



COURSE UNIT DESCRIPTION

Course unit title	Code
Human Histology II, academic year 2022/2023 (Medicine)	ZMHI2115

Annotation
The course is intended for the first year students of the Medical study programme, introducing the concept and significance of human histology and embryology, modern research methods, providing knowledge about the development of the human embryo and fetus, microscopic structure, functions and origin of tissues and organs. There are two microscopy classrooms with image demonstration equipment that allows students to study and analyze microscopic images interactively. Each student uses an Olympus or Motic binocular microscope and a rich collection of histological slides.

Lecturer(s)	Department, Faculty
Coordinating: assoc. prof. Rūta Vosyliūtė Other: prof. Renata Šimkūnaitė-Rizgeliienė, lect. Rūta Karneckė, lect. Viktorija Gurskytė	Vilnius University, Faculty of Medicine Institute of Biomedical Sciences Department of Anatomy, Histology and Anthropology

Study cycle	Type of the course unit
Integrated studies	Compulsory

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

Requisites	
Prerequisites: Credit of the first semester	Co-requisites (if relevant): -

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

Purpose of the course unit: programme competences to be developed			
To provide knowledge based on modern research methods about the microscopic structure, functions and origin of human body tissues and organs. 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 study programme	Learning outcomes of the course unit	Teaching and learning methods	Assessment methods
During the second semester students are required: - to act fairly and according to ethical obligations, be	During the second semester students are required: - to know microscopic structure, origin and functions of sense organs, be able to	Theoretical material during the lecture. Study of histological slides, schemes and posters during practice, discussions and analysis during seminar, self-study	Continuous assessment during practice and seminar

empathetic, think critically and self-critically, be creative, take the initiative, communicate with others	define the relationship between structure and function, recognize and describe the slides of different organs of the sensory system		
- 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	- to know microscopic structure, origin and functions of integumentary system, be able to define the relationship between structure and function, recognize and describe the slides of different structures of the skin	Theoretical material during the lecture. Study of histological slides, schemes and posters during practice, discussions and analysis during seminars, self-study	Continuous assessment during practice and seminar
- to analyse and synthesize, use knowledge in practice	- to know microscopic structure, origin and functions of respiratory system, be able to define the relationship between structure and function, recognize and describe the slides of different organs of respiratory system	Theoretical material during the lecture. Study of histological slides, schemes and posters during practice, discussions and analysis during seminars, self-study	Continuous assessment during practice and seminar. At the end of Sense Organs, Skin and Respiratory System themes – a colloquium
	- to know microscopic structure, origin and functions of gastrointestinal system, be able to define the relationship between structure and function, recognize and describe the slides of different organs of gastrointestinal system	Theoretical material during the lectures. Study of histological slides, schemes and posters during practice, discussions and analysis during seminars, self-study	Continuous assessment during practice and seminars. At the end of gastrointestinal system theme – a colloquium
	- to know microscopic structure, origin and functions of urogenital (urinary, male reproductive and female reproductive) system, be able to define the relationship between structure and function, recognize and describe the slides of different organs of urogenital system	Theoretical material during the lectures. Study of histological slides, schemes and posters during practice, discussions and analysis during seminars, self-study	Continuous assessment during practice and seminar. At the end of urogenital system themes – a colloquium
	- to know microscopic structure, origin and functions of cardiovascular system, be able to define the relationship between structure and function, recognize and describe the slides of different	Theoretical material during the lecture. Study of histological slides, schemes and posters during practice, discussions and analysis during seminars, self-study	Continuous assessment during practice and seminar

	organs of cardiovascular system		
	- to know microscopic structure, origin and functions of immune system, be able to define the relationship between structure and function, recognize and describe slides of different immune organs	Theoretical material during the lecture. Study of histological slides, schemes and posters during practice, discussions and analysis during seminars, self-study	Continuous assessment during practice and seminar
	- to know microscopic structure, origin and functions of endocrine system, be able to define the relationship between structure and function, recognize and describe the slides of different organs of endocrine system	Theoretical material during the lecture. Study of histological slides, schemes and posters during practice, discussions and analysis during seminars, self-study	Continuous assessment during practice and seminar. At the end of cardiovascular, immune and endocrine systems themes – a colloquium
	- to recognize, describe and compare the slides of different tissues and organs	Study of histological slides, schemes and posters during practice, discussions and analysis during seminars, self-study	Assessment during the practical colloquium at the end of the semester

