COURSE UNIT DESCRIPTION

Course unit title	Code
Human anatomy	ZANB2115

Lecturer(s)	Department(s)
Coordinating: Doc. A. Barkus **Others:** Doc. Eglė Marija Jakimavičienė, Doc. Žydrūnė Miliauskienė	Anatomy, Histology and Anthropology

Cycle	Level of the course unit	Type of the course unit
Integrated studies		Compulsory

Mode of delivery	Period of delivery	Language of instruction
Face-to-face	I year 2nd semester	Lithuanian, English

Prerequisites and corequisites	
Prerequisites: 1 st semester credit	**Corequisites (if any):** -

Number of ECTS credits allocated to the course unit	Total student's workload	Contact hours	Self-study hours
5	134	67	67

Purpose of the course unit
Programme competences to be developed

The aim of the course is to provide odontology students with basic principles as well as profound theoretical knowledge of structure of the body. By the end of the course students should have a deep understanding of the material so that they can analyse, systemise and apply the knowledge of anatomy in further clinical studies. Macroscopical structure of the human body is studied according to systems. Students must learn size, topography, external and internal structure of body organs, understand their individual, age and gender-related differences, relations of systems to function, links between systems; master adequate anatomical terminology; to apply their knowledge in practice – to recognize and describe anatomical models and specimens. Students must be able to relate obtained knowledge, with new one and to summarize it by regional principals. Students are provided with information about applied anatomy of head and neck region, especially oral cavity.

Learning outcomes of the course unit	Teaching and learning methods	Assessment methods
General competencies During the course students are required:		
• To act fairly and according to ethical obligations, be empathic; to think critically and self-critically; be creative take the initiative, to communicate with others.	Lectures, practicals, seminars	Continuous assessment during practicals and seminars, exam.
• To make an assessment within the scope of one's competence and, if necessary, ask for help, to act in new situations and adapt to them, to act independently, to solve problems, to make judgements, to work with specialists of other fields, to organise and plan.	Lectures, practicals, seminars, self-study	Continuous assessment during practicals and seminars, exam.
• To analyse and synthesize, to apply theoretical knowledge in practice.	Practicals, seminars, self-study	Continuous assessment during practicals and seminars, exam.
Special competencies During the second semester students are required:		
• To group, name, describe, recognize parts of CNS and their structures, understand their functional organization;	Theoretical material during the lectures, study of brain anatomical models and specimens during practicals and self-study; drawing and studying of anatomical schemes.	Continuous assessment during practicals, colloquium, exam

• To group, name, describe and recognize parts of sensory organs;	Theoretical material during the lectures, study of anatomical models of sense organs during practicals and self-study; drawing and studying of anatomical schemes; discussions and analysis during seminar	Continuous assessment during practicals, colloquium, exam
• To name, describe and recognize vessels and nerves of various body regions (head and neck, trunk, upper and lower extremities), understand topographical connections;	Theoretical material during the lectures, study of regional anatomical models and specimens during practicals and self-study; drawing and studying of anatomical schemes.	Continuous assessment during practicals, colloquium, exam
• To recognize main organs and structures of head and neck in CT and MR images, understand topography of regions of head and neck and its clinical meaning	Theoretical material during the lectures, study of CT and MRI images during practicals and self-study; drawing and studying of anatomical schemes.	Continuous assessment during practicals, colloquium, exam
• To name, describe and recognize the following structures and know their functions: lymphatic system; autonomic nervous system; endocrine structures and organs.	Theoretical material during the lectures, study of anatomical models and specimens during practicals and self-study; drawing and studying of anatomical schemes.	Continuous assessment during practicals, colloquium, exam

Topics	**Time and tasks of self-study**							
	Lectures	Seminars	Practice	Laboratory work	Practical training	**Total contact hours**	**Self-study**	**Tasks**
Central nervous system: general organization. Ontogenesis of NS. Principles of organization of peripheral nervous system. Autonomic nervous system.	4					**4**	**4**	Study of named literature, terminology, specimens and models, preparation to practicals, seminars and colloquiums.
External and internal structure of spinal cord, functional organization. Encephalon. Brainstem (medulla oblongata, pons and midbrain): external and internal structure. Cerebellum and its connections with other parts of CNS. Structure of diencephalon, its connections with other parts of CNS. Cerebral hemispheres. Cortex of the cerebrum, location of principal functional centres. Principal ascending and descending CNS tracts. Functional brain systems. Reticular formation. Ventricular system in brain. Meninges. Circulation of cerebrospinal fluid.	8	4	2			**14**	**14**	Study of named literature, terminology, specimens and models, preparation to practicals, seminars and colloquiums.
Organs of sense. Structure of the eye. Structure of the ear.	2	2	1			**5**	**5**	Study of named literature, terminology, specimens and models, preparation to practicals, seminars and colloquiums.
Blood circulation system: general, components, and ontogenesis. Fetal blood circulation and its changes after birth. Heart: structure and topography. Pericardium. Aorta.	2		2			**4**	**4**	Study of named literature, terminology, specimens and models, preparation to practicals, seminars and colloquiums.
Arteries of head and neck: systems of external and internal carotic systems, anastomoses of their branches, and basins	4	2	4			**10**	**10**	Study of named literature, terminology, specimens and models, preparation to practicals,

