



Pomorski Uniwersytet Medyczny w Szczecinie

SYLLABUS of the MODULE (SUBJECT) CYTOPHYSIOLOGY

General Information

Module title:	
Module type	Obligatory
Faculty PMU	Faculty of Medicine and Dentistry
Major	Medicine
Level of study	long-cycle (S2J)
Mode of study	full-time studies provided in English
Year of studies, semester	I year, semester 1 and 2
ECTS credits (incl. semester breakdown)	1 (0,5/0,5)
Type/s of training	Lectures: 11h: I sem: (6h + e-learning 2h); II sem: (5h). Practical: 2: I sem: 2h; Σ15.
Form of assessment*	<input checked="" type="checkbox"/> graded assessment
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
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 cytophysiology is to integrate knowledge from a range of basic disciplines with clinical science. It is important to indicate the connection of issues in the field of cell biology with practical problems of medicine. Knowledge of the ultrastructure of individual organelles cellular, molecular mechanisms taking place in their area, regulation of processes metabolic processes taking place in a normal cell will facilitate the understanding of the etiopathogenesis of many diseases. Many of them are based on disorders in the molecular structure and biochemistry of individual organelles, which result in abnormalities in the functioning of cells, tissues, organs and the system of entire organism. Learning cytophysiology will also provide students with a basis for understanding the cellular and subcellular mechanisms of action of drugs and toxic substances. Cytophysiology is also important introduction to oncology.</p> <p>Additionally, the student develops social competences, notices and recognizes own limitations, self-assesses educational deficits and needs. He sees a need to use objective sources of information.</p>
Prerequisite /essential requirements	Knowledge	<i>Basic knowledge of cell structure and function.</i>
	Skills	
	Competences	<i>The habit of self-education. Working in a group.</i>

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 the methods of communication between cells and between the cell and the extracellular matrix and the signal transmission pathways in the cell, as well as examples of disorders in these processes leading to the development of cancer and other diseases;	B.W16	O, ZAO
W02	knows the processes: cell cycle, cell proliferation, differentiation and aging, apoptosis and necrosis and their importance for the functioning of the body;	B.W17	
W03	knows the processes: cell cycle, cell proliferation, differentiation and aging, apoptosis and necrosis and their importance for the functioning of the body;	B.W18	
W04	processes occurring during the aging of the body and changes in functioning organs related to aging;	B.W21	
K1	notices and recognizes own limitations, self-assesses educational deficits and needs;	K.5	
K2	uses objective sources of information;	K.7	

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	B.W16	X					X	

W02	B.W17	X				X	
W03	B.W18	X				X	
W04	B.W21	X				X	
K1	K.5				X		
K2	K.7				X		

Table presenting TEACHING PROGRAMME

No. of a teaching programme	Teaching programme	No. of hours	References to learning outcomes
Winter semester			
Lectures, 6h			
TK01	Methods in histology.	1	B.W16; B.W17; B.W18; B.W21; K.5; K.7.
TK02	Cell cycle. Mitosis. Meiosis.	1	B.W16; B.W17; B.W21.
TK03	Cell aging. Apoptosis. Necrosis.	1	B.W16; B.W17; B.W21.
TK04	Endo- and exocytosis. Pinocytosis. Receptors.	1	B.W16; B.W20;
TK05	Cytophysiology and endocrine function of skin.	1	B.W16; B.W17; B.W21.
TK06	Cytophysiology of endothelium.	1	B.W16; B.W17; B.W21.
Seminars			
	Not applicable.		
Practical classes, 2h			
TK01	Practical classes, presentation and open discussion.	2	K.5, K.7.
Simulation			
	Not applicable.		
E-learning, 2eL			
TK01	Cytophysiology of fertilization and implantation, e-l.	1	B.W16; B.W17.
TK02	Niches of stem cells, e-l.	1	B.W16; B.W18.
Summer semester			
Lectures, 5h			
TK01	Cancerogenesis.	1	B.W16; B.W17.
TK02	Tissue barriers.	1	B.W16; B.W17.
TK03	Cytoskeleton.	1	B.W16; B.W17.
TK04	Cell differentiation.	1	B.W16; B.W17; B.W18; B.W21.
TK05	Cytophysiology – credit with a grade.	1	B.W16; B.W17; B.W18; B.W21.
Seminars			
	Not applicable.		
Practical classes,			
	Not applicable.		
Simulation			
	Not applicable.		
E-learning,			
	Not applicable.		

Booklist

Obligatory literature:
1. Junqueira's Basic Histology: Text and Atlas, 17th Edition. Anthony L. Mescher.
2. Literature provided by teacher.
Supplementary literature:
1. Essential Cell Biology, Sixth Edition by Bruce Alberts.

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	15
Time spent on preparation to seminars/ practical classes	0
Time spent on reading recommended literature	5
Time spent on writing report/making project	0
Time spent on preparing to colloquium/ entry test	0
Time spent on preparing to exam	0
Other. Preparation for credit with a grade	10
Student's workload in total	30
ECTS credits for the subject (in total)	1 (0,5/0,5)
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 – multimedia presentation

other...