



Pomeranian Medical University in Szczecin

SYLLABUS of the MODULE (SUBJECT) General Information

Module title: Histology and embryology	
Module type	Obligatory
Faculty PMU	Faculty of Medicine and Dentistry
Major	Medicine
Level of study	long-cycle Master's degree studies
Mode of study	full-time studies provided in English Language
Year of studies, semester	Year I, semesters I and II
ECTS credits (incl. semester breakdown)	12 (6+6)
Type/s of training	(100 h): Lectures (30); seminars (10 h); practical classes (60 h)
Form of assessment ¹	-graded assessment - final examination: X test (1st and 1st re-take) X practical (before the test) X oral (2nd re-take)
Head of the Department/ Clinic, Unit	Barbara Wiszniewska Professor PhD, Dsc barbara.wiszniewska@pum.edu.pl
Tutor responsible for the module	Aleksandra Wilk, PhD, aleksandra.wilk@pum.edu.pl +48 91 466 16 81
Department's/ Clinic's/ Unit's website	https://www.pum.edu.pl/wydzialy/wydzial-lekarski/katedra-i-zaklad-histologii-i-embriologii
Language	English

¹ replace ☐ into ☒ where applicable

Detailed information

Module objectives		The primary goal of teaching histology is to integrate knowledge of basic disciplines with clinical sciences, including understanding of the causes, mechanisms and effects of many diseases. Additionally, the main goal of teaching histology is to teach the morphological structure of proper tissues and organs, due to the fact that their structure is closely related to their function. The aim of teaching embryology , on the other hand, is to present the development of the embryo and the fetus, with particular emphasis on the first two weeks after fertilization, when future mother may not be aware of pregnancy. It is extremely important for future doctors to present them factors that can affect the development of germ layers, and thus the development of defects of tissues and organs derived from them. Furthermore, knowledge based on the next stages of human fetal development is also essential and should be emphasized. Due to the increased threats of civilization and the increasing number of birth defects, the main goal of teaching embryology is to determine the causes, types and mechanisms of defects formation and, what is more, to characterize the factors causing above mentioned defects, so that knowledge about congenital defects could be used in prophylaxis.
Prerequisite / essential requirements	Knowledge	Acquire the essential elements of the organization of human tissues. The morphology and function of particular tissues and organs. The human embryo and fetal development, development of the crucial organs, including anomalies.
	Skills	To operate optical microscope, including usage of immersion.
	Competences	To show habit of self-education and lifelong education

Description of the learning outcomes for the subject /module			
No. of learning outcome	Student, who has passed the (subject) knows /is able to /can:	SYMBOL (referring the standards)	Method of verification of learning outcomes*
W01	knows Polish and English anatomical, histological and embryological terminology	K_A.W1	S, K, O, PS, W, EPR, ET, EU
W02	knows basic cell structures and their functions	K_A.W4	
W03	knows micro-architecture of tissues, extracellular matrix and organs	K_A.W5	
W04	knows embryo development phases, structure and function of fetal membranes and placenta, knows development phases of organs	K_A.W6	
U01	operates optical microscope and is able to exploit immersion	K_A.U1	
U02	recognizes histological structures corresponding to organs, tissues, cells and cell structures on the basis of optical or electronic microscope images and describes and interprets their structures and the relationships between structure and function	K_A.U2	
U03	speaks and writes using anatomical, histological and embryological terminology	K_A.U5	
K01	accepts the need for ethical standards	K_K.01	
K02	recognizes concept and need for responsibility for property he/she has been entrusted with	K_K.02	
K03	demonstrates the awareness for self-education, understands the need for continuing professional education, can inspire and organize learning processes in others	K_K.03	
K04	co-operates with team members; can co-operate within a group and take different roles	K_K.04	

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	K_A.W1	x	x	x				
W02	K_A.W4	x	x	x				
W03	K_A.W5	x	x	x				
W04	K_A.W6	x	x	x				
U01	K_A.U1			x				
U02	K_A.U2	x	x	x				
U03	K_A.U5	x	x	x				
K01	K_K.01	x	x	x				
K02	K_K.02	x	x	x				
K03	K_K.03	x	x	x				
K04	K_K.04	x	x	x				

