

**SYLLABUS OF THE EDUCATIONAL COMPONENT
PATHOMORPHOLOGY**

Specialty: **221 “Dentistry”**
Educational and professional program: **Dentistry**
Component code in the educational program: **OC 18**
Level of higher education: **second (master's)**
Form of education: **full-time (day)**
Year of study: **3**
Semester(s): **V (autumn)**
Type of educational component: **obligatory**
Academic year: **2026-2027**

Volume: **3 ECTS credits (90 hours)**
Classes: **lectures, practical classes, consultations**
Final assessment: **exam**
Prerequisites: **knowledge of human anatomy and physiology, histology, cytology, embryology and genetics, microbiology, virology and immunology, biological chemistry, medical biology, and medical physics**

Department/division: **Department of Pathological Anatomy**, 4 Nauky Ave., main building, 3rd floor
Head of the educational component: Prof. **V.D. Markovsky**, email: vd.markovskiy@knmu.edu.ua

1. Page of the educational component in the Distance Learning System of Kharkiv National Medical University (Moodle): <https://distance.knmu.edu.ua/course/view.php?id=235>

DESCRIPTION OF THE EDUCATIONAL COMPONENT

Pathomorphology is an academic discipline that provides an understanding of the structural basis of human diseases for in-depth study of the fundamentals of medicine and the clinical picture of diseases, with subsequent application of the acquired knowledge in the practical work of a physician.

COURSE OBJECTIVE: to study the microscopic and ultramicroscopic structure of the human body, its development and changes under various conditions of life.

LEARNING OUTCOMES:

– evaluate information regarding diagnosis in a healthcare facility or its department, using knowledge of the structural basis of diseases, based on autopsy results and methods of lifetime diagnosis of diseases.

CONTENTS OF THE EDUCATIONAL COMPONENT**List of lecture topics (10 hours):**

1. Diseases of the digestive system (gastritis, peptic ulcer disease, stomach cancer, hepatitis, hepatosis, cirrhosis of the liver).
2. Diseases of hard tooth tissues (caries, non-carious lesions), pulpitis, periodontitis, periostitis, osteomyelitis of the jaw bones.
3. Tumors and tumor-like processes of the oral cavity and jaw bones: odontogenic and non-odontogenic tumors, papilloma, oral cancer, precancerous changes (leukoplakia), non-epithelial tumors, jaw bone tumors (osteoblastoclastoma, osteoma, osteosarcoma, fibrous dysplasia, cherubism), jaw cysts (follicular cyst, keratocyst, eruption cyst).
4. Characteristics of the infectious process
5. Tuberculosis.

List of topics for practical classes (40 hours):

1. Arteriosclerosis and atherosclerosis. Ischemic heart disease.
2. Hypertension and arteriolosclerosis. Hypertensive disease and symptomatic arterial hypertension.
3. Systemic connective tissue diseases with autoimmunity: rheumatism, systemic lupus erythematosus, rheumatoid arthritis, systemic scleroderma, dermatomyositis, ankylosing

- spondylitis. Endocardial and myocardial diseases: cardiomyopathies, endocarditis, myocarditis, acquired heart defects.
4. Cerebrovascular diseases. Post-anesthesia encephalopathy and brain death syndrome. Neurodegenerative (neurodystrophic) (Alzheimer's disease) and demyelinating diseases (multiple sclerosis). Neuritis (neuropathies). Tumors of the central nervous system (astroglial, oligodendroglial, ependymal, neuronal, meningeal), cranial and paraspinal nerves.
 5. Diseases of the respiratory system.
 6. Conclusion class. Practical skills.
 7. Diseases of the esophagus, stomach and intestines, liver and pancreas.
 8. Tumors and tumor-like processes of the oral cavity and jaw bones: odontogenic and non-odontogenic tumors, papilloma, oral cancer, precancerous changes (leukoplakia), non-epithelial tumors, jaw bone tumors (osteoblastoclastoma, osteoma, osteosarcoma, fibrous dysplasia, cherubism), jaw cysts (follicular cyst, keratocyst, eruption cyst).
 9. Diseases of the salivary glands - clinical and morphological features of the salivary glands inflammatory diseases, autoimmune diseases, sialolithiasis, tumors and tumor-like diseases of the salivary glands.
 10. Diseases of hard tooth tissues (caries, non-cariou lesions), pulpitis, periodontitis, periostitis, osteomyelitis of the jaw bones.
 11. Periodontal diseases, inflammatory diseases of the lips, tongue, gums, and oral mucosa. Malformations of the face, neck, and oral cavity organs.
 12. Kidney diseases.
 13. Hypothalamic-pituitary disorders. Adrenal gland pathology. Thyroid gland pathology. Pathology of the endocrine system of the pancreas.
 14. Final class. Practical skills
 15. General concepts of human infectious pathology. Classification of infectious diseases. Intestinal infectious diseases. Diseases caused by protozoa and helminths.
 16. Viral airborne infections. HIV infection and AIDS. Rabies. Rickettsiosis. Prion infections.
 17. Childhood infections.
 18. Tuberculosis.
 19. Sepsis. Highly dangerous (convective, quarantine) infections. Syphilis
 20. Final educational activity.

List of topics for independent work (40 hours)

1. Diseases of the musculoskeletal system. Parathyroid osteodystrophy, osteopetrosis, Paget's disease, fibrous dysplasia, osteomyelitis, joint diseases, muscular dystrophies, myasthenia gravis. Bone-forming and cartilage-forming tumors.
2. Precancerous changes and tumors of the lips, tongue, and soft tissues of the oral cavity. Dental manifestations of other diseases
3. Periodontal diseases, inflammatory diseases of the lips, tongue, gums, and oral mucosa. Malformations of the face, neck, and oral cavity
4. Diseases of the female and male reproductive systems. Pathology of pregnancy, the postpartum period, and the placenta. Diseases of the mammary gland.
5. Pre- and perinatal pathology
6. Pathology of changes in diseases related to nutrition. Radiation sickness, hospital sickness. Occupational diseases.

