



COURSE UNIT (MODULE) DESCRIPTION

Course unit (module) title	Code
Human Histology I , academic year 2024/2025 (Medicine)	ZMHI2115

Lecturer(s)	Core academic unit(s)
Coordinating: assoc. prof. Rūta Vosyliūtė Other: prof. Renata Šimkūnaitė-Rizgelienė, lect. Rūta Karneckė, lect. Viktorija Gurskytė	Vilnius University, Faculty of Medicine Institute of Biomedical Sciences, Department of Anatomy, Histology and Anthropology, Ciurlionio str. 21/27, Vilnius

Study cycle	Type of the course unit
Cycle (integrated studies)	Compulsory

Mode of delivery	Semester or period when it is delivered	Language of instruction
Mixed method studies: lectures online, seminars and workshops (practices or classes) face-to-face, and self-studies (individual studies)	Year I, semester I	Lithuanian and English

Requisites	
Prerequisites: None	Corequisites (if relevant): None

Number of ECTS credits allocated	Student's workload (total)	Contact hours	Individual work
5	133	66	67

Purpose of the course unit		
To provide knowledge based on modern research methods about the microscopic structure, functions and origin of human body tissues and organs, also about development of human embryo and fetus. To develop and promote the knowledge and understanding of the microscopic structure of tissues and organs of the human body, ensure that students understand the material so that they may systemise, analyse and proceed to the clinical studies. After completion of the course, students are required to know the microscopic structure of tissues and organs of the human body, sources of origin, the main functions of structural elements, be able to define the relationship between structure and functions, recognize, describe and compare histological slides of tissues and organs.		
Learning outcomes of the course unit	Teaching and learning methods	Assessment methods
General competences – after successful completion of this semester the student will be able: To act fairly and according to ethical obligations, be emphatic, think critically and self-critically, be creative, take the initiative, communicate with others	Theoretical material during the lecture, skills in using light microscope during practice, discussions and analysis during seminar, self-study	Continuous assessment during practice and seminar
To make an assessment within the scope of one's competence and, if necessary, ask for help, act in new situations and adapt to them, act independently, solve problems, make judgements, work with other students, organise and plan	Theoretical material during the lecture, skills in using light microscope during practice, discussions and analysis during seminar, self-study	Continuous assessment during practice and seminar
To analyse and synthesize; to be able to apply knowledge in practice	Theoretical material during the lecture, skills in using light microscope during practice, discussions and analysis during seminar, self-study	Continuous assessment during practice and seminar
Subject-specific competences – after	Theoretical material during the	Continuous assessment during

successful completion of this semester the student will: Know how to name and describe the main historical periods of Histology, main methods used in Histology, methods and stages of histological slide preparation, to know the components of a light microscope, be able to use it	lecture, skills in using light microscope during practice, discussions and analysis during seminar, self-study	practice and seminar
Know microscopic and ultramicroscopic structure of a cell, be able to define the relationship between structures and functions, understand the cell cycle and cell division, main physiological features of the cell	Study of histological slides, electron micrographs during practice, discussions and analysis during seminar, self-study	Continuous assessment during practice and seminar.
Know and describe time periods of human prenatal development, courses of developmental defects, know the structure of the human embryo at the early developmental stages, structure and functions of foetal membranes and placenta	Theoretical material during the lectures. Study of histological slides, moulages, posters and other material during practice, discussions and analysis during seminar, self-study	Continuous assessment during practice and seminars. At the end of Embryology theme – a colloquium.
Know microscopic and ultramicroscopic structure, functions and origin of all the tissues (epithelial, connective, muscle and nervous), be able to define the relationship between structures and functions, recognize, describe and compare the slides of different tissues	Study of histological slides during practice, discussions and analysis during seminar, self-study	Continuous assessment during practice and seminar. At the end of the Epithelial Tissue and Blood themes – a colloquium. At the end of the Connective Tissue theme – a colloquium. At the end of the Muscle tissue, Nervous tissue and Nervous system themes – a colloquium
Know microscopic structure, origin and functions of the nervous system organs, be able to define the relationship between structures and functions, recognize and describe the slides of the different nervous system organs	Theoretical material during the lecture, study of histological slides during practice, discussions and analysis during seminar, self-study	Continuous assessment during practice. At the end of Muscle tissue, Nervous tissues and Nervous system themes – a colloquium

Content	Contact hours						Individual work: time and assignments		
	Lectures	Tutorials	Seminars	Workshops	Laboratory work	Internship	Contact hours, total	Individual work	Tasks for individual work
1. Main historical periods of Histology, main methods used in Histology	1		1				2	3	Studies of the literature
2. Tissue preparation and work with light microscope. Cytology: structure and functions of cell membrane, organelles and inclusions			1	2			3	2	Studies of the literature, preparing for seminar and practice
3. Cytology: nucleus, cell cycle and division, physiological features of the cell			1	1			2	3	Studies of the literature, preparing for seminar and practice.
4. Human embryology: germ cells, fertilization, segmentation and implantation	3		1	2			6	6	Studies of the literature, preparing for seminar and practice
5. Human embryology: gastrulation, histogenesis and organogenesis	2		2	1			5	5	Studies of the literature, preparing for seminar and practice
6. Human embryology: structure and functions of foetal membranes and placenta. Congenital defects, reasons	2		1	2			5	5	Studies of the literature, preparing for seminar and practice. Repeating of the

