



PATHOLOGY GRID

1. Pathology programme description

1.1.	„CAROL DAVILA” UNIVERSITY OF MEDICINE AND PHARMACY
1.2.	FACULTY OF MEDICINE
1.3.	2 nd PRECLINICAL DEPARTMENT - MORPHOLOGICAL SCIENCES
1.4.	FIELD: Pathological Anatomy
1.5.	SUBJECT OF STUDY: Healthcare – regulated sector within the EU
1.6.	CYCLE OF STUDIES: BACHELOR’S DEGREE
1.7.	STUDY PROGRAMME: MEDICINE

2. Field description

2.1.	Name of the field in the curriculum: Pathological Anatomy				
2.2.	Field Code: DF III S5M				
2.3.	Type of field (DF/DS/DC): DF				
2.4.	Filed regime (DOB/DOP/DFA): DOB				
2.5.	Course coordinator: 1. Associate Professor Becheanu Gabriel 2. Associate Professor Ceașu Mihail Constantin 3. Associate Professor Olinca Maria Victoria 4. Lecturer Ilieșiu Andreea				
2.6.	Seminar coordinator: 1. Associate Professor Becheanu Gabriel 2. Associate Professor Ceașu Mihail Constantin 3. Associate Professor Olinca Maria Victoria 4. Lecturer Ilieșiu Andreea 5. Assistant Professor Florea Maria Alexandra - fixed term 6. Assistant Professor Georgescu Carmen Antonia 7. Assistant Professor Cichocki Ioana Eliza - fixed term 8. Assistant Professor Ciobănoiu Aminia-Diana - fixed term 9. Assistant Professor Mihai Andreea Elena				
2.7. Year of study	III	2.8. Semester	V VI	2.9. Type of assessment (E/C)	E E

3. Total estimated time (hours/semester of teaching and preparation/individual study) – teaching module

I. University training (teaching, practical application, assessment)						
3.1. Number of hours per week	3 2	Out of which:	3.2. course	1 1	3.3. laboratory	2 1
3.4. Total number of hours from curriculum	42 28	Out of which:	3.5. course	14 14	3.6. laboratory	28 14
Assessment (number of hours):						
II. Preparation/individual study						
Time allocation						hours

Study from textbooks, courses, minimum recommended bibliography, and student notes	22
Additional documentation in the library, documentation via the Internet	8
Carrying out specific activities in preparation for the project, laboratory work, preparing assignments and reports	8
Preparation for presentations or tests, preparation for final exams	2
Tutoring	2
Other activities	2
3.7. Total hours of individual study	83 ; 72
3.9. Total hours for semester (3.4.+ 3.7.)	125; 100
3.10. Number of credits	Sem. V: 5 ; Sem. VI : 4

4. Preconditions (where applicable)

4.1. of curriculum	Fundamental knowledge of human anatomy and physiology; Basic knowledge of histology and cell biology.
4.2. of competencies	Using a conventional optical microscope.

5. Conditions (where applicable)

5.1. course delivery	Amphitheatre with sound system (microphone/amplification station/speakers), video projection (video projector with laptop connection, projection screen), and internet access (WiFi, secure); INCD „Victor Babeş” and in hospitals where teaching staff carry out their clinical integration activities.
5.2. conducting practical/clinical work	Microscopy rooms with optical microscopes with 4x, 10x, 20x, 40x, 100x objectives (capacity: minimum 15 workstations/room), video projection system (video projector with laptop connection option, projection screen) and internet access (secure WiFi); Optical microscope image capture and transmission system; Educational microscope slides; Interactive multimedia platform; INCD „Victor Babeş” and in hospitals where teaching staff carry out their clinical integration activities.

6. Learning outcomes*

Knowledge	Skills	Responsibility and autonomy
Description of the concepts, theories and basic knowledge about the development of the disease, about signs and symptoms specific to each illness, useful for the coordination of the clinical and pathological diagnosis; to be able to interpret and analyse the risk factors for	To identify the purposes, the available resources conditions to complete the action; to identify the levels of work, the available time, the assigned deadlines and risks in different pathologies; to identify the roles and duties in a multidisciplinary teamwork, to apply communication techniques and	Medical training of the student of the 3 rd year in Pathological Anatomy. Discipline it focuses by: correct diagnosis, efficient communications, the best knowledge of the future doctor for adequate communications with the future employer. For this purpose, the future doctor should be able to understand the legislation issues.

