



<p>Syllabus for academic year: 2020/2021 Training cycle: 2020/2021 - 2025/2026</p>			
<p>Description of the course</p>			
Module/Course	<p>Histology with cytophysiology (1)</p>	Group of detailed education results	
		Group code A B	Group name Morphological Science Scientific basis of medicine
Faculty	Medicine		
Major	Medicine		
Unit realizing the subject	Department of Human Morphology and Emryology Division of Histology and Embryology, Wrocław Medical University		
Specialties	Not applicable		
Level of studies	Uniform magister studies <input checked="" type="checkbox"/> X 1 st degree studies <input type="checkbox"/> 2 nd degree studies <input type="checkbox"/> 3 rd degree studies <input type="checkbox"/> postgraduate studies <input type="checkbox"/>		
Form of studies	full-time <input checked="" type="checkbox"/> X part-time		
Year of studies	I	Semester	<input type="checkbox"/> Winter <input checked="" type="checkbox"/> X Summer
Type of course	<input checked="" type="checkbox"/> X obligatory <input type="checkbox"/> limited choice <input type="checkbox"/> free choice / elective		
Course	major <input type="checkbox"/> X basic		
Language of instruction	<input type="checkbox"/> Polish <input checked="" type="checkbox"/> X English <input type="checkbox"/> other		
* mark <input type="checkbox"/> with an X			



Number of hours														
Form of education														
Unit teaching the course	Lectures (L)	Seminars (SE)	Auditorium classes (AC)	Major Classes – not clinical (MC)	Clinical Classes (CC)	Laboratory Classes (LC)	Classes in Simulated Conditions (CSC)	Practical Classes with Patient (PCP)	Specialist Classes – magister studies (SCM)	Foreign language Course (ELC)	Physical Education obligatory (PE)	Vocational Practice (VP)	Self-Study (Student's own work)	E-learning (EL)
Winter Semester														
Direct (contact) education														
Online learning (synchronous)														
Distance learning (asynchronous)														
Summer Semester														
Direct (contact) education				20										
Online learning (synchronous)	10			20										
Online learning (asynchronous)														
TOTAL per year:														
Direct (contact) education				20										
Online learning (synchronous)	10			20										
Online learning (asynchronous)														
Educational objectives (max. 6 items) C1. the principles of the basic techniques used in the morphological studies, C2. the organization of the cell model with cell organelles, their structure and functions, C3. structure and function of selected, important specialized cells, C4. classification, characteristics, origin, histological organization and role of the tissues, C5. histological organization of organs and systems and their role and the basic mechanisms that regulate their functions														
Education result matrix for module/course in relation to verification methods of the intended education result and the type of class														
Number of course education result	Number of major education result	Student who completes the module/course knows/is able to						Methods of verification of intended education results (forming and summarising)			Form of didactic class <i>**enter the abbreviation</i>			
K01	AW1.	The student is familiar with histological nomenclature;						Oral response, written examination			L, MC			



K02	AW4.	The student knows the basic cell structures and their functional specialization	Oral response, written examination	L, MC
K03	AW5.	The student knows the microarchitecture of the tissues, extracellular matrix and organs.	Oral response, written examination, proper drawing preparation	L, MC
K04	B.W14.	The student knows function of the genome, transcriptome and proteome of the human and essential methods used in their analyses, and describes the process of replication, DNA repair and recombination, transcription and translation, and degradation of DNA, RNA and protein, knows gene regulation concepts	Oral response, written examination	L, MC
K05	B.W17.	The student knows the ways of communication between cells, and between the cell and extracellular matrix, and signal transduction pathways in the cell, and examples of disorders in these processes leading to the development of neoplastic and other diseases	Oral response, written examination	L, MC
K06	B.W18.	The student is familiar with processes such as cell cycle, proliferation, differentiation, and cell aging, apoptosis and necrosis, and understands their importance to the functioning of the body.	Oral response, written examination	L, MC
K07	B.W19.	The student is familiar with the basic issues of stem cells and their use in medicine	Oral response, written examination	L, MC
K08	B.W20.	The student knows the basics of stimulation and conduction in the nervous system, and higher nervous activity and physiology of smooth muscle fibers and functions of the blood.	Oral response, written examination, proper drawing preparation	L, MC
S01	A.U1	The student knows how to use optical microscope	Practical examination	MC