and classification									studied material about human embryology and preparing for the colloquium
7. Introduction to tissues. Epithelial tissue: surface epithelium	1		1	2			4	4	Studies of the literature, preparing for seminar and practice
8. Epithelial tissue: glands	1		1	2			4	4	Studies of the literature, preparing for seminar and practice.
9. Blood and hemopoiesis	2		2	1			5	5	Studies of the literature, preparing for seminar and practice. Repeating of the studied material about epithelial tissue and blood and hemopoiesis preparing for the colloquium .
10. Connective tissue: embryonic and special connective tissue	1		1	2			4	4	Studies of the literature, preparing for seminar and practice
11. Connective tissue proper	2		1	2			5	5	Studies of the literature, preparing for seminar and practice
12. Skeletal connective tissue (Bone). Osteogenesis	3		2	1			6	5	Studies of the literature, preparing for seminar. Repeating of studied material about connective tissue and preparing for the colloquium
13. Muscle tissue	2		2	1			5	5	Studies of the literature, preparing for seminar and practice
14. Nervous tissue	2		2	1			5	5	Studies of the literature, preparing for seminar and practice
15. Nervous system	2		2	1			5	6	Studies of the literature, preparing for seminar and practice. Repeating of studied material about muscle tissue, nervous tissue and nervous system, preparing for the colloquium
Total:	24		21	21			66	67	

Assessment strategy	Weight (%)	Assessment period	Assessment criteria
Continuous assessment during practice and seminars		During semester	During practices, student must have tools for writing and drawing. Drawing tools can be replaced by smart devices: a tablet or laptop. Lecturer indicates which histological slides (and by what magnification their images are visible) must be analysed and drawn on paper or on a smart device. Drawing other histological slides is optional, but recommended. If the images of the histological slides are not drawn on paper, student must use a smart device during the practice and perform markings of histological structures in the photomicrographs selected by the lecturer. All histological slides of tissues and organs and some photomicrographs are displayed on a smart board, and discussed together with the lecturer. Drawn or marked in photomicrographs, histological structures must be found by the student in his own histological slide. At the end of the practice (or during), the lecturer checks the drawings of students or selected photomicrographs with markings of histological structures and provides feedback. Students who have not completed the tasks of the

			<p>practice, i.e. have not drawn the images visible in the histological slides (or incorrectly drawn) or have not marked the histological structures (or incorrectly marked) in the photomicrographs selected by the lecturer, must repeat the tasks independently and show the correctly performed work during the next practice. Only those students who perform all the tasks on the relevant topics are admitted to the colloquium.</p> <p>During the seminars, a survey from independently studied topics is carried out, independently prepared tasks are presented, reading material is referred, and problem issues are jointly discussed.</p> <p>Attendance of practice and seminars is mandatory. With a justifiable reason, no more than 20 % of practice or seminars can be missed.</p>
Formative assessment - colloquia: <ol style="list-style-type: none"> Embryology; Epithelial Tissue, Blood and hemopoiesis; Connective Tissue; Muscle Tissue, Nervous Tissue and Nervous Systems. 	10%	During semester	<p>The colloquia are organized in the Moodle system (closed-ended or open-ended questions with schemes, drawings, figures and histological slides). Assessment is in 10 points system (points are not rounded). 5 or more points should be collected in order to pass a colloquium.</p> <p>Failed colloquium could be retaken, two retakes will be organized: the first during the semester and the second – during debts week.</p> <p>An average grade of all colloquia (of the 1st and the 2nd semester) makes up 20 % of the final evaluation.</p>
Accumulative credit		Till the 1 st day of the session	Student must fulfil attendance requirements and pass the colloquia of the 1 st semester.

Author	Publishing year	Title	Issue of a periodical or volume of a publication	Publishing house or web link
Required reading:				
Mescher A.L.	2021	Junqueira's Basic Histology: Text and Atlas	Vol. 16	https://accessmedicine.mhmedical.com/book.aspx?bookid=3047
Schoenwolf G.C., Bleyl S.B., Brauer P.R., Francis-West P.H.	2021	Larsen's Human Embryology	Vol. 6	Churchill Livingstone https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20180032296
Friedrich Paulsen, Jens Waschke	2018, 2020, 2023	Sobotta Atlas of (Human) Anatomy	Vol. 1-3,	Sobotta Atlas of (Human) Anatomy
Recommended reading:				
Gartner L.P.	2021	Textbook of Histology	Vol. 5	Elsevier https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20140021375
Lowe J.S., Anderson P.G., Anderson S.I.	2020	Stevens & Lowe's Human Histology	Vol. 5	Elsevier https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20170016105?indexOverride=GLOBAL
Balko J., Tonar Z., Varga I et al.	2018	Memorix Histology	Vol. 1	Stanislav Juhanak – TRITON, 2018
Sadler T.W.	2018	Langman's Medical Embryology	Vol. 14	Lippincott Williams & Wilkins