the ability to take the most adequate actions in prevention of diseases; knowledge, understanding and utilization of the specific language; explanation and interpretation; problems solving, application and transfer; constructive and critical contemplation creativity and innovation, adequate selection, connection and utilization of knowledge, abilities and other acquisitions (values and attitudes).	efficient work in a team; to adequately use sources of information, the communication resources and assisted professional forming (web portals, speciality-related software application, data base, online courses etc.); autonomy and responsibility social interaction, professional and personal development.	
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7. Course objectives (correlated with learning outcomes)

7.1. General learning objectives	Pathology is the science (<i>logos</i>) that studies the diseases (<i>pathos</i>) in the view of structural and functional consequences of the aggression of some factors against cells, tissues and organs (lesions). Traditional pathology is divided into general pathology (basic reactions of the cells and tissues to abnormal stimuli) and systemic pathology (the reaction of the organs and specialized tissues to more or less specified stimuli). Pathology includes the following features of diseases: aetiology (the cause), pathogenesis (the mechanism of development of the lesions), structural changes that can be visible with the naked-eye (macroscopy) and with an optical microscope (microscopy), physiopathology (functional consequences of the morphological changes) in the view of clinical aspects (symptoms/ subjective complaints and signs/ objective complaints) and the prognosis of the disease. Education about the medical ethical laws in pathology. The founder of the pathology is Rudolf Virchow who was the first in the XIX th century to claim that in a lesion the changes begin from the molecules and/or the cellular structures.
7.2. Specific learning objectives	To establish a good and effective communication relationship between doctor and patient in pathology; development of the doctor-patient relationship, colleagues-doctor.

8. Content

8.1. Course	Teaching methods	Observations
Vth semester (IIIrd year) – General Pathology 1. Introduction and Cellular pathology - Reversible cellular injuries (hydropic degeneration) - Irreversible cellular injuries (necrosis, apoptosis) - Cellular adaptation (atrophy, hypertrophy, hyperplasia, metaplasia, dysplasia, anaplasia) - Amyloidosis.	These are being hold by the Assistant Lecturer. Multimedia methods, lectures, and discussions on the topic are used as well as interactive presentations with PowerPoint;	Classes are held in the lecture hall.

2. Circulatory disorders - Passive congestion - Vascular obstruction - Ischaemia - Haemorrhage - Infarction 3. Inflammation, infectious diseases - General characteristics of the inflammation - Classification of the inflammations 4. Neoplasia General characteristics. Specific terms. Epidemiology. Diagnosis of the neoplasia. 5. Epithelial benign tumours 6. Epithelial malignant tumours 7. Mesenchymal malignant tumours and Melanoma VIth semester (IIIrd year) – Systemic pathology 1. Pathology of the Respiratory and Cardiovascular systems - Cardiac pathology - Pathology of the arteries and lymphatics - Benign and malignant tumours of the vessels - Pulmonary pathology 2. Pathology of Digestive system and appendages - Pathology of the head and neck (inflammations, tumours) - Pathology of the oesophagus and stomach (esophagitis, varicose veins, gastritis, ulcer, tumours) - Pathology of the small intestine, colon, anal canal, and appendix (congenital anomalies, malabsorption, inflammatory bowel disease, diverticula, tumours) 3. Pathology of Digestive system and appendages - Pathology of the liver and intrahepatic bile ducts (liver failure, hepatitis, cirrhosis, tumours) - Pathology of gallbladder and extrahepatic bile ducts (gallstones, cholecystitis) - Pathology of the pancreas (inflammatory diseases, tumours) - Pathology of the peritoneum (effusions, inflammations, tumours) 4. Pathology of kidney, urinary tract and male genital system - Nephropathies - Lesions of the urinary tract - Orchiepididymitis, prostatitis, tumours 5. Pathology of female genital system and mammary	Practical macro and microscopy work is carried out in parallel with the course.	
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gland - Cervicitis, dysplasia, endometritis, tumours - Pathology of the pregnancy (abortion, ectopic pregnancy, hydatidiform mole, tumours) - Pathology of the mammary gland (inflammations, neoplasia) 6. Pathology of hematopoietic and lymphoid tissue - Pathology of haematopoiesis and leukopoiesis (morphology of anaemias, leukaemia, myelopathies) - Pathology of the lymphoid system (degenerative and inflammatory lymphadenopathies, lymphomas) - Pathology of spleen (hypofunction, lesions) 7. Pathology of the endocrine glands, central nervous system, musculoskeletal system and skin - Pathology of the thyroid - Lesions, infections, neoplasms of the central nervous system - Pathology of the bones and joints (lesions, tumours) - Pathology of the skin (lesions, infections, tumours)		
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Bibliography for course: 1. Rubin Patologie: Mecanisme bolilor umane; David Strayer, Jeffrey Saffitz, Emanuel Rubin, Coordonatorii ediției în limba română: Maria Sajin, Elena Cojocaru, Mariana Costache, Doinița Crișan, Delia Gabriela Ciobanu Apostol, Alis Dema, Simona Gurzu, Alex Elilian Stepan, Cristiana Eugenia Simionescu, Simona Stolnicu, Ediția a 8-a (Ediția I în limba română), Editura Hipocrate, 2023, 1700 pagini, ISBN 978-606-95178-8-8 2. Ghid Practic de Patologie Clinică – Oxford, Editura Hipocrate, București 2018, ISBN 978-606-94572-2-8 3. Sinopsis de patologie generală, Ceașu Mihail Constantin; Ed Universitară “Carol Davila” București 2017, ISBN: 978-973-708-988-5; 4. Robbins PATOLOGIE: Bazele Morfologice și Fiziopatologice ale Bolilor, ediția a IX-a, Vinay Kumar, Abul K. Abbas, Editura: Medicală CALLISTO, 2015, ISBN: 9786068043166 5. Robbins and Cotran Pathologic Basis of Disease, Professional Edition (IX), Vinay Kumar & Abul Abbas & Jon Aster, Editura: Elsevier, 2014, ISBN: 9780323266161 6. Rubin’s Pathology Clinicopathologic Foundations of Medicine, ediția a VII-a, David S Strayer MD, PhD, Emanuel Rubin MD, Editura: Lippincott Williams & Wilkins, 2014, ISBN: 9781451183900 7. Rubin R., Strayer D.S., Rubin E. - Rubin’s pathology: Clinicopathologic Foundations of Medicine, eighth edition, Wolters Kluwer Health, 2019. 8. American Joint Committee on Cancer - AJCC Cancer Staging Manual. 8th ed.: Springer International Publishing AG, 2016 9. http://www.epathology.ro.		
8.2. Clinical/practical rotations	Teaching methods	Observations
Vth semester 1. Circulatory disorders <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Renal congestion	During the practical sessions, Assistant Lecturers employ multimedia teaching methods and provide instruction on completing relevant pathology documentation.	Practical sessions are conducted in specially equipped classrooms. Each macroscopy session

