



Pomeranian Medical University in Szczecin

SYLLABUS of the MODULE(SUBJECT) 2023/2024 General Information

Module title: The influence of hormonal imbalance on human health	
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, semester 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*	- final examination: X theoretical exam X practical exam
Head of the Department/ Clinic, Unit	Barbara Wiszniewska Professor PhD, Dsc barbara.wiszniewska@pum.edu.pl
Tutor responsible for the module	Sylwia Rzeszotek PhD sylwia.rzeszotek@pum.edu.pl 91 466 16 25
Department's/ Clinic's/ Unit's website	https://www.pum.edu.pl/studia_iii_stopnia/informacje_z_jednostek/wmis/katedra_i_zakad_histologii_i_embriologii/
Language	English

* replace into where applicable

Detailed information

Module objectives		<p>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.</p> <p>The aim of teaching embryology 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. Particular emphasis is placed on knowledge of the stages of human fetal development.</p> <p>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.</p>
Prerequisite /essential requirements	Knowledge	Basic knowledge of the structure and function of human tissues and organs. Knowledge of human embryo/fetal development, development of major organs, and what anomalies (induced by teratogens or genetic factors) can occur during organogenesis.
	Skills	Operation of an optical microscope (including the use of immersion).
	Competences	The habit of self-education. Working in a group.

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	A.W1	S, K, O, PS, W, EPR, ET	
W02	knows basic cell structures and their functions	A.W4		
W03	knows micro-architecture of tissues, extracellular matrix and organs	A.W5		
W04	knows the stages of development of the human embryo, the structure and function of the fetal membranes and the placenta, the stages of development of individual organs and the impact of harmful factors on the development of the embryo and fetus (teratogens);	A.W6		
U01	operates optical microscope and is able to exploit immersion	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	A.U2		
U03	speaks and writes using anatomical, histological and embryological terminology	A.U5		
K01	notices and recognizes his own limitations and makes a self-assessment of educational deficits and needs	K5		O
K02	uses objective sources of information	K7		O

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
W01	A.W.1	X	X				X
W02	A.W.4	X	X				X
W03	A.W5	X	X				X
W04	A.W6	X	X				X
U01	A.U1			X			
U02	A.U2			X			
U03	A.U5			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
Winter semester			
	Lectures	15h (12+3e-L)	
TK01	Introduction to tissues. Fertilization, implantation, twins	1	A.W1, A.W4, A.W5, A.W6
TK02	Fetal membranes	1	A.W1, A.W4, A.W5, A.W6
TK03	Epithelial tissue+exocrine glands	2	A.W1, A.W4, A.W5
TK04	Connective tissue adipose tissue	1	A.W1, A.W4, A.W5
TK05	Cartilage and bone	2	A.W1, A.W4, A.W5
TK06	Muscle tissue	1	A.W1, A.W4, A.W5
TK07	Blood. Bone marrow. Blood development	2	A.W1, A.W4, A.W5
TK08	Nervous tissue. Peripheral Nervous System	1	A.W1, A.W4, A.W5
TK09	Central Nervous System	1	A.W1, A.W4, A.W5
TK10	Eye and Ear, e-learning	1	A.W1, A.W4, A.W5
TK11	Skin, e-learning	1	A.W1, A.W4, A.W5
TK12	Circulatory System. Heart, e-learning	1	A.W1, A.W4, A.W5
	Seminars	5h	
TK01	Gastrulation, germ layers in development of epithelia	1	A.W6, K5, K7
TK02	Nervous system development	1	A.W6, K5, K7
TK03	Development of somites	1	A.W6, K5, K7
TK04	Pharyngeal arches	1	A.W6, K5, K7
TK05	Origin and migration of neural crest cells	1	A.W6, K5, K7

