



# Pomorski Uniwersytet Medyczny w Szczecinie

## SYLLABUS of the MODULE (SUBJECT) HISTOLOGY AND EMBRYOLOGY-2025/2026

### General Information

Module title:	
Module type	Obligatory
Faculty PMU	Faculty of Medicine
Major	Medicine
Level of study	long-cycle (S2J)
Mode of study	full-time studies provided in English
Year of studies, semester	1st year, semesters 1 and 2
ECTS credits (incl. semester breakdown)	11 (5/6)
Type/s of training	<b>Lectures: 21h:</b> I sem: (11h); II sem: (10h). <b>Seminars: 6h:</b> I sem: 3h; II sem: 3h. <b>Practical: 58h:</b> I sem: 30h; II sem: 28h. $\Sigma$ 85.
Form of assessment*	<input checked="" type="checkbox"/> final examination <input checked="" type="checkbox"/> test (theoretical 1 <sup>st</sup> term, 1 <sup>st</sup> and 2 <sup>nd</sup> re-take) <input checked="" type="checkbox"/> practical (practical 1 <sup>st</sup> term, 1 <sup>st</sup> and 2 <sup>nd</sup> re-take)
Head of the Department/ Clinic, Unit	Assoc. Prof. Aleksandra Wilk, PhD
Tutor responsible for the module	Sylwia Rzeszotek, PhD sylwia.rzeszotek@pum.edu.pl 663-861-490
Name and contact details of the department	Katedra i Zakład Histologii i Embriologii al. Powstańców Wlkp. 72, 70-111 Szczecin tel. +91 466 1677 email: <a href="mailto:kzhe@pum.edu.pl">kzhe@pum.edu.pl</a>
Department's/ Clinic's/ Unit's website	<a href="https://www.pum.edu.pl/studenci/informacje_z_jednostek/wm/katedra_i_zaklad_histologii_i_embriologii/">https://www.pum.edu.pl/studenci/informacje_z_jednostek/wm/katedra_i_zaklad_histologii_i_embriologii/</a>
Language	English

\* replace  into  where applicable

**Detailed information–**

<b>Module objectives</b>	<p>The primary objective of teaching <b>histology</b> is to integrate knowledge from basic sciences with clinical disciplines, especially since an understanding of histological concepts is essential for understanding the causes, mechanisms, and consequences of many diseases. Therefore, the main goal of histology education is to familiarize students with the morphological structure of normal tissues and organs, as their structure is closely linked to the functions they perform.</p> <p>The aim of teaching <b>embryology</b> is to present the course of embryonic and fetal development—from the moment of fertilization to birth—with particular emphasis on the first two weeks after fertilization, when future mothers may still be unaware of their pregnancy. It is especially important for future physicians to be aware of the risks to embryonic development posed by factors that can affect the differentiation of specific germ layers, potentially leading to developmental defects in the tissues and organs derived from these layers.</p> <p>Special emphasis is placed on understanding the successive stages of human fetal development. In light of numerous environmental threats and the increasing incidence of congenital anomalies, the main goal of embryology education is to identify the causes, types, and mechanisms of such defects and the factors that induce them, so that this knowledge can be used in prevention.</p> <p>The main goal of the histology and embryology course is to guide students in understanding the structure of the human body from both topographic and functional perspectives, and to familiarize them with anatomical, histological, and embryological nomenclature. Additionally, students develop social competences, become aware of their own limitations, and self-assess their educational deficits and needs.</p>	
	Prerequisite /essential requirements	<p><b>Knowledge</b></p> <p><b>Basic knowledge of the structure and function of human tissues and organs. Understanding of human embryo and fetal development, development of the most important organs, and the types of anomalies (induced by teratogens or genetic factors) that may occur during organogenesis.</b></p> <p><b>Skills</b></p> <p><i>Operation of the optical microscope (including use of immersion technique).</i></p> <p><b>Competences</b></p> <p><i>The habit of self-education. Working in a group.</i></p>

<b>Description of the learning outcomes for the subject /module</b>			
<b>No. of learning outcome</b>	<b>Student, who has passed the (subject) knows /is able to /can:</b>	<b>SYMBOL (referring the standards)</b>	<b>Method of verification of learning outcomes*</b>
W01	knows and understands the structure of the human body in a topographic and functional approach, including topographic relations between individual organs, along with the anatomical, histological and embryological nomenclature;	A.W 1	S, K, O, PS, EPR ET
W02	knows and understands cell structures and their functional specializations;	A.W 2	
W03	knows and understands microarchitecture of tissues, extracellular matrix and organs;	A.W 3	
W04	knows and understands stages of development of the human embryo, structure and function of fetal membranes and placenta, stages of development of individual organs and the impact of harmful factors on the development of the embryo and fetus (teratogenic).	A.W 4	

