SYLLABUS

for the education cycle starting in the academic year 2023/2024

Name of a course / module	**Pathomorphology**	
Name of a department where course is held	**Department of Medical Pathomorphology Medical University of Bialystok**	
E-mail of department	**patlek@umb.edu.pl**	
Faculty of	Medicine with Division of Dentistry and Division of Medical Education in English	
Name of a field of study	Faculty of medicine	
Level of education	*First degree studies, Uniform master's degree studies*	
Form of study	**full time** ☐	part time ☐
Language of instruction	Polish ☐	**English** ☐
Type of course	**obligatory** ☐	facultative ☐
Year of study / Semester	I ☐ **II** ☐ **III** ☐ IV ☐ V ☐ VI ☐	1 ☐ 2 ☐ **3** ☐ **4** ☐ **5** ☐ 6 ☐ 7 ☐ 8 ☐ 10 ☐ 11 ☐ 12 ☐
Introductory courses with preliminary requirements	Anatomy, histology, physiology, pathophysiology, biochemistry, laboratory medicine Students ought to have the basic knowledge of anatomy and histology of human tissues. Student must understand the basics of human physiology in order to understand the mechanisms of disease. Students should have a basic knowledge of basic pathomechanisms of disease entities, in order to correlate them with the histopathologic picture. In correlation with the basics of pathophysiology, laboratory medicine student is able to learn the material in the field of pathology.	
Number of didactic hours with specification of forms of conducting classes	II year 35 lectures,75 labs III year 20 lectures, 45 labs	

Assumptions and aims of the course	Students are obligated to possess the knowledge about: basic pathomorhologic nomenclature, basic mechanisms and morphology about cell death, cell injury, adaptive processes, hemodynamic disorders, basic definitions associated with acute and chronic inflammation. Student ought to know intrinsic and extrinsic pathogens , immunological reactions, molecular alterations associated with carcinogenesis, neoplasms and diseases of childhood. Student must know all of the morphological changes associated with the diseases, must be able to merge changes with the diseases and clinical trials, and must have the basic knowledge about systemic pathology, diseases of organ systems: 1. Blood Vessels 2. The Heart 3. Diseases of White Blood Cells, Lymph Nodes, Spleen, and Thymus 4. Red Blood Cell and Bleeding Disorders 5. The Lung and upper respiratory tract 6. Head and Neck 7. The Gastrointestinal Tract 8. Liver and Biliary Tract 9. The Pancreas 10. The Kidney 11. The Lower Urinary Tract and Male Genital System 12. The Female Genital Tract 13. The Breast 14. The Endocrine System 15. The Skin 16. Bones, Joints, and Soft Tissue Tumors 17. Peripheral Nerve and Skeletal Muscle 18. The Central Nervous System and Eye
Didactic methods	- lectures - consultation (both regular and organized in individual cases) - discussion during the labs - slides presentations - Slides watching (students try to diagnose the histopathological slides under the microscope and do the differential diagnosis) - case description - self study - study of the literature - other practical classes (electives, grossing, autopsy, intraoperative diagnosis, fine needle biopsy)
Full name of the person conducting the course	employed scientific and teaching Staff
Full name of the person responsible for teaching	Grzegorz Zalewski MD, PhD

Symbol and number of learning outcomes according to the teaching standards and other learning outcomes	**Description of directional learning outcomes**	**Form of classes**	**Verification methods for achieving intended learning outcomes**
Knowledge			

C.W25 C.W26 CW27 CW28 CW29 CW30 CW31 CW32	Pathomorhological terminology Basic mechanisms of cell and tissue damage Clinical course of specific and unspecific inflammation, regeneration processes of organs and tissues Definition and pathophysiology of the shock, especially various causes of shock and multiorgan failure Etiology of hemodynamic disorders, progressive and retrogressive changes Problems of an organ pathology, macro-and microscopic images and clinical course of pathomorphological lesions in the organ Consequences of process of pathologic changes for adjoining organs Internal and external pathogenic factors and modifiable and unmodifiable ones	Labs, seminaries	- observation of the student's work - evaluation of the activity in the classroom - assessment of preparation for classes - discussion in class - partial tests - preliminary tests - case description - final exam- test
Skills			
DU6 DU11 DU12 DU15 DU17	Students should acquire the skills about: 1. method of securing material for histopathological research 2. choosing the most proper method for specimen evaluation (histopathological evaluation, cytological, oligobiopsy, intraoperative examination) 3. Macroscopic evaluation of the material (grossing) 4. ability to efficiently microscopy and the diagnosis of basic morphological disorders 5. ability to perform differential diagnosis 6. enforcement of section essential organs	Labs, seminaries	- observation of the student's work - evaluation of the activity in the classroom - assessment of preparation for classes - discussion in class - partial tests - case description
Social competence			
	He /She recognizes his/her own diagnostic and therapeutic limitations, educational needs, planning of educational activity He /She is able to work in a team of professionals, in a multicultural and multinational environment He /She implements the principles of professional camaraderie and cooperation with representatives of other professionals in the range of health care He /She observes doctor-patient privilege; and patient rights	Labs, seminaries	*<u>Summarizing methods e.g.,</u> Continuous assessment by teachers (observation)* *<u>Forming methods, e.g.,</u> - observation of the student's work* *- discussion in class* *- opinions of patients, colleagues*