of supply. Vascularization and innervation of the mouth and its organs, clinical notes. Internal jugular vein, its intracranial and extracranial tributaries.								seminars and colloquiums.
Cranial nerves (I-XII): cerebral nuclei, types of fibbers, course of principal trunks, branching, and areas of innervations. Cervical plexus. Autonomous innervation of head and neck organs. Parasympathic ganglia in head and neck. Applied anatomy of neck and head. Clinically important regions: their boundaries and content, CT and MNR visualization of sections.	4	6	4			**14**	**14**	Study of named literature, terminology, specimens and models, CT and MRI images of head and neck, preparation to practicals, seminars and colloquiums.
Vascularization and innervation of trunk. Blood supply of thoracic, abdominal and pelvic organs. Aorta, its parts: ascending aorta, arch of aorta, descending aorta, branches of thoracic and abdominal arteries, iliac arteries. Superior and inferior vena cava systems. Portal system. Intersystemic venous anastomoses. Intercostal nerves. Autonomous inervation of internal organs (thoracic, abdominal, pelvic).	2	2	2			**6**	**6**	Study of named literature, terminology, specimens and models, preparation to practicals, seminars and colloquiums.
Vascularization and innervation of limbs. Blood vessels of limbs. Anatomical peculiarities of blood circulation of limbs, collateral circulation. Brachial, lumbar and sacral plexuses; their formation, principal motoric and sensoric branches, areas of innervation.	4	1	1			**6**	**6**	Study of named literature, terminology, specimens and models, preparation to practicals, seminars and colloquiums.
Lymphatic system. Basins of thoracic and right lymphatic ducts, principal regional lymphatic nodes. Lymphatic drainage from head and neck organs.		2				**2**	**2**	Study of named literature, terminology, specimens and models, preparation to practicals, seminars and colloquiums.
Endocrine glands.	2					**2**	**2**	Study of named literature, terminology, specimens and models, preparation to practicals, seminars and colloquiums.
Total	**32**	**19**	**16**	**0**	**0**	**67**	**67**	

Assessment strategy	**Weight (%)**	**Assessment period**	**Assessment criteria**
The control during practicals and seminars.		2nd semester	Short questioning and discussion about the topic of current day (in written and oral form). Not less than 80 % of practicals, laboratory sessions and seminars must be attended. All compulsory drawings must be done and revised.
5 colloquiums are arranged.	15	2nd semester	The colloquiums (CNS and organs of sense, head and neck, limbs, trunk, lymphatic and endocrine systems) must be taken. The colloquiums are organized in either written or oral form and rated 10 points in the system: 10 points - the student well mastered the studied material, is able to analyze and summarize, uses correctly the concepts and terms. Written colloquium - answered at least 90 percent of test questions. 8-9 points - the student very good / good mastered the studied material, is able to organize and summarize, uses correctly the concepts and terms. Written colloquium - answered at least 85 percent test questions (9 points), or 75 percent of test questions (8 points).

			6-7 points - the student satisfactorily mastered the material studied, some of the concepts and terminology used inaccurately. Written colloquium - answer at least 65 percent of test questions (7 points), or 55 percent of test questions (6 points). 5 points - student superficially mastered the material studied, imprecise use of concepts and terms. Written colloquium - answered at least 50 percent of test questions. 4-1 points – student's knowledge is insufficient, terms and concepts used incorrectly. Holding the writing - answered less than 50 percent of test questions. Failed colloquiums could be retaken. Weighed average of all taken colloquiums marks contributes to 15 percent of final course assessment.
Exam	70	Exam sesssion	Student must have completed and gained ECTS credits for the 1st semester fulfil attendance requirements and pass the colloquiums of the 2nd semester. Examination is written and consists of open questions of various difficulties. 3 lecturers implement the final evaluation. Each answer is graded in a ten-point scale from 0 (no answer present at all) to 10 (excellent answer). The sum of all question evaluations determines 70 percent. Weighed average of all taken colloquiums marks contributes another 30 percent of final course assessment. The sum percent of exam and colloquium evaluation makes final mark: 10 – if sum >90 % 9 – if sum >85 % 8 – if sum >75 % 7 – if sum >65 % 6 – if sum >55 % 5 – if sum >50 % 4 – if sum <50 %

Author	**Year of publication**	**Title**	**No of periodical or vol. of publication**	**Publication place and publisher or Internet link**
Required reading				
Drake R., Vogl W.A., Mitchell A.W.M.	2014; 2016	Gray's Anatomy for Students.	2nd, 3nd ed.	Churchill Livingstone https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20110061707
Netter F.H.	2010; 2014	Atlas of Human Anatomy	5th, 6th ed.	Saunders https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20100686068
F, Paulsen, J. Waschke	2011	Sobotta Atlas of Human Anatomy, Vol.1, 2, 3	15th ed.	Urban & Fischer
Tortora G.J., Nielsen M.	2010, 2014	Principles of Human Anatomy	13th ed.	Wiley and Sons, Inc
Kahle W., Leonhardt H., Platzer W.	2008, 2015	Color Atlas / Text of Human Anatomy. Vol. 1-3.	(any ed.)	Thieme Medical Publishers Inc.
W. Dauber	2006	Pocket Atlas of Human Anatomy	5 ed.	Thieme Medical Publishers Inc.
Recommended reading				
Möller B., Reif E.	2007	Pocket Atlas of Sectional Anatomy, CT and MRI imaging	3rd ed. Vol.1,2,3	Georg Thieme Verlag Stuttgart, New York,
Moore K.L., Dalley A.F., Agur M.R.	2008	Clinically Oriented Anatomy	6th Ed.	Lippincott Williams and Wilkins

A.M. Gilroy, B.R. MacPherson, L.M. Ross (eds.)	2017	Atlas of anatomy	3rd ed.	Thieme Medical Publishers Inc.