- Pulmonary congestion 2. Circulatory disorders <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Liver congestion - Thrombus - Renal infarction 3. Circulatory disorders <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Myocardial infarction - Pulmonary infarction 4. Dystrophies <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Granulovacuolar dystrophy - Hyalin dystrophy 5. Dystrophies <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Amyloidosis - Bile stasis in liver - Liver steatosis 6. Dystrophies <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Gaucher disease - Niemann-Pick disease 7. Non-specific inflammations <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Purulent meningitis - Acute phlegmonous appendicitis - Liver abscesses 8. Non-specific inflammations <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Epidemic parotiditis - Ulcerative necrotizing enteritis - Fibrinous pleurisy - Granulation tissue 9. Specific inflammations <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Rheumatic myocarditis - Lymph node tuberculosis - Pulmonary tuberculosis 10. Specific inflammations <u>Macroscopic</u> and <u>microscopic</u> examination	They also prepare reports and deliver PowerPoint presentations on current topics related to national and international medical issues. Additional activities include discussions on necropsy techniques and the dissection of tissues for microscopic examination. These sessions are conducted biweekly.	is subsequently complemented by microscopy sessions, which take place either in hospital laboratories or in the practical training facilities of the 'Victor Babeş' National Institute.
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of specimens with: - Syphilitic aortitis - CMV infection - Mycotic pyelonephritis - Actinomycosis 11. Benign tumours <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Papilloma - Polyps - Breast adenofibroma 12. Benign tumours <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Haemangioma - Mixed parotid tumour - Ovarian teratoma - Uterine leiomyoma 13. Malignant tumours <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Basal cell carcinoma - Squamous cell carcinoma - Breast carcinomas 14. Malignant tumours <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Adenocarcinoma of the colon - Lymph node metastasis of adenocarcinoma - Sarcoma - Osteochondrosarcoma VIth semester 1. Pathology of the cardiovascular and respiratory systems <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Endocarditis of heart valves - Rheumatic myocarditis - Fiedler myocarditis - Myocardial infarction - Fibrinous pericarditis - Atheroma - Syphilitic aortitis - Lobar pneumonia - Bronchopneumonia - Interstitial pneumonia - Emphysema		
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- Pulmonary tuberculosis - Silicosis - Pulmonary carcinoma 2. Pathology of the digestive system <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Gastric ulcer - Mycotic gastritis - Ulcerative necrotic enteritis - „Signet ring” gastric carcinoma - Crohn’s disease - Acute appendicitis - Adenocarcinoma of the colon 3. Pathology of the digestive system and appendages <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Hepatitis - Liver cirrhosis - Liver hemochromatosis - Malignant hepatoma - Cholecystitis - Cytosteatonecrosis of the pancreas - Cystic fibrosis of the pancreas 4. Pathology of the urinary system and male genital system <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Proliferative glomerulonephritis - Amyloid glomerulonephritis - Pyelonephritis - Renal tuberculosis - Renal sclerosis - Grawitz tumour - Adenoma of the prostate - Testicular seminoma 5. Pathology of the female genital system <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Simple hyperplasia of the endometrium without atypia - Adenomyosis - Fallopian pregnancy - Hydatidiform mole - Cervical carcinoma - Papillary cystadenoma of the ovary - Reclus’ disease		
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6. Pathology of lymphoid system <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Hodgkin lymphoma - non-Hodgkin lymphoma - Chronic lymphocytic leukaemia 7. Pathology of the thyroid and nervous system <u>Macroscopic</u> and <u>microscopic</u> examination of specimens with: - Colloid Cystic goiter - Graves' disease - Hashimoto thyroiditis - Poliomyelitis - Viral encephalitis - Neurinoma - Acute meningitis		
Bibliography for clinical rotation 1. Oxford Handbook of Clinical Pathology, Editura Hipocrate, București 2018, ISBN 978-606-94572-2-8 2. Robbins and Cotran Pathologic Basis of Disease, Professional Edition (IX), Vinay Kumar & Abul Abbas & Jon Aster, Editura: Elsevier, 2014, ISBN: 9780323266161 3. Rubin R., Strayer D.S., Rubin E. - Rubin's pathology: Clinicopathologic Foundations of Medicine, eighth edition, Wolters Kluwer Health, 2019. 4. Lucrări practice de Morfopatologie generală, Mădălina Marcu, Eugen Radu, Andreea Ionovici, Reza Nayyerani. Editura Universitară „Carol Davila” București 2017. ISBN: 978-973-708980-9. 5. Ilieșiu Andreea, Ceaușu Mihai: Pathology Laboratory for medical students, „Carol Davila” University Press, Bucharest, 2017, ISBN 978-973-708-947-2 6. www.epathology.ro		