Independent work by students is aimed at deepening and consolidating the theoretical knowledge acquired during classroom training and contributes to the formation of professional competencies. The results of independent work are subject to control and are included in the final assessment of knowledge.

Consultations: online, by prior registration on the course page in the Distance Learning System.

Teaching methods: lecture, exercises and practical tasks, solving situational tasks and case studies.

ASSESSMENT

Current educational activities (CEA). The assessment of the academic performance of students is carried out in accordance with the Instructions for assessing the educational activities of higher education students at KhNMU (<https://knmu.edu.ua/documents/normatyvni-dokumenty-navchalnogo-proczesu/>). The grade for a practical or final class ranges from 2 to 5 points. Submitting tasks late for insignificant reasons will result in a lower grade in accordance with the percentage of the delay in relation to the time of completion of the task. Tasks are checked within 24 hours. Grades are entered into an electronic journal. Unsatisfactory grades are retaken in accordance with the Regulations on the procedure for retaking academic classes by students of KhNMU (https://knmu.edu.ua/wp-content/uploads/2021/05/polog_vidprac_zaniat.pdf).

At the end of the semester, the average grade for the semester is converted into a multi-point grade (70–120 points) in accordance with Table 1 of the Assessment Instructions (see above). The average arithmetic mean of the CEA for both semesters **constitutes the overall academic performance (OAP).**

Individual assignments (IA) are graded on a scale of 10 points.

Final assessment. A prerequisite for admission to the exam is a OAP of 70 points. The exam is graded on a scale of 50 to 80 points.

Grade for the course (GC). $GC = OPA + IA + \text{exam}$.

Appellations of final assessment results are conducted in accordance with the procedure established by KhNMU (https://knmu.edu.ua/wp-content/uploads/2021/05/polog_apel_kontrol.pdf).

EDUCATIONAL COMPONENT POLICIES

Recommendations for coursework: actively participate in all forms of classwork, devote 1-2 hours daily to independent work and preparation for classes, ask questions during classes, attend consultations, submit assignments on time, and complete all forms of assessment.

Class attendance. Attendance at practical classes is obligatory. The dress code for offline classes is a white medical coat. If you are more than 5 minutes late, you may not be admitted to the class. Missed classes are made up in accordance with the Regulations on the procedure for making up classes by students of the Kharkiv National Medical University (https://knmu.edu.ua/wp-content/uploads/2021/05/polog_vidprac_zaniat.pdf).

Academic integrity. KNMU has a zero-tolerance policy toward academic misconduct. Any violations of the principles of academic integrity will result in liability in accordance with the procedure established at KNMU (https://knmu.edu.ua/wp-content/uploads/2021/05/polog_ad-1.pdf).

The use of electronic gadgets and artificial intelligence tools is permitted only with the permission of the instructor.

Policy regarding individuals with special educational needs. Applicants with special educational needs should contact the instructor to develop an individual educational trajectory.

Instructor response time: 24 hours.

Technical requirements for the course:

- access to a computer, laptop, tablet, or smartphone
- a corporate Google account with your own photo
- skills in working with Google Workspace (Google Meet, Docs, Sheets, Slides, Forms) та Moodle

Technical support: ACM (ev.shevtsov@knmu.edu.ua), Google (tehotdelknmu@gmail.com), Moodle (al.korol@knmu.edu.ua)

RECOMMENDED REFERENCES

1. Pathomorphology: national textbook / V.D. Markovsky, V.O. Tumansky, I.V. Sorokina, et al., edited by V.D. Markovsky, V.O. Tumansky. — Kyiv: VSV “Medicine.” 2015 — 936 p., color edition. ISBN 978-617-505-450-5
2. Kumar V. Robbins' Fundamentals of Pathology: 10th English edition: in 2 volumes / Viney Kumar, Abdul K. Abbas, John K. Aster; scientific editors: Prof. I. Sorokina, S. Gychka, I. Davydenko. — Kyiv: VSV “Medicine”, 2019. — XII, 420 p.
3. Pathomorphology : textbook / I.V. Sorokina, V.D. Markovskiy, D.I. Halata et al. ; edited by I.V. Sorokina, V.D. Markovskiy, D.I. Halata. — Kyiv : AUS Medicine publishing, 2019. — 320 p. + 2 colour inserts (8p. + 12 p.).
4. Kumar V. Robbins Basic Pathology. 9th Edition / Vinay Kumar, Abul Abbas, Jon Aster. — Elsevier. — 2015. — 952 p.
5. Basic dental diseases: textbook: in 2 parts. Part 1. Caries, pulpitis, periodontitis, periostitis, osteomyelitis / A. M. Romanyuk, E. V. Kuzenko, O. I. Kuzenko et al. — Sumy: Sumy State University, 2014. — 51 p.
6. Basic dental diseases: textbook: in 2 parts. Part 2. Periodontal diseases / A. M. Romanyuk, E. V. Kuzenko, O. I. Kuzenko et al. — Sumy: Sumy State University, 2014. — 52 p.
7. Regezi Regezi J. Oral Pathology: Clinical Pathologic Correlations. 7th Edition /Joseph Regezi, James Sciubba, Richard Jordan. — Elsevier. — 2015. — 496 p.
8. Sivapathasundharam B. Shafer's Textbook of Oral Pathology. 8th Edition / B Sivapathasundharam. —Elsevier India. — 2016. — 794 p.

Head of the Department of Pathological Anatomy

Volodymyr MARKOVSKYI