Course content: breakdown of the topics	Contact hours							Individual work: time and assignments	
	Lectures	Tutorials	Seminars	Workshops	Laboratory work	Internship/work placement	Contact hours, total	Individual work	Assignments
1. Sense organs	2		2	4			8	7	Studies of the literature, preparing for seminar and practice
2. Integumentary system	2		1	2			5	5	Studies of the literature, preparing for seminar and practice
3. Respiratory system	2		2	1			5	5	Studies of the literature, preparing for seminar and practice. Repeating of the studied material about sense organs, skin and respiratory system, and preparing for the colloquium

4. Oral organs	2		1	2			5	5	Studies of the literature, preparing for seminar and practice
5. Gastrointestinal tract	2		2	1			5	5	Studies of the literature, preparing for seminar and practice
6. Digestive glands	2		1	2			5	5	Studies of the literature, preparing for seminar and practice. Repeating of the studied material about digestive system, and preparing for the colloquium
7. Urinary system	2		2	1			5	5	Studies of the literature, preparing for seminar and practice
8. Male reproductive system	2		1	2			5	5	Studies of the literature, preparing for seminar and practice
9. Female reproductive system	2		2	1			5	5	Studies of the literature, preparing for seminar and practice. Repeating of the studied material about urogenital (urinary, male and female reproductive) system, and preparing for the colloquium
10. Cardiovascular system	2		2	1			5	5	Studies of the literature, preparing for seminar and practice
11. Immune organs	2		1	2			5	5	Studies of the literature, preparing for seminar and practice.
12. Endocrine system	2		2	1			5	5	Studies of the literature, preparing for seminar and practice. Repeating of the material studied

									about cardiovascular, immune and endocrine system and preparing for the colloquium
13. Differential diagnostics of histological slides		1	2	1			4	5	Studies of the literature, preparing for seminar and practice. Repeating of all the slides studies during the I and II semesters. Preparation of the question for the consultation.
Total		24		21	21			66	67

Assessment strategy	Weight %	Deadline	Assessment criteria
Continuous assessment during practice and seminars		During semester	<p>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 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: 1. Sense organs, Integument and Respiratory Systems;	10%	During semester	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.

2. Gastrointestinal System; 3. Urogenital System; 4. Cardiovascular, Immune and Endocrine Systems.			Failed colloquium could be retaken, two retakes will be organized: the first during the semester and the second – before the Final Exam. An average grade of all colloquia (of the 1 st and the 2 nd semester) makes up 20 % of the final evaluation.
Practical colloquium (differential diagnostics of histological slides)	10%	End of semester	Student must fulfil attendance requirements and pass the theoretical colloquia of the 2 nd semester. The colloquium is organized in the Moodle system (students must recognize tissues and organs in 30 microphotographs and name all the structural components indicated by the arrows). The sum of the points (0-10) makes the assessment of the practical colloquium. Assessment points are not rounded. More than 5 points should be collected in order to pass this colloquium. Failed colloquium could be retaken.
Final Exam	70%	During session	Student must have the credits of the 1 st semester, fulfil attendance requirements and pass the theoretical colloquia and practical colloquium of the 2 nd semester. Examination is organized in the Moodle system (closed-ended or open-ended questions with schemes and pictures). Assessment is in 10 points system (points are not rounded). Assessment of the examination makes up 70 % of the final assessment. The final assessment consists of the following: - 70% - examination; - 20% - average of theoretical colloquia (passed during two semesters); - 10% - practical colloquium. The final assessment according to the scheme: 10 – if $\geq 90\%$ are collected, 9 – if $\geq 83\%$ are collected, 8 – if $\geq 75\%$ are collected, 7 – if $\geq 65\%$ are collected, 6 – if $\geq 55\%$ are collected, 5 – if $\geq 50\%$ are collected, 4 – if $< 50\%$ are collected (failed).

Author	Publishing year	Title	Issue of a periodical or volume of a publication; pages	Publishing house or internet site
Required reading				
Mescher A.L.	2021	Junqueira's Basic Histology: Text and Atlas		https://accessmedicine.mhmedical.com/book.aspx?bookid=3047
Waschke J., Böcker T.M., Paulsen F.	2019	Sobotta Anatomy Textbook		Elsevier
Recommended reading				
Gartner L.P.	2021	Textbook of Histology		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		Elsevier https://www.clinicalkey.com#!/browse/book/3-s2.0-C20170016105?indexOVERRIDE=GLOBAL
Kierszenbaum A.	2020	Histology and Cell Biology: An		Elsevier

		Introduction to Pathology		https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20180013341?indexOverride=GLOBAL
Young B., O'Dowd G., Woodford P.	2014	Wheater's Functional Histology: a Text and Colour Atlas		Churchill Livingstone https://www.clinicalkey.com/#!/browse/book/3-s2.0-C20090600258
Ross M.H., Pawlina W.	2011	Histology. A Text and Atlas		Lippincott Williams&Wilkins