S02	A.U2	The student recognizes in images from optical or electron microscope histological structures corresponding to the organs, tissues, cells and cellular structures, shall describe and interpret their structure and the relationship between structure and function	Oral response, written examination, proper drawing preparation, practical examination	MC
S03	A.U5	The student properly uses the spoken and written histological nomenclatures.	Oral response, written examination, practical examination	MC
<p>** L - lecture; SE - seminar; AC – auditorium classes; MC – major classes (non-clinical); CC – clinical classes; LC – laboratory classes; SCM – specialist classes (magister studies); CSC – classes in simulated conditions; FLC – foreign language course; PCP practical classes with patient; PE – physical education (obligatory); VP – vocational practice; SS – self-study, EL – E-learning .</p>				
<p>Please mark on scale 1-5 how the above effects place your classes in the following categories: communication of knowledge, skills or forming attitudes: Knowledge: 5 Skills:4 Social competences: 3</p>				
Student's amount of work (balance of ECTS points)				
Student's workload (class participation, activity, preparation, etc.)			Student Workload (h)	
1. Contact hours:			20	
2. Online learning hours (e-learning):			30	
2. Student's own work (self-study):			20	
Total student's workload			70	
ECTS points for module/course			4	
Comments				
<p>Lectures</p> <ol style="list-style-type: none"> 1. Epithelial tissue: epithelia and glands, cell surface specializations, intercellular connections. (1 hour) 2. Connective tissue: connective tissue cells and extracellular substance. Connective tissue proper (reticular tissue, yellow and brown adipose tissue, tendon tissue). (1 hour) 3. Cartilage: structure, function, types. (1 hour) 4. Bone tissue: function, structure, types. Bone development. (1 hour) 5. Nervous tissue. (1 hour) 6. Blood, blood cells and hemopoiesis. (1 hour) 7. Muscle tissue: types of contractile cells and their function. (1 hour) 8. Heart and vascular system. (1 hour) 9. Immune system: cells of the immune system, structure and function of the immune system. (1 hour) 				



10. The digestive tract: the oral cavity and its equipment, the conducting sections and the digestive part.

(1 hour)

Content of classes

1. Histological techniques, microscopy, cell structure and function. Instruction and presentation of the class rules (presented slides - examples of different staining techniques: H + E, AZAN, silvering, injection). (3 hours)
2. Epithelial tissue: epithelia and glands, cell surface structures, intercellular connections (presented slides: simple cuboidal, columnar epithelium, transitional and stratified squamous epithelium). (3 hours)
3. Connective tissue: connective tissue cells and extracellular matrix - structure and function. (presented slides: reticular tissue, loose connective tissue, dense fibrous tissue irregular, white adipose tissue) (3 hours)
4. Support cell family: cartilage (presented preparations: hyaline cartilage, elastic cartilage, fibrous cartilage) (3 hours)
5. Supporting tissues family: bone tissue and bone development (presented slides: compact bone tissue - longitudinal and transverse section, ossification on membranous base and cartilage). (3 hours)
6. Muscle tissue: types of contractile cells and their function (presented preparations: smooth muscle, transverse striated skeletal and cardiac). (3 hours)
7. Nervous tissue: neuron structure, neuron classification, histological organization of nerve cells; glial cells - types and function. (presented preparations: Nissle's bodies in nerve cells, pear-shaped cell, nerve trunk in longitudinal and transverse section) (3 hours)
8. Blood: blood cells and hemopoiesis. Heart and vascular system (presented preparations: human blood - smear, capillaries, artery and muscle vein, aorta, large vein) (3 hours).
9. Immune system: cells of the immune system, structure and function of the immune system (presented preparations: lymph node, young thymus and thymus involution, palatine tonsil, spleen). (3 hours)
10. Gastrointestinal tract part I: oral cavity and its equipment, general structure of the oral cavity wall, salivary glands - structure and function, morphological characteristics differentiating secretory sections of salivary glands (presented preparations: tongue, oral lip, parotid and sublingual salivary glands) (3 hours)
11. The gastrointestinal tract part II: the tooth organ - the structure of the tooth and periodontium; the lower part of the gastrointestinal tract - general diagram of the structure of the gastrointestinal tract, the construction of the esophagus and stomach (presented preparations, the decalcified tooth, tooth in situ, esophagus, stomach - fundus) (3 hours),
12. The digestive tract part III: c.d. the lower part of the gastrointestinal tract - the small intestine - the structure of the small intestinal mucosa, characteristic features of individual sections of the small intestine; large intestine (presented preparations - duodenum, jejunum and ileum, large intestine, appendix). (3 hours)



