

# Pomorski Uniwersytet Medyczny w Szczecinie

## COURSE SYLLABUS

### General information

Course title: Pathomorphology	
Type of courses	Mandatory
Name of the Faculty of PUM	Faculty of Medicine and Dentistry
Field of study	MEDICINE
Specialization	-
Level of study	long-term studies
Mode of study	full-time/ part-time
Year of study /semester	3
Number of allocated ECTS credits	6
Forms of teaching (number of hours)	lectures/seminars/practical classes/laboratories/etc.
Ways of verifying and assessing learning outcomes <sup>1</sup>	<input checked="" type="checkbox"/> graded credit: <ul style="list-style-type: none"> <li><input type="checkbox"/> descriptive</li> <li><input checked="" type="checkbox"/> test</li> <li><input type="checkbox"/> practical</li> <li><input type="checkbox"/> oral</li> </ul> <input type="checkbox"/> credit without grade <input checked="" type="checkbox"/> final exam: <ul style="list-style-type: none"> <li><input type="checkbox"/> descriptive</li> <li><input checked="" type="checkbox"/> test</li> <li><input checked="" type="checkbox"/> practical</li> </ul>

\* mark as appropriate, changing ☐ to ☒

	<input checked="" type="checkbox"/> oral
Head of Unit	Prof. dr. n. med. Elżbieta Urasińska
Teaching assistant professor or person responsible for the course	Dr n. med. Jolanta Hybiak
Name and contact details of unit	Chair and Department of Pathomorphology 71-242 Szczecin, ul. Unii Lubelskiej 1 Tel: (091) 48 70032; (091) 425 34 78 fax: (091) 48 70032 e-mail: <a href="mailto:sekrpato@pum.edu.pl">sekrpato@pum.edu.pl</a>
Unit's website	<a href="https://www.pum.edu.pl/wydzialy/wydzial-medycyny-i-stomatologii/Katedra-i-Zaklad-Patomorfologii">https://www.pum.edu.pl/wydzialy/wydzial-medycyny-i-stomatologii/Katedra-i-Zaklad-Patomorfologii</a>
Language of instruction	Polish/English

#### Detailed information

Course objectives		<p>The objective of training of students of medicine in the course of pathomorphology is:</p> <ul style="list-style-type: none"> <li>to acquaint students with the causes, mechanisms of development, phenotypic features and consequences of disease at the macroscopic, microscopic and molecular level</li> <li>to teach the ability to establish relationships between morphological gradeers of disease and clinical manifestations and therapeutic decisions</li> <li>to teach the ability to use diagnostic algorithms that require microscopic examination to establish the diagnosis of diseases</li> <li>to teach the ability to logically link clinical signs to the cause of disease and to explain the cause of death based on autopsy and microscopic findings.</li> </ul>
Initial requirements	Knowledge	<i>He/she has knowledge of normal anatomy, histology, biochemistry and physiology.</i>
	Skills	<i>He/she has the ability to work with a microscope, computer literacy. Critical reading of professional literature.</i>
	Social competences	<i>He/she has the habit of self-education, responsibility for the entrusted good, the ability to work in a group, interpersonal communication skills, understanding the need for lifelong learning.</i>

LEARNING OUTCOMES			
Number of learning outcome	A student who has completed the COURSE knows/can:	SYMBOL (reference to) learning outcomes for the field of study	Means of verifying the effects of learning outcomes*
W01	He/she knows the ways in which cells communicate with each other, between the cell and the extracellular matrix; the pathways for signal transduction in the cell and examples of disruption of these processes leading to cancer and other diseases	K_B.W21	Assessed in practical classes, test colloquia and final exam.  Test colloquia: 6 test colloquia containing 44 questions  The final examination consists of a practical examination (assessment of the ability to establish a diagnosis in selected histopathological preparations) and a test examination (125 tests).
W02	He/she knows processes such as the cell cycle, proliferation, differentiation and ageing of cells, apoptosis and necrosis and their significance for the functioning of the organism	K_B.W22	as above
W03	He/she knows the mechanisms of ageing	K_B.W28	as above
W04	He/she knows the basic concepts of genetics	K_C.W1	as above
W05	He/she knows the impact of abiotic and biotic (viruses, bacteria) environmental factors on the body and population and the ways of their penetration into the human body; is able to describe the consequences of exposure of the human body to various chemical and biological factors and the principles of prevention	K_C.W14	as above
W06	He/she discusses the principle of functioning of the parasite-host system	K_C.W16	as above

	and knows the basic symptoms of diseases caused by parasites		
W07	He/she knows the symptoms of iatrogenic infections, the ways they spread and the pathogens causing lesions in different organs	K_C.W17	as above
W08	He/she is familiar with the immunology of cancer	K_C.W23	as above
W09	He/she is able to identify the genetic basis of donor and recipient selection and the basis of transplantation immunology	K_C.W24	as above
W10	He/she knows the pathomorphological nomenclature	K_C.W25	as above
W11	He/she knows the basic mechanisms of cell and tissue damage	K_C.W26	as above
W12	He/she defines the clinical course of specific and non-specific inflammations and describes the processes of tissue and organ regeneration	K_C.W27	as above
W13	He/she knows the definition and pathophysiology of shock, with particular reference to the differentiation of shock causes, and multi-organ failure	K_C.W28	as above
W14	He/she knows the aetiology of haemodynamic disorders, retrograde changes and progressive changes	K_C.W29	as above
W15	He/she knows issues of detailed organ pathology, macroscopic and microscopic images and clinical course of pathomorphological changes in particular organs	K_C.W30	as above
W16	He/she describes the consequences of developing pathological changes on topographically adjacent organs	K_C.W31	as above

