



Pomeranian Medical University in Szczecin

SYLLABUS of the MODULE (SUBJECT)

General Information

Module title: Histology, Embryology and Cytology (2022/2023)	
Module type	Obligatory
Faculty PMU	Faculty of Medicine and Dentistry
Major	Dentistry
Level of study	long-cycle Master's degree studies
Mode of study	full-time studies provided in English Language
Year of studies, semester	Year 1, semester I and II
ECTS credits (incl. semester breakdown)	8 (3/5)
Type/s of training	Lectures: 20h (6 e-learning) (I semester: 10h, (3 e-learning), II semester: 10h (3 e-learning)) Seminars: 8h (I semester: 4h, II semester: 4h) Practical: 48h (I 24 semester: h, II semester: 24h) Summary 76 hours
Form of assessment ¹	<input checked="" type="checkbox"/> final examination: I term, I and II re-take <input checked="" type="checkbox"/> theoretical test <input checked="" type="checkbox"/> practical
Head of the Department/ Clinic, Unit	prof. dr hab. Barbara Wiszniewska
Tutor responsible for the module	Dagmara Szypulska-Koziarska, PhD Dsc dagmara.koziarska@pum.edu.pl Phone no. 914661681
Department's/ Clinic's/ Unit's website	Department of Histology and Embryology 70-111 Szczecin Al. Powstańców Wlkp. 72 tel. + 48 91 466 16 77 https://www.pum.edu.pl/wydzialy/wydzial-lekarski/katedra-i-zaklad-histologii-i-embriologii
Language	English

Detailed information

Module objectives:		<p>Histology is one of the basic fields of medicine. The area of interest is the microscopic of the human body that can be studied using the optical devices including all kinds of microscopy. The purpose of the teaching of histology and cytology is to provide a knowledge on the structure and function of cells, structural organization of tissues, entire systems and particular organs in the human body. The knowledge would be necessary for the farther study of the next subjects including physiology, biochemistry, immunology, pathophysiology and pathology. The understanding of ultrastructure of various cell types and molecular mechanisms in their organelle would be helpful to understand the etiology of diseases as well as cellular and sub-cellular mechanisms of medications and toxic agents. Moreover, learning the histology and cytology facilitates to understand relationships between the basic science in medicine and clinical subjects. The aim of the human embryology course is to describe and explain complex processes that occur during human embryo and fetus development. Additionally, basic embryological development of the face, neck, oral cavity, teeth and pharynx as well as of the most common orofacial birth defects.</p>
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	Handling of light microscope with immersion
	Competences	The ability of self-education and group work

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	demonstrates knowledge of human body structures: cells, tissues and systems with particular regard to stomatognathic system	A.W1.	W, S, K, O, PS EPR, ET – I term and I and II re-take
W02	explains development of organs and entire body with particular regard to masticatory system	A.W2.	W, S, K, O, PS EPR, ET – I term and I II re-take
W03	understands role of nervous system for functions of certain organs	A.W4.	W, S, K, O, PS EPR, ET – I term and I II re-take
W04	knows and understands functional importance of certain organs and systems in synthetic manner	A.W5.	W, S, K, O, PS EPR, ET – I term and I and II re-take
U01	can operate optic microscope and is able to apply of immersion and recognize histological structures corresponding to organs and tissues using microscope images as well as explain and interpret structures thereof, and interpret relationship between structure and function of cells, tissues and organs	A.U2.	S, O, PS, EPR

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.W1.	x	x				x	
W02	A.W2.	x	x				x	
W03	A.W4.	x	x				x	
W04	A.W.5.	x	x				x	
U01	A.U2.			x				