13. Repetition part I - general histology (2 hours)	
14. Repetition part II - general histology (2 hours)	
Seminars - not applicable	
Practical classes -not applicable	
Other - not applicable	
Basic literature (list according to importance, no more than 3 items)	
<ol style="list-style-type: none"> 1. Basic Histology. L. Carlos Junqueira, Jose Carneiro, Robert O. Kelly 2. Human Histology. Alan Stevens, James Lowe 3. Exercise notebook for medicine and dentistry student (ed. Maciej Zabel). Elsevier Urban & Partner, Wrocław 2010 	
Additional literature and other materials (no more than 3 items)	
<ol style="list-style-type: none"> 1. Histology and Cell Biology: An Introduction to Pathology. Abraham Kierszenbaum 2. Histology: a text and atlas. Michael H. Ross, Gordon I. Kaye, Wojciech Pawlina 3. Medical Cell Biology. Steven R. Goodman 	
Didactic resources requirements (e.g. laboratory, multimedia projector, other...)	
Classroom with optical microscopes,	
Microscope with computer and multi-media projector , laptop, whiteboard with markers, histological slides.	
E-learning platform.	
Preliminary conditions (minimum requirements to be met by the student before starting the module/course) -	
Conditions to receive credit for the course:	
Each absence must be made up during make up and repetition week, including rector's days or dean's hours.	
The condition for passing the subject is in <u>oral or written form of each individual exercises</u> (acceptable lack of credit - 3 exercises) and passing the <u>test from general histology</u> (form: written, 10 open questions, maximum number of points 30, to pass the required minimum 18 points). Other criteria are presented in the table below.	
It is allowed to perform a general histology test using the TESTPORTAL.PL platform.	
The grade obtained from the general histology test is the final grade for passing the semester.	
Grade:	Criteria for course
Very Good (5.0)	28-30 pts
Good Plus (4.5)	26-27 pts
Good (4.0)	24-25 pts
Satisfactory Plus (3.5)	21-23 pts
Satisfactory (3.0)	18-20 pts



Grade:	Criteria for exam (if applicable)
Very Good (5.0)	
Good Plus (4.5)	
Good (4.0)	
Satisfactory Plus (3.5)	
Satisfactory (3.0)	

Unit realizing the subject	Division of Histology and Embryology, Wrocław Medical University
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Person responsible for module:	Marzenna Podhorska-Okolow MD, PhD, Prof.
Telephone	71 784 16 70
E-mail	marzenna.podhorska-okolow@umed.wroc.pl

List of persons conducting specific classes:				
Full name	Degree/scientific or professional title	Discipline	Performed profession	Form of classes
Marzenna Podhorska-Okolow	MD, PhD, Prof.	Medical science	professor	Lectures Classes L, MC
Urszula Ciesielska	PhD	Medical science	adjunct	Lectures, classes - L, MC
Mateusz Olbromski	PhD	Medical science	adjunct	Classes – MC
Katarzyna Haczkiwicz-Leśniak	PhD	Medical science	adjunct	Classes – MC
Karolina Jabłonska	PhD	Medical science	adjunct	Classes - MC

Date of Syllabus development
30.09.2020.

Syllabus developed by

Urszula Ciesielska PhD



Uniwersytet Medyczny we Wrocławiu
Signature of Head of teaching unit


prof. dr hab. Piotr Dziegiel

Signature of Faculty Dean

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