W17	He/she lists external and internal pathogens, modifiable and non-modifiable	K_C.W32	as above
W18	He/she lists the clinical forms of the most common diseases of individual systems and organs, metabolic diseases and water-electrolyte and acid-base disorders	K_C.W33	as above
U01	He/she decides on the need for cytogenetic and molecular tests	K_C.U3	as above
U02	He/she associates pictures of tissue and organ damage with clinical symptoms the disease, the history and the results of laboratory tests	K_C.U11	as above
U03	He/she analyses the reactive, defensive and adaptive phenomena and dysregulation caused by the aetiological agent	K_C.U12	as above
K01	He/she accepts the need for ethical standards	K_K01	as above
K02	He/she understands the concept and the need for responsibility for entrusted goods	K_K02	as above
K03	He/she demonstrates the habit of self-education, understand the need for lifelong learning, be able to inspire and organise the learning process of others	K_K03	as above
K04	He/she is able to formulate opinions concerning various aspects of professional classes	K_K06	as above
K05	He/she accepts the need to speak a foreign language	K_K10	as above
K06	He/she is able to maintain medical confidentiality	K_K14	as above

Table of learning outcomes in relation to the form of classes								
Number of learning outcome	Learning outcomes	Form of the classes						
		Lecture	Seminar	Practical classes	Clinical practical classes	Simulations	E-learning	Other forms
1.	K_B.W21		X	X				
2.	K_B.W22		X	X				
3.	K_B.W28	X	X	X				
4.	K_C.W1			X				
5.	K_C.W14			X				
6.	K_C.W16		X	X				
7.	K_C.W17		X	X				
8.	K_C.W23		X	X				
9.	K_C.W24			X				
10.	K_C.W25	X	X	X				
11.	K_C.W26	X	X	X				
12.	K_C.W27	X	X	X				
13.	K_C.W28	X	X	X				
14.	K_C.W29	X	X	X				
15.	K_C.W30	X	X	X				
16.	K_C.W31	X	X	X				
17.	K_C.W32	X	X	X				
18.	K_C.W33	X	X	X				
19.	K_C.U3	X		X				
20.	K_C.U11	X		X				
21.	K_C.U12			X				
22.	K_K01	X		X				
23.	K_K02		X	X				
24.	K_K03	X		X				
25.	K_K06	X		X				
26.	K_K10	X		X				
27.	K_K14			X				

TABLE OF CURRICULUM CONTENT			
curriculum content	Curriculum content	Number of hours	Reference to the learning outcomes for the COURSE
Winter semester			
Lectures 18h			

TK01	Oesophageal cancer and gallbladder cancer (epidemiology, aetiology, pathogenesis, risk factors, classification, macro and microscopic picture).	1	W01, W02, W10, W12, W15, W16, U02, K01-K06
TK02	Colitis ulcerosa and Crohn's disease (epidemiology, aetiology, pathogenesis, risk factors, classification, macroscopic and microscopic picture)	1	W01, W02, W05, W10, W12, W15, W16, U02, K01-K06
TK03	Gastrointestinal neuroendocrine tumours and GIST (epidemiology, aetiology, pathogenesis, risk factors, classification, macroscopic and microscopic picture)	1	W10, W15, W16, U02, K01-K06
TK04	Liver tumours (epidemiology, aetiology, pathogenesis, risk factors, classification, macroscopic and microscopic picture)	2	W10, W15, W16, U02, K01-K06
TK05	Rheumatoid arthritis (epidemiology, aetiology, pathogenesis, risk factors, macroscopic and microscopic picture)	1	W05, W10, W15, W16, U02, K01-K06
TK06	Classification of sarcomas.	1	W10, W15, W16, U02, K01-K06
TK07	Cancer of the larynx and nasopharynx (epidemiology, aetiology, pathogenesis, risk factors, classification, macroscopic and microscopic picture)	2	W10, W15, W16, U01, U02, K01-K06
TK08	Alzheimer's disease (epidemiology, aetiology, pathogenesis, risk factors, classification, macro and microscopic picture).	1	W03, W10, W15, W16, U02, K01-K06
TK09	Reactive lymphadenopathy (infectious mononucleosis, cat scratch disease, Yersiniosis, granuloma inguinale; macroscopic and microscopic picture)	2	W06, W07, W10, W12, W15, W16, U02, K01-K06
TK10	Hodgkin lymphoma (epidemiology, aetiology, pathogenesis, risk factors, classification, macroscopic and microscopic picture). NHL (epidemiology, aetiology, pathogenesis, risk factors, classification, macroscopic and microscopic picture)	2	W10, W15, W16, U02, K01-K06
TK11	Plasma cell tumours (epidemiology, aetiology, pathogenesis, risk factors, classification, macroscopic and microscopic picture).	1	W10, W15, W16, U02, K01-K06
TK12	Bladder cancer (epidemiology, aetiology, pathogenesis, risk factors, classification, macro and microscopic picture).	1	W06, W10, W15, W16, U02, K01-K06