U01	is able to operate an optical microscope, including the use of immersion;	A.U 1	
U02	is able to recognize structures corresponding to organs, tissues, cells and cellular structures in microscopic images, describe and interpret their structure and the relationship between structure and function;	A.U 2	
K01	is open for noticing and recognizing one's own limitations, self-assessing the deficits and educational needs;	K5	
K02	is open to use objective sources of information;	K7	

**Table presenting LEARNING OUTCOMES in relation to the form of classes**

No. of learning outcome	Learning outcomes	Type of training						
		Lecture	Seminar	Practical classes	Clinical classes	Simulations	E-learning	Other...
W01	A.W 1	X	X					
W02	A.W 2	X	X					
W03	A.W 3	X	X					
W04	A.W 4	X	X					
U01	A.U 1			X				
U02	A.U 2			X				
K01	K5		X	X				
K02	K7		X	X				

**Table presenting TEACHING PROGRAMME**

No. of a teaching programme	Teaching programme	No. of hours	References to learning outcomes
<b>Winter semester</b>			
<b>Lectures, 11h</b>			
TK01	Epithelial tissue. Exocrine glands.	1	A.W1, AW2, AW3.
TK02	Connective tissue. Adipose tissue.	1	A.W1, AW2, AW3.
TK03	Cartilage and bone.	1	A.W1, AW2, AW3.
TK04	Muscle tissue.	1	A.W1, AW2, AW3.
TK05	Blood. Bone marrow. Blood development.	1	A.W1, AW2, AW3.
TK06	Nervous tissue, PNS.	1	A.W1, AW2, AW3.
TK07	Central Nervous System.	1	A.W1, AW2, AW3.
TK08	Lymphatic organs.	1	A.W1, AW2, AW3.
TK09	Skin.	1	A.W1, AW2, AW3.
TK10	Circulatory system. Heart.	1	A.W1, AW2, AW3.
TK11	Eye, ear.	1	A.W1, AW2, AW3.
<b>Seminars, 3h</b>			
TK01	Fertilization, implantation, gastrulation. Fetal membranes. Twins.	1	A.W1, A.W4, K5, K7.
TK02	Nervous system development + neural crest cells.	1	A.W1, A.W4, K5, K7.
TK03	Endocrine system development.	1	A.W1, A.W4, K5, K7.
<b>Practical classes, 30h</b>			
TK01	Working with case viewer and microscope.	1	A.U1, A.U2, K5, K7.
TK02	Epithelial tissue. Exocrine glands.	2	A.U1, A.U2, K5, K7.
TK03	Connective tissue. Adipose tissue.	2	A.U1, A.U2, K5, K7.
TK04	Cartilage and bone.	2	A.U1, A.U2, K5, K7.