ECTS points	*Należy podać liczbę punktów ECTS przypisaną przedmiotowi.*
Student Workload	
Form of activity	**Number of hours to complete the activity**
Classes that require the participation of a teacher	
1. Realization of the course: lectures (according to the curriculum)	55 (35 IIED, 20 IIIED)
2. Realization of the course: classes (according to the curriculum)	120 (75 IIED, 45 IIIED)
3. Realization of the course: seminars; (according to the curriculum)	0
4. Realization of the course: electives	0
5. Participation in consultation	
	Total hours: 175
Student self-study *1 punkt ECTS oznacza 25-30 godzin pracy studenta w różnych formach, takich jak np.:*	
1. Preparation for the theoretical and practical classes (realization of projects, documentation, case description etc.)	25 hours (1 ECTS)
2. Preparation for tests/credits	50 hours (2 ECTS)

3. Preparation for an exam/final test-credit	50 Hours (2 ECTS)
	Total hours: 125 hours

Course contents:

Learning outcomes (symbol and number)	Topics
C.W25 C.W26 CW27 CW28 CW29 CW30 CW31 CW32 DU6 DU11 DU12 DU15 DU17	Cellular adaptations, cel injury and death Acute and chronic inflammation Tissue renewal and repair, regeneration, healing, and fibrosis Hemodynamic disorders, thromboembolic disease and shock Genetic disorders, environmental and nutritional pathology Diseased and neoplasms of infancy and childhood Diseases of blood vessels and heart Hematopoietic system pathology, non-Hodgkin and Hodgkin lymphomas, pathology of thymus and spleen The upper air tract pathology, lung diseases, lung tumors The gastrointestinal tract pathology Liver and biliary tract diseases and neoplasms Inflammatory diseases of pancreas and neoplasms Kidney pathology- glomerulonephritis, interstitial diseases, inflammation, neoplasms The lower urinary tract pathology and male genital system diseases and neoplasms The female genital tract pathology Breast pathology, breast cancer- etiology, predictive and prognostic features The endocrine system pathology, most common endocrine system syndromes Skin pathology Bone, joints pathology, and soft tissue tumors The central and peripheral nervous system pathology, including eye pathology

Obligatory textbook: *(1-2 pozycje)*

"Robbins and Cotran Pathologic basis of disease", 10th edition

Optional textbook: *(1-2 pozycje)*

Klatt EC. "Robbins and Cotran Atlas of Pathology"
Emmanuel Rubin, David S. Strayer, Jeffrey E. Saffitz. "Rubin's Pathology: Mechanisms of Human Disease"

Criteria for assessing the achieved learning outcomes and the form and conditions for receiving credit: *Należy określić w szczególności: zasady dopuszczenia do egzaminu, zwalniania z egzaminu, sposób i warunki zaliczenia zajęć, łącznie z określeniem zasad zaliczania nieobecności oraz określeniem liczby godzin nieobecności kwalifikujących do niezaliczenia przedmiotu oraz możliwości i formy wyrównywania zaległości*

Throughout the course, students' knowledge is evaluated via partial credits (tests) administered according to the published schedule.

*Each credit consists of 30 text-based multiple-choice questions and/or slide-based questions (from the online library: http://library.med.utah.edu/WebPath/ORGAN.html).

*Each test carries a maximum of 30 points.

*Attendance at all partial credits is mandatory. Tests cannot be taken on alternative dates, except in cases of justified absence.In such cases, students must contact the course coordinator to arrange an additional term at the end of the semester.

*All credits are conducted as scheduled in the lecture room and last 30–40 minutes.

*Results are announced within one week via Blackboard.

*Students have the right to review their answer sheets during the week following the announcement of the results.

To pass the semester, the student must:

Attend laboratory classes as required.

Obtain at least 55% of the total available points for that semester.

At the end of each semester, students who fail to obtain the required number of points may take a midterm exam, consisting of multiple-choice questions covering that semester's material.

A score of 55% is required to pass.

Students who fail the midterm will be required to take an oral semester exam with the Head of the Department.

FINAL EXAMINATION

*The final exam (first term) is scheduled during the winter examination session and consists of 120 multiple-choice questions, including 15–20 image-based questions (from the same online library).

*Each correct answer is worth 1 point.

*The minimum passing score is 60% (72 points), but it may be moderately reduced if statistical analysis of the results (Gaussian distribution) indicates an unusually high level of difficulty.

*Bonus points are awarded for high attendance (>90%) and performance during the semester (excluding midterms):

Semester Performance	Bonus Points
≥60% of points	+1 pts
≥70% of points	+2 pts
≥80% of points	+3 pts
≥90% of points	+5 pts

The retake exam (second term) takes place not earlier then in 2 weeks and has the same format as the original test.

*Grading scale for the final exam:

Grade	Description	Percentage
5.0	Very good	95–100%
4.5	Better than good	90–94%
4.0	Good	84–89%
3.5	Satisfactory	73–83%
3.0	Pass	60–72%
2.0	Unsatisfactory / Fail	0–59%

Absence from the final exam must be excused no later than the day of the exam.
Unexcused absence results in a fail grade (2.0) for that term.

……..
(date and signature of the person preparing the syllabus)
Joanna Reszec MD, PhD, Ass. Professor

Grzegorz Zalewski MD, PhD

…… and ……

(date and signature of the Head of the Department where the course is held)

(course coordinator)