


Syllabus of discipline «Pathomorphology with autopsy course»

1. General Information	
Name of faculty	Dentistry
Educational program	22 Health Care, 221 Dentistry, second (master's degree) level of higher education, full-time
Academic year	2023-2024
Name of discipline, code	«Pathomorphology with Autopsy Course» code OK 15
Department	Department of Pathological Anatomy and Forensic Medicine 790010, Lviv, Pekarska str. 52 Phone number: +380322769371 Kaf_pathanatomy@meduniv.lviv.ua
Head of the Department	DMSc, Professor Yu.O.Pospishil
Course of study	2nd – 3rd year of study
Semester	during IV and V semesters
Type of discipline	Mandatory
Teachers	O.M.Gavrilyuk, MD, DMSc, Associate Professor – e.m.gavrilyuk@gmail.com V.I.Vovk, MD, PhD, Associate Professor – vovkvi@yahoo.com M.I.Servetnyk, MD, PhD, Associate Professor – doctorservetnyk@gmail.com I.V.Hritsyna, MD, PhD, Associate Professor – hritsyna@gmail.com Ju.I.Kuzyk, MD, DMSc, Associate Professor - juliakuzyk21@gmail.com
Erasmus yes/no	no
Person responsible for syllabus	M.I.Servetnyk, MD, PhD, Associate Professor doctorservetnyk@gmail.com
Amount of credits ECTS	6,0
Amount of hours	Total – 180 год Lectures – 22 год Practical lessons – 67 год Self-reliant study – 91 год
Language of study	English
Information about consultations	According to approved schedule
Address, phone number and regulations of clinical base	Lviv Region Pathological Anatomy Bureau 79010, Lviv, Pekarska str.,52 phone/ fax: +38032275-74-08 E-mail: lopab@ukr.net Head: Varyvoda Olena, phone number +38032275-74-08 Located on the territory of the Department of Pathological Anatomy

2. Short Annotation to the Course

Pathomorphology with autopsy course — is an educational discipline, which gives the concept of the structural basis of human diseases for in-depth study of the fundamentals of medicine and the clinical picture of diseases with the subsequent use of knowledge in the practical work of a dentist. It is based also on the modern information of morphological research (electronic microscopy, immunohistochemistry, autoradiography, histochemistry and cytochemistry); makes the basis of the foundation of cellular pathology and general pathological processes, which determine of the morphological manifestations of different diseases in the aggregate; makes the basis of the foundation of knowledge of morphology of diseases on the different stages of their development (morphogenesis), structural bases of convalescence, complications and consequences; studies the variants of pathomorphosis of diseases, resulting in connection with changes of life's conditions and as a consequence of the varied medical measures (pathology of therapy); makes the basis of the foundation for knowledge about organization of pathomorphological service and realization of its function. Comparison of morphological and clinical manifestations of disease on all stages of their development allows to the students to get skills of clinical-anatomical analysis, synthetic generalization of diagnostic signs of diseases and their faithful interpretation in causal-sequent relationships.

A summary of the basics of autopsy-biopsy course provides basic knowledge about the structure, organization, functions of the pathological service, methods of postmortem examination and investigation of living tissues (biopsy examination) with following pathomorphological diagnosis, which is especially important in daily dental practice.

Pathomorphology as a discipline is based on the assimilation by students of human anatomy and physiology, histology, cytology, embryology and genetics, microbiology, virology and immunology, biological chemistry, medical biology and medical physics. Assimilation of pathomorphology is integrated with the study of pathological physiology and clinical disciplines.

Study of structural background of human diseases consists of following main chapters: **general and clinical pathomorphology (special or systemic pathological anatomy) and tanatology.**

General pathomorphology is related to studying of typical general pathological processes, different combination of which lead to the development of morphological and functional peculiarities of certain human diseases.

Special (clinical) pathomorphology – makes a background for understanding of structural bases of human diseases and their clinical revealings, recovering, complications and outcomings; knowledge of diseases changes due to changes of life conditions as well as environment (process named pathomorphosis); knowledge of diseases strongly related to different medical procedures (pathology of treatment, pathology of intensive care, jatrogenic pathology).

Tanatology - is a study about death of patients, its causes, mechanisms and manifestations; lays down a background of preventive intensive care.

Basic aim of **autopsy course** – is studying of structure of pathological anatomy service as the integral component of the World system of Public Health; also students have to become acquainted with method of the clinico-anatomical analysis of a biopsies with its peculiarities in routine dental practice, operational and autopsies material and principles of a formulation of the diagnosis, medical death certificate.

Subject of study in pathomorphology – is studying of human diseases structural background for fundamental basic of medicine and clinical picture of different diseases with following implementation of knowledge into practical work of physician. **Student has to know:** etiology, pathogenesis, basic gross-view changes and histological peculiarities of general pathological processes and diseases, including diseases of organs of oral-facial system by using of methods of pathological anatomy (macroscopical and histological).

Interdisciplinary links: study of the discipline is based on the knowledge gained by students in the course of medical biology, anatomy, histology and embryology, biological chemistry, microbiology and virology, and is integrated with these disciplines; lays the foundations for students to study different clinical disciplines, which involves the integration of former subjects, formation of skills for the following applying of the acquired knowledge of pathomorphology in further study and future professional activities.