Table presenting TEACHING PROGRAMME			
No. of a teaching programme	Teaching programme	No. of hours	References to learning outcomes
Winter semester			
Lectures			
TK 01	Histology – into the depths of organism	1	W01, W02, W03, W04, K01, K02, K03, K04
TK 02	Epithelial tissue and glands	2	W01, W02, U03, K01, K02, K03, K04
TK 03	Connective tissue and adipose tissue	2	W01, W02, U03, K01, K02, K03, K04
TK 04	Cartilage and bone	2	W01, W02, U03, K01, K02, K03, K04
TK 05	Muscles	1	W01, W02, U03, K01, K02, K03, K04
TK 06	Circulatory system	2	W01, W02, U03, K01, K02, K03, K04
TK 07	Nervous tissue. Peripheral nervous system.	1	W01, W02, U03, K01, K02, K03, K04
TK 08	Blood and bone marrow	2	W01, W02, U03, K01, K02, K03, K04
TK 09	Basis of immunology. Lymphatic system	2	W01, W02, U03, K01, K02, K03, K04
TK 10	Skin	1	W01, W02, U03, K01, K02, K03, K04
TK 11	Respiratory system	1	W01, W02, U03, K01, K02, K03, K04
Seminars			
TK 01	Gastrulation and the origin of epithelia	1	W01, W02, W03, W04, U2, U03, K01, K02, K03, K04
TK 02	Development of somites	1	W01, W02, W03, W04, U2, U03, K01, K02, K03, K04
TK 03	The origin and migration of neural crest cells	1	W01, W02, W03, W04, U2, U03, K01, K02, K03, K04

TK 04	Development of lymphatic organs	1	W01, W02, W03, W04, U2, U03, K01, K02, K03, K04
TK 05	Respiratory system development	1	W01, W02, W03, W04, U2, U03, K01, K02, K03, K04
Practical classes			
TK 01	Epithelial tissue	2	W01, W02, W03, U01, U02, U03, K01, K02, K03, K04
TK 02	Exocrine glands	2	W01, W02, W03, U01, U02, U03, K01, K02, K03, K04
TK 03	Connective tissue proper, adipose tissue	2	W01, W02, W03, W05, U01, U02, U03, K01, K02, K03, K04
TK 04	Cartilage and bone	2	W01, W02, W03, W05, U01, U02, U03, K01, K02, K03, K04
TK 05	Muscle tissue	2	W01, W02, W03, U01, U02, U03, K01, K02, K03, K04
TK 06	Theoretical test I, practical classes	2	W01, W02, W03, W04, U01, U02, U03, K01, K02, K03, K04
TK 07	Test I re-take, practical test I	2	W01, W02, W03, W04, U01, U02, U03, K01, K02
TK 08	Circulatory system. Theoretical test I – 2nd re-take	2	W01, W02, W03, W04, U01, U02, U03, K01, K02, K03, K04
TK 09	Nervous tissue.	2	W1, W2, W3, W5, W8, U1, U2, U3, K01, K02, K03, K04
TK 10	Blood and bone marrow	2	W1, W2, W3, W5, W8, U1, U2, U3, K01, K02, K03, K04
TK 11	Lymphatic system	2	W1, W2, W3, W5, W8, U1, U2, U3, K01, K02, K03, K04
TK 12	Skin	2	W1, W2, W3, W5, W8, U1, U2, U3, K01, K02, K03, K04
TK 13	Respiratory system	2	W1, W2, W3, W5, W8, U1, U2, U3, K01, K02, K03, K04
TK 14	Theoretical test II, practical test II	2	W01, W02, W03, U02, U03, K01, K02, K03, K04
TK 15	Theoretical test II – 1st re-take	1	W01, W02, W03, U02, U03, K01, K02, K03
TK 16	Theoretical test II – 2nd re-take	1	W01, W02, W03, U02, U03, K01, K02
Summer semester			
Lectures			
TK 01	Digestive tract I: oral cavity: lip, tongue, teeth, glands of oral cavity, esophagus	2	W01, W02, W03, W04, U02, U03, K01, K02, K03, K04
TK 02	Digestive tract II: stomach, small intestine, large intestine, appendix	1	W01, W02, W03, U02, U03, K01, K02, K03, K04
TK 03	Organs associated with digestive tract: pancreas, liver, gall bladder, salivary glands	1	W01, W02, W03, U02, U03, K01, K02, K03, K04
TK 04	Teratogenes	1	W01, W02, W03, W04, U02, U03, K01, K02, K03, K04
TK 05	Endocrine system	1	W01, W02, W03, U02, U03, K01, K02, K03, K04
TK 06	Female reproductive system. Fertilization, implantation, gastrulation	2	W01, W02, W03, W04, U02, U03, K01, K02, K03, K04
TK 07	Male reproductive system. Fetal membranes	2	W01, W02, W03, W04, U02, U03, K01, K02, K03, K04
TK 08	Urinary system	1	W01, W02, W03, U02, U03, K01, K02, K03, K04
TK 09	Central Nervous System. Eye.	2	W01, W02, W03, U02, U03, K01, K02, K03, K04
Seminars			