9. Assessment

Type of activity	9.1. Assessment criteria	9.2. Assessment methods	9.3. Percentage of final grade
9.4. Course	The examination is conducted in accordance with the topics covered during the academic year. The student must obtain minimum 5 mark on each task.	Student assessment method: written exam (30 multiple-choice questions; one point is awarded automatically, and each question is worth 0.3 points).	75%
9.5. Clinical rotation	The examination is conducted in accordance with the topics covered during the academic year. The student must obtain minimum 5 mark on each task.	The practical assessment includes the examination of two histopathological preparations; V th semester – one preparation from general pathology and one from tumour pathology, chosen at random by each student, and for VI th semester – two	25% periodic assessments and final assessment.

		histopathological preparations from the topic of organs and systems, one from general pathology and one from tumour pathology, chosen at random by each student.	
9.5.1. Individual project (if applicable)			
9.6. Minimum performance standard			
Student answers are graded on a scale of 4 to 10, using whole numbers; the minimum passing grade is 5, both for practical work and for the final test. The course test, practical work, and periodic assessments are all eliminatory tests. The assessment of the knowledge acquired in the practical work is an eliminatory test and is passed if the student demonstrates the concepts mentioned for a grade of 5. The final exam is considered passed if the student demonstrates basic knowledge, in the case of the multiple-choice test, by answering 16 of the 30 questions correctly. The passing grade is 5. The final grade, after passing each individual assessment, is calculated using the following formula: $0.75 \times \text{the grade obtained on the multiple-choice test} + 0.25 \times \text{the grade obtained on the practical work assessment}$. At the end of the year of study of Pathological Anatomy, students recognize, are able to orient and describe macroscopic and microscopic lesions in general and special pathology, respectively congenital malformations, circulatory disorders, tumorous lesions, inflammatory lesions, etc., objectives that aim to provide fundamental basic medical training.			

Completion date: 15.09.2025

Signature of the Head of Pathology

**Date of approval in the Council of the
Department: 22.09.2025**

**Signature of the Head of the
Department
Professor Mariana Costache**