TK05	Muscle tissue.	2	A.U1, A.U2, K5, K7.
TK06	Blood. Bone marrow. Blood development.	1	A.U1, A.U2, K5, K7.
TK07	Practical classes: Slides review before cycle test I.	1	A.U1, A.U2, K5, K7.
TK08	Theoretical + practical cycle test I.	2	A.U1, A.U2, K5, K7.
TK09	Nervous tissue, PNS.	2	A.U1, A.U2, K5, K7.
TK10	Theoretical + practical cycle test I for doctor's leaves.	1	A.U1, A.U2, K5, K7.
TK11	Central Nervous System.	2	A.U1, A.U2, K5, K7.
TK12	Lymphatic organs.	2	A.U1, A.U2, K5, K7.
TK13	Skin.	2	A.U1, A.U2, K5, K7.
TK14	Circulatory System Heart.	1	A.U1, A.U2, K5, K7.
TK15	Eye, ear. e-L.	2	A.U1, A.U2, K5, K7.
TK16	Practical classes: Slides review before cycle test II.	1	A.U1, A.U2, K5, K7.
TK17	Theoretical + practical cycle test II.	2	A.U1, A.U2, K5, K7.
TK18	Theoretical + practical cycle test II for doctor's leaves.	1	A.U1, A.U2, K5, K7.
TK19	Slides review – 1 <sup>st</sup> semester	1	A.U1, A.U2, K5, K7.
<b>Simulation</b>			
	Nor applicable.		
<b>E-learning</b>			
	Nor applicable.		
<b>Summer semester</b>			
<b>Lectures, 10h</b>			
TK01	Endocrine System.	1	A.W1, AW2, AW3.
TK02	Tooth and oral cavity.	1	A.W1, AW2, AW3.
TK03	Esophagus, stomach, small and large intestine, appendix.	1	A.W1, AW2, AW3.
TK04	Salivary glands, liver, pancreas, gallbladder.	1	A.W1, AW2, AW3.
TK05	Respiratory system.	1	A.W1, AW2, AW3.
TK06	Teratogenes.	1	A.W1, AW2, AW3.
TK07	Urinary system.	2	A.W1, AW2, AW3.
TK08	Female reproductive system.	1	A.W1, AW2, AW3.
TK09	Male reproductive system.	1	A.W1, AW2, AW3.
<b>Seminars, 3h</b>			
TK01	Development of digestive system.	1	A.W1, A.W4, K5, K7.
TK02	Urogenital system development.	1	A.W1, A.W4, K5, K7.
TK03	Lymphatic organs development.	1	A.W1, A.W4, K5, K7.
<b>Practical classes, 28h</b>			
TK01	Endocrine System.	2	A.U1, A.U2, K5, K7.
TK02	Tooth and oral cavity.	2	A.U1, A.U2, K5, K7.
TK03	Esophagus, stomach, small and large intestine, appendix.	2	A.U1, A.U2, K5, K7.
TK04	Salivary glands, liver, pancreas, gallbladder.	1	A.U1, A.U2, K5, K7.
TK05	Practical classes: Slides review before cycle test III.	1	A.U1, A.U2, K5, K7.
TK06	Respiratory system.	1	A.U1, A.U2, K5, K7.
TK07	Theoretical + practical cycle test III.	2	A.U1, A.U2, K5, K7.
TK08	Urinary system.	2	A.U1, A.U2, K5, K7.
TK09	Theoretical + practical cycle test III for doctor's leaves.	1	A.U1, A.U2, K5, K7.
TK10	Female reproductive system.	2	A.U1, A.U2, K5, K7.
TK11	Male reproductive system.	2	A.U1, A.U2, K5, K7.
TK12	Practical classes: Slides review before cycle test IV.	1	A.U1, A.U2, K5, K7.
TK13	Theoretical + practical cycle test IV.	2	A.U1, A.U2, K5, K7.
TK14	Practical classes: Slides review before an exam.	2	A.U1, A.U2, K5, K7.
TK15	Theoretical + practical cycle test IV for doctor's leaves.	1	A.U1, A.U2, K5, K7.
TK16	Booster 1st term.	2	A.U1, A.U2, K5, K7.
TK17	Booster 2nd term.	1	A.U1, A.U2, K5, K7.
TK18	Practical EXAM.	1	A.U1, A.U2, K5, K7.
TK19	Theoretical EXAM.	0	A.U1, A.U2, K5, K7.
<b>Simulation</b>			
	Nor applicable.		

<b>E-learning</b>			
	Nor applicable.		

<b>Booklist</b>
<b>Obligatory literature:</b>
1. Junqueira's Basic Histology: Text and Atlas.
2. Before we are born. Essential of Embryology and Birth defects. Keith L. Moore, T.V.N. Persaud, Mark G. Torchia.
<b>Supplementary literature:</b>
1. Textbook of Histology. Leslie P Gartner.
2. Langman`s medical embryology. Thirteenth edition. T.W. Sadler.
3. Memorix Histology. J. Balko, Z. Tonar, I. Varga et al.

<b>Student's workload</b>	
Form of student's activity (in-class participation; activeness, produce a report, etc.)	Student's workload [h]
	Tutor
Contact hours with the tutor	85
Time spent on preparation to seminars/ practical classes	60
Time spent on reading recommended literature	55
Time spent on writing report/making project	0
Time spent on preparing to colloquium/ entry test	50
Time spent on preparing to exam	80
Other .....	0
Student's workload in total	<b>330</b>
<b>ECTS credits for the subject (in total)</b>	<b>11</b>
<b>Remarks</b>	

\* Selected examples of methods of assessment:

EP – written examination

EU – oral examination

ET – test examination

EPR – practical examination

K – colloquium

R – report

S – practical skills assessment

RZC – practical classes report, incl. discussion on results

O – student's active participation and attitude assessment

SL – lab report

SP – case study

PS - assessment of student's ability to work independently

W – entry test

PM – multimedia presentation

other...