TK01	Pharyngeal arches and pouches	1	W01, W02, W03, W04, U02, U03, K01, K02, K03, K04
TK02	Development of digestive system	1	W01, W02, W03, W04, U02, U03, K01, K02, K03, K04
TK 03	Endocrine system development	1	W01, W02, W03, W04, U02, U03, K01, K02, K03, K04
TK 04	Urogenital system development	1	W01, W02, W03, W04, U02, U03, K01, K02, K03, K04
TK 05	Nervous system development	1	W01, W02, W03, W04, U02, U03, K01, K02, K03, K04
Practical classes			
TK 01	Digestive tract I: oral cavity: lip, tongue, teeth, glands of oral cavity, esophagus	2	W01, W02, W03, U01, U02, U03, K01, K02, K03, K04
TK 02	Digestive tract II: stomach, small intestine, large intestine, appendix	2	W01, W02, W03, U01, U02, U03, K01, K02, K03, K04
TK 03	Organs associated with digestive tract: pancreas, liver, gall bladder, salivary glands	2	W01, W02, W03, W04, U01, U02, U03, K01, K02, K03, K04
TK 04	Theoretical test III, practical classes	2	W01, W02, W03, W04, U01, U02, U03, K01, K02
TK 05	Practical test III, Theoretical test III-1st re-take	2	W01, W02, W03, W04, U02, U03, K01, K02
TK 06	Endocrine system, Theoretical test III- 2nd re-take	2	W01, W02, W03, W04, U01, U02, U03, K01, K02, K03, K04
TK 07	Female reproductive system	2	W01, W02, W03, U01, U02, U03, K01, K02, K03, K04
TK 08	Male reproductive system	2	W01, W02, W03, U01, U02, U03, K01, K02, K03, K04
TK 10	Urinary system	2	W01, W02, W03, U01, U02, U03, K01, K02, K03, K04
TK 11	Central Nervous System. Eye.	2	W01, W02, W03, U01, U02, U03, K01, K02, K03, K04
TK 12	Theoretical test IV, practical classes	2	W01, W02, W03, W04, U01, U02, U03, K01, K02
TK 13	Practical Test IV, theoretical test IV- 1st re-take	3	W01, W02, W03, W04, U02, U03, K01, K02
TK 14	Theoretical test IV- 2nd re-take, practical classes before exam	3	W01, W02, W03, W04, U01, U02, U03, K01, K02
Simulation			
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E-learning			
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Booklist

Obligatory literature:

1. Junqueira's Basic Histology: Text and Atlas, Fifteenth Edition

2. Before we are born. Essential of Embryology and Birth defects. Keith L. Moore, T.V.N. Persaud, Mark G. Torchia 8th edition 2013

Supplementary literature:

1. Leslie P Gartner. Textbook of Histology

2. T.W. Sadler: Langman's medical embryology. Thirteenth edition

Student's workload

Form of student's activity (in-class participation; activeness, produce a report, etc.)	Student's workload [h]
	Tutor

Contact hours with the tutor	100
Time spent on preparation to seminars/ practical classess	65
Time spent on reading recommended literature	60
Time spent on writing report/making project	---
Time spent on preparing to colloquium/ entry test	55
Time spent on preparing to exam	80
Other	---
Student's workload in total	360
ECTS credits for the subject (in total)	12
Remarks	

* 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 – multimedial presentation

other...