evaluation criteria</u> (minimal passing score – 5 points):</p> <p>a) relevance, novelty and applicability of the material presented to the chosen topic (2 points);</p> <p>b) overall structure and content of the report, clear presentation of the material, rationale, conciseness and specificity (2 points);</p> <p>c) summary, presentation and justification of conclusions (1 point);</p> <p>d) raising problematic questions, presentation of how the reviewed material will be applicability in one’s own dissertation (3 points);</p> <p>e) organization of visual aids, ability to participate in discussion, question management, oratory skills (2 points).</p>			
PURPOSE OF THE COURSE UNIT				
<p>To provide deeper knowledge of systemic, topographic and applied anatomy about the organs and structures of head and neck region, their development, variations, developmental disorders and structural features that are relevant to the clinic. To encourage interest and research of the anatomy of head and neck, as well as application of acquired knowledge, solving interdisciplinary problems of PhD research topics from various scientific fields and areas.</p>				
THE MAIN TOPICS OF COURSE UNIT				
<p><u>Development of head and neck structures</u>. Cephalization, morphogenesis of head and neck, embryogenesis of structures and organs of head and neck, sensitive (critical) periods. Primary mouth, facial prominences, their structure and formations, configuration of facial features. Developmental malformations of the face, their anatomical and clinical signs, causes, mechanisms. Development of primary, secondary and definitive palate. Developmental defects of the palate, their anatomical and clinical signs, causes, mechanisms. Structure, formations and development of the pharyngeal (branchial) apparatus. Developmental malformations of the pharyngeal apparatus, their anatomical and clinical signs, causes, mechanisms of defective development. Neurulation. Development of the neural tube, neural crest, brain vesicles. Histogenesis of the brain. Neurocristopathies, defects of the anterior end of the neural tube, their anatomical and clinical signs, causes, mechanisms of defective development.</p>				

Surface anatomy of the head and neck: age-related and clinical anatomy of the skin, skin stretch lines, optimal incisions. Main topographic points and areas of muscles, blood vessels, nerves and organs on the surface of the head and neck.

Age-related and clinical anatomy of the cerebral part of the head. Scalp (structure of layers, topography, features of scalp nerves and blood vessels, clinical significance). Meninges, venous sinuses, emissary veins, their topography, age-related anatomy, clinical significance. Clinical and age-related anatomy of the head bones. Topography of the brain, system of cerebral ventricles, functional anatomy of cerebrospinal fluid circulation. Cerebrovascular topography and clinical anatomy.

Age-related and clinical anatomy of the facial part of the head. Functional anatomy of facial (mimic) and masticatory muscles, relationship with blood vessels and nerves, clinical anatomy. Clinical anatomy of facial bones, age dynamics of size and proportions of the face. *Regio parotidea:* relationship between organs and surrounding structures, topography of *n. facialis*, clinical anatomy. *Regio orbitalis:* the eye and surrounding structures, topography, relationship with blood vessels and nerves (topography of III, IV, VI cranial nerve pairs). *Regio temporalis:* topography of the structures, clinical anatomy; topography of *n. trigeminus* (V) and surrounding structures. Topography of *art. temporomandibularis* and surrounding structures, clinical anatomy. *Regio oralis:* topography, age-related and clinical anatomy – structure of the walls and organs of the oral cavity (lips, tongue, teeth, blood vessels, nerves, salivary glands, tonsils), age-related and clinical anatomy. *Regio nasalis:* topography, age-related and clinical anatomy (walls of the nasal cavity, *regio olfactoria*, their structure, nerves and blood vessels). Topography, age-related and clinical anatomy of the paranasal sinuses. *Regio auricularis:* relationship between external, middle, internal ear and surrounding structures, arrangement, age-related and clinical anatomy.

Age-related and clinical anatomy of the neck region. Topography and clinical significance of triangles of the neck and their structures. Fasciae of the neck and their clinical significance. Relationship between organs of the neck (topography of pharynx, esophagus, larynx, trachea, thyroid gland, blood vessels and nerves), their structure and its clinical significance. Topography and clinical anatomy of *plexus cervicalis* and *truncus sympathicus*.

Clinical anatomy of the cranial nerves (I-XII pairs).

Cross-sections of head and neck structures in different planes, radiographic anatomy, angiography, CT and MRI images.

RECOMMENDED LITERATURE SOURCES

1. Crossman A.R., Neary D. Neuroanatomy: an Illustrated Colour Text, 6th Edition. Elsevier, 2019. <https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20160041931>
2. Dalley A.F., Agur M.R. Moore's Clinically Oriented Anatomy (9th Ed.). Lippincott Williams and Wilkins, 2022.
3. 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>
4. 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.
5. Lampignano J. and Kendrick L.E. Bontrager's Textbook of Radiographic Positioning and Related Anatomy, 10th Edition. Mosby, 2020.
6. Logan B.M., Reynolds P., Rice S., Hutchings R.T. McMinn's Color Atlas of Head and Neck Anatomy, 5th Edition. Elsevier, 2016. <https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20150044938>
7. Mtui E., Gruener G., Dockery P. Fitzgerald's Clinical Neuroanatomy and Neuroscience, 8th Edition. Elsevier, 2020. <https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20170014155>

8. Paulsen F., Waschke J. Sobotta Atlas of Anatomy, Vol. 3. 16th Edition. Urban & Fischer, 2018. <https://www.clinicalkey.com/#!/browse/book/3-s2.0-C2018001779X>
9. Sadler T.W. Langman's Medical Embryology, 14th Edition, Lippincott Williams & Wilkins, 2018.
10. Schuenke M., Schulte E., Schumacher U., Stefan C., Wesker K.H., Voll M. Head, Neck, and Neuroanatomy (THIEME Atlas of Anatomy), 3rd Edition. Thieme, 2020.
11. Van Gijn D.R., Dunne J., Standring S., Eccles S. Oxford Handbook of Head and Neck Anatomy (Oxford Medical Handbooks), 1st Edition. Oxford University Press, 2022.
12. Weber E.C., Vilensky J.A., Carmichael S.W. Netter's Concise Radiologic Anatomy Updated Edition, 2nd edition; Elsevier, 2018.
<https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20170047572>

CONSULTING LECTURERS

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

2. Arūnas Barkus (Assoc. Prof. Dr.).

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

4. Renata Šimkūnaitė - Rizgeliene (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