TK13	Predictive factors in pathomorphology.	2	W04, W08, W09, W10, W15, W16, U02, K01-K06
<b>Seminars 28h</b>			
TK01	Inflammation of the gastric mucosa. Peptic ulcer disease.	2	W05, W10, W12, W15, W16, W17, U02, K01-K06
TK02	Hepatitis.	2	W05, W10, W15, U01, U02, K01-K06
TK03	Pancreatic cancer. MEN.	2	W10, W12, W15, W16, U02, K01-K06
TK04	Cancers of the musculoskeletal system.	2	W10, W15, U01, U02, K01-K06
TK05	Salivary gland tumours.	2	W10, W12, W15, W16, U02, K01-K06
TK06	Classification of tumours of the central nervous system.	2	W10, W15, U01, U02, K01-K06
TK07	Leukaemias. Interpretation of results from flow cytometry.	2	W10, W12, W15, W16, U02, K01-K06
TK08	Pyelonephritis.	2	W07, W10, W15, U01, U02, K01-K06
TK09	Osteoarthritis. Osteomalacia. Osteitis fibrosa. Osteitis deformans. Osteoarthritis	2	W05, W10, W12, W15, W16, U02, K01-K06
TK10	Meningitis	2	W05, W07, W10, W15, U01, U02, K01-K06
TK11	Myeloproliferative disorders. Histiocytosis X	2	W10, W12, W15, W16, U02, K01-K06
TK12	Vascular nephropathies. Urinary tract stones	2	W10, W15, U01, U02, K01-K06
TK13	Glomerulopathies (epidemiology, aetiology, pathogenesis, classification, clinical, macro and microscopic picture).	2	W05, W10, W12, W13, W15, W16, W18, U02, K01-K06
TK14	Transplantation pathology (morphological criteria of kidney and liver transplant rejection, graft versus host disease, post-transplant lymphoproliferative disease)	2	W05, W10, W11, W13, W15, U01, U02, U03, K01-K06
<b>Practical classes 14h</b>			



TK01	Gastrointestinal pathology - 1	2	W10, W14, W15, W16, U02, K01-K06
TK02	Gastrointestinal pathology - 2	2	W10, W14, W15, W16, U02, K01-K06
TK03	Gastrointestinal pathology - 3	2	W10, W14, W15, W16, U01, U02, K01-K06
TK04	Pathology of the musculoskeletal system	2	W10, W15, W16, U02, K01-K06
TK05	Head and neck pathology	1	W10, W15, W16, U02, K01-K06
TK06	Pathology of the nervous system	1	W10, W15, W16, U01, U02, K01-K06
TK07	Pathology of the lymphatic system	1	W10, W15, W16, U02, K01-K06
TK08	Pathology of the urinary tract	1	W10, W15, W16, W18, U02, K01-K06
TK09	Demonstration autopsies	2	W10, W15, W16, U02, K01-K06

<b>Recommended literature:</b>	
Reference literature	
1. "Patologia znaczy słowo o chorobie". J. Stachura i W. Domagała. Wyd. PAU, Kraków, wyd. III, tom I, <b>2016</b> (ISBN 978-83-7676-241-8) i tom II, <b>2019</b> ISBN: 978-83-7676-307-1)	
2. Atlas histopatologii". W. Domagała, M. Chosia, E. Urańska, Wydawnictwo Lekarskie PZWL, <b>2007</b> (ISBN 10:83-200-3476-0 lub ISBN 13:978-83-200-3476-9)	
Complementary literature	
1 „Podstawy patologii”. W. Domagała, M. Chosia, E. Urańska. Wydawnictwo Lekarskie PZWL, <b>2010</b> (ISBN: 978-83-200-3499-8)	

<b>Student workload</b>	
Form of student workload (course attendance, student's involvement, report preparation, etc.)	Student workload [h]
	In the teacher's assessment (opinion)
Contact hours with the teacher	60
Preparation for practical classes/seminar	60

Reading of designated literature	20
Writing a lab/practical classes report/preparing a project/reference paper, etc.	0
Preparation for the test/colloquium	10
Preparation for the examination	40
Other .....	
Total student workload	190
ECTS credits	6
<b>Notes</b>	

\*Example ways to verify learning outcomes:

EP - written exam

EU - oral test

ET - test exam

EPR - practical test

K - colloquium

R - paper

S - testing of practical skills

RZĆ - report on practical classes with discussion of results

O - assessment of student's involvement and attitude

SL - Laboratory report

SP - case study

PS - assessment of ability to work independently

W - a short test before the beginning of class

PM - multimedia presentation

and other