Table presenting TEACHING PROGRAMME			
No. of a teaching programme	Teaching programme	No. of hours	References to learning outcomes
Winter semester			
Lectures (7h)			
TK01	Connective tissue proper and adipose tissue.	1	A.W1., A.W2., A.W4., A.W5.
TK02	Muscle tissue.	1	A.W1., A.W4., A.W5.
TK03	Cartilage and bone with histogenesis.	1	A.W1., A.W2., A.W4., A.W5.
TK04	Blood and bone marrow.	1	A.W1., A.W2., A.W5.
TK05	Circulatory system	1	A.W1., A.W4., A.W5.
TK06	Basis of immunology and lymphatic system	1	A.W1., A.W4., A.W5.
TK07	Central nervous system.	1	A.W1., A.W4., A.W5.
Seminars (4h)			
TK01	Cytology with cytoskeleton	1	A.W1.
TK02	Methods in histology.	1	A.W1.
TK03	Cell cycle.	1	A.W1.
TK04	Cell differentiation.	1	A.W1., A.W2., A.W4., A.W5.
Practical classes (24h)			
TK 01	Organizing classes (familiarizing Students with the regulations, digital system and optic microscope).	1	A.U2.
TK 02	Epithelial tissue and glands.	2	A.U2.
TK 03	Connective tissue proper and adipose tissue.	2	A.U2.
TK 04	Cartilage and bone with histogenesis.	2	A.U2.
TK 05	Muscle tissue.	2	A.U2.
TK 06	Nervous tissue. Practical classes-revision of the slides.	2	A.U2.
TK 07	I theoretical test. I practical test.	1	A.U2.
TK 08	Blood and bone marrow.	1	A.U2.
TK 09	Central nervous system.	2	A.U2.
TK 10	Circulatory system.	1	A.U2.
TK 11	Lymphatic system.	2	A.U2.
TK12	Respiratory system. Practical classes-revision of the slides.	2	A.U2.

TK 13	II theoretical test. II practical test.	2	A.U2.
TK 14	Theoretical test and practical test for Students with doctors' leaves.	2	A.U2.
E-learning (3h)			
TK01	Epithelial tissue and exocrine glands.	1	A.W1., A.W2., A.W4., A.W5.
TK02	Nervous tissue.	1	A.W1., A.W4., A.W5.
TK03	Respiratory system.	1	A.W1., A.W4., A.W5.
Summer semester			
Lectures (7h)			
TK01	Oral cavity: tongue, lip.	1	A.W1., A.W4., A.W5.
TK02	Tooth.	1	A.W1., A.W4., A.W5.
TK03	Glands associated with digestive system: salivary glands (with development), liver.	1	A.W1., A.W2., A.W4., A.W5.
TK04	Endocrine system.	1	A.W1., A.W4., A.W5.
TK05	Female reproductive system.	1	A.W1., A.W2., A.W4., A.W5.
TK06	Male reproductive system.	1	A.W1., A.W2., A.W4., A.W5.
TK07	Urinary system.	1	A.W1., A.W4., A.W5.
Seminars (4h)			
TK01	Tooth development.	1	A.W1., A.W2., A.W4., A.W5.
TK02	Development of pharyngeal arches and pouches (development of head and neck).	1	A.W1., A.W2., A.W4., A.W5.
TK03	Fertilization, implantation, gastrulation.	1	A.W1., A.W2., A.W5.
TK04	Teratogens and fetal membranes	1	A.W1., A.W2., A.W5.
Practical classes (24h)			
TK01	Skin.	2	A.U2.
TK02	Oral cavity: tongue, lip.	2	A.U2.
TK03	Tooth.	1	A.U2.
TK04	Digestive tube: esophagous, stomach, small intestine.	1	A.U2.
TK05	Glands associated with digestive system: salivary glands, liver. Practical classes-revision of the slides.	2	A.U2.
TK06	III theoretical test III practical test.	2	A.U2.
TK07	Endocrine system.	2	A.U2.
TK08	Female and male reproductive system.	2	A.U2.
TK09	Urinary system.	2	A.U2.
TK10	Eye. Practical classes-revision of the slides.	2	A.U2.
TK11	IV theoretical test. IV practical test.	1	A.U2.
TK12	Theoretical and practical test for Students with doctors' leave. Booster.	2	A.U2.
TK13	Revision of the slides before the exam.	2	A.U2.
TK15	Theoretical exam.	1	A.U2.
E-learning (3h)			
TK01	Skin.	1	A.W1., A.W2., A.W4., A.W5.
TK02	Digestive tube: esophagous, stomach, small intestine.	1	A.W1., A.W4., A.W5.
TK03	Eye and ear.	1	A.W1., A.W4., A.W5.

Booklist
Obligatory literature:
<ol style="list-style-type: none"> 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. 3. Materials prepared by tutors.
Supplementary literature:
<ol style="list-style-type: none"> 1. B. Wyszniowska, A. Wilk. The world of Histology. Script. 2. Leslie P. Gartner, Textbook of Histology. 3. 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	76
Time spent on preparation to seminars/ practical classes	30
Time spent on reading recommended literature	24
Time spent on writing report/making project	-
Time spent on preparing to colloquium/ entry test	35
Time spent on preparing to exam	75
Other	-
Student's workload in total	240
ECTS credits for the subject (in total)	8
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
 RZĆ – 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...