	Practical classes	30h	
TK01	Epithelial tissue. Exocrine glands.	2	A.U1, A.U2, A.U5, K5, K7
TK02	Connective tissue. Adipose tissue.	1	A.U1, A.U2, A.U5, K5, K7
TK03	Cartilage and bone.	2	A.U1, A.U2, A.U5, K5, K7
TK04	Muscle tissue.	2	A.U1, A.U2, A.U5, K5, K7
TK05	Blood bone marrow.	1	A.U1, A.U2, A.U5, K5, K7
TK06	Slides review.	1	A.U1, A.U2, A.U5, K5, K7
TK07	Theoretical cycle test I + PRACTICAL TEST I	3	A.U1, A.U2, A.U5, K5, K7
TK08	Theoretical cycle test I + PRACTICAL TEST I (For students with doctors leave)	2	A.U1, A.U2, A.U5, K5, K7
TK09	Nervous tissue, peripheral nervous tissue	3	A.U1, A.U2, A.U5, K5, K7
TK10	Central Nervous System	2	A.U1, A.U2, A.U5, K5, K7
TK11	Eye and Ear	2	A.U1, A.U2, A.U5, K5, K7
TK12	Skin	2	A.U1, A.U2, A.U5, K5, K7
TK13	Circulatory system. Slides review.	3	A.U1, A.U2, A.U5, K5, K7
TK14	Theoretical cycle test II + PRACTICAL TEST II	2	A.U1, A.U2, A.U5, K5, K7
TK15	Theoretical cycle test II + PRACTICAL TEST II (For students with doctors leave)	2	A.U1, A.U2, A.U5, K5, K7
Summer semester			
	Lectures	15h (11+4eL)	
TK01	Endocrine System	1	A.W1, A.W4, A.W5
TK02	Tooth, including development. Oral cavity	2	A.W1, A.W4, A.W5
TK03	Esophagus, stomach, small and large intestine, appendix	2	A.W1, A.W4, A.W5
TK04	Salivary glands, liver, pancreas, gallbladder e-L	1	A.W1, A.W4, A.W5
TK05	Respiratory system	1	A.W1, A.W4, A.W5
TK06	Introduction to immune system	1	A.W1, A.W4, A.W5
TK07	Lymphatic organs	1	A.W1, A.W4, A.W5
TK08	Urinary system, e-L	2	A.W1, A.W4, A.W5
TK09	Female reproductive system e-L	1	A.W1, A.W4, A.W5
TK10	Male reproductive system	2	A.W1, A.W4, A.W5
TK11	Teratogenes	1	A.W1, A.W4, A.W5, A.W6
	Seminars	5h	
TK01	Endocrine system development	1	A.W6, K5, K7
TK02	Development of digestive system	1	A.W6, K5, K7
TK03	Respiratory system development	1	A.W6, K5, K7
TK04	Development of lymphatic organs	1	A.W6, K5, K7
TK05	Urogenital system development	1	A.W6, K5, K7
	Practical classes	30h	
TK01	Endocrine System	1	A.U1, A.U2, A.U5, K5, K7
TK02	Tooth, including development. Oral cavity	1	A.U1, A.U2, A.U5, K5, K7
TK03	Esophagus, stomach, small and large intestine, appendix	2	A.U1, A.U2, A.U5, K5, K7

TK04	Salivary glands, liver, pancreas, gallbladder	1	A.U1, A.U2, A.U5, K5, K7
TK05	Slides review	1	A.U1, A.U2, A.U5, K5, K7
TK06	Theoretical cycle test III + PRACTICAL TEST III	2	A.U1, A.U2, A.U5, K5, K7
TK07	Respiratory system	1	A.U1, A.U2, A.U5, K5, K7
TK08	Theoretical cycle test II + PRACTICAL TEST III (For students with doctors leave)	1	A.U1, A.U2, A.U5, K5, K7
TK09	Urinary system	1	A.U1, A.U2, A.U5, K5, K7
TK10	Introduction to immune system	2	A.U1, A.U2, A.U5, K5, K7
TK11	Lymphatic organs	2	A.U1, A.U2, A.U5, K5, K7
TK12	Female reproductive system	2	A.U1, A.U2, A.U5, K5, K7
TK13	Male reproductive system	1	A.U1, A.U2, A.U5, K5, K7
TK14	Slides review	1	A.U1, A.U2, A.U5, K5, K7
TK15	Theoretical cycle test IV + PRACTICAL TEST IV	2	A.U1, A.U2, A.U5, K5, K7
TK16	Slides review before exam	2	A.U1, A.U2, A.U5, K5, K7
TK17	Theoretical cycle test IV + PRACTICAL TEST IV (For students with doctors leave)	1	A.U1, A.U2, A.U5, K5, K7
TK18	Booster	2	A.U1, A.U2, A.U5, K5, K7
TK19	Theoretical Exam	2	A.U1, A.U2, A.U5, K5, K7
TK20	Practical Exam	2	A.U1, A.U2, A.U5, K5, K7

Booklist
Obligatory literature:
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
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 classes	65
Time spent on reading recommended literature	60
Time spent on writing report/making project	0
Time spent on preparing to colloquium/ entry test	55
Time spent on preparing to exam	80

Other	0
Student's workload in total	360
ECTS credits for the subject (in total)	12 (6/6)

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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...