3. Aim and Objectives of the Course

1. Main purpose of teaching the “**Pathomorphology with autopsy-biopsy course**” as an educational discipline is studying of ethiology, pathogenetical mechanisms, gross-view, microscopical and subcellular structural changes, which develops in the cells, tissues and organs in cases of various general pathological processes and diseases.

2. Main tasks of mentioned above discipline are following:

- ✓ to analyze structurally-functional intercommunications and sequence of stages of general pathological processes;
- ✓ to interpret pathology of cells and to based clinical-morphological characteristics of general pathological processes which stipulate the disease’s manifestations;
- ✓ to interpret etiology, pathogenesis and morphological changes on the different stages of development diseases, structural base of convalescence, complications and consequences of diseases;
- ✓ to interpret morphological and clinical revealings of different diseases of organs of oral cavity and jaws during all stages of their development;
- ✓ receiving of practical skills in clinical-anatomical analysis, syntetical generalization of diagnostical signs of diseases and their correct interpretation.

3. Competences and results of studying of “**Pathomorphology with autopsy-biopsy course**”

According to the requirements of Higher Education Standards, the subject provides development of the following **competences**:

- **Integral:** the ability to solve complex problems, including those of a research and innovation nature in the field of medicine; the ability to continue learning with a high degree of autonomy.
- **General:**
 - ability to abstract thinking, analysis and synthesis (3K1);
 - knowledge and understanding of subjects’ field and understanding of professional activity (3K2);
 - ability to apply knowledge in practical situations (3K3);
 - ability to communicate in a state language both orally and in writing (3K4);
 - ability to communicate in English language (3K5);
 - ability to use information and communication technologies (3K6);
 - ability to search, process and analyze information from various sources (3K7);
 - ability to identify, pose and solve problems (3K9);
 - ability to be critical and self-critical (3K10);
 - ability to work in a team (3K11);
 - striving to preserve the environment (3K12);
 - ability to act socially responsibly and consciously (3K13);
 - ability to preserve and multiply the moral, cultural, scientific values and achievements of society based on an understanding of the history and patterns of development of the subject area, its place

in the general system of knowledge about nature and society and in the development of society, technology and technologies, to use different types and forms of motor activity for active recreation and leading a healthy lifestyle (3K15);

➤ ***Special (professional):***

- ability to collect medical information about the patient and analyze clinical data (ΦK1);
- ability to interpret the results of laboratory and instrumental research (ΦK2);
- ability to diagnose: determine preliminary, clinical, final, accompanying diagnosis, emergency conditions (ΦK3);
- ability to maintain normative medical documentation (ΦK14);
- processing of state, social and medical information (ΦK15);

4. Prerequisites of the Course

For successfully study and mastering the competencies of the discipline "Pathomorphology with Autopsy-Biopsy Course", the student must have knowledge of the following disciplines:

1. Human Anatomy
2. Histology, Cytology and Embryology
3. Medical Biology, Parasitology and Genetics
4. Physiology
5. Biological Chemistry
6. Microbiology, virology and immunology
7. Pathological physiology

5. Programmed Results of Study

List of Studying Results

<p>PLO2 (ИПН2) (3H-1-31 Y_M-1-26 K-1-3 AB-1-3)</p>	<p>Collect information about the patient's general condition, evaluate the patient's psychomotor and physical development, the condition of the maxillofacial organs, based on the results of laboratory and instrumental studies, evaluate information about the diagnosis</p>	<p>3K 1. ability to abstract thinking, analysis and synthesis: 3K 2. knowledge and understanding of subjects' field and understanding of professional activity: 3K 3. ability to apply knowledge of pathomorphology in practical situations: 3K 4. ability to communicate in a state language both orally and in writing: 3K 5. ability to communicate in English language: 3K 6. ability to use information and communication technologies: 3K 7. ability to search, process and analyze information from various sources: 3K 9. ability to identify, pose and solve problems: 3K 10. ability to be critical and self-critical: 3K 11. ability to work in a team: 3K 12. striving to preserve the environment: 3K13. ability to act socially: responsibly and consciously: 3K15. ability to preserve and multiply the moral, cultural, scientific values and achievements of society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology and technologies, to use different types and forms of motor activity for active recreation and leading a healthy lifestyle; ФК1. ability to collect medical information about the patient and analyze clinical data: ФК2. ability to interpret the results of laboratory and instrumental research: ФК3. ability to diagnose: determine preliminary, clinical, final, accompanying diagnosis, emergency conditions: ФК14. ability to maintain normative medical documentation;</p>
<p>PLO3 (ИПН3) (3H-1-31 Y_M-1-26 K-1-3 AB-1-3)</p>	<p>Prescribe and analyze additional (mandatory and optional) examination methods (laboratory, X-ray, functional and/or instrumental) of patients with diseases of the organs and tissues of the oral cavity and</p>	<p>3K 1. ability to abstract thinking, analysis and synthesis: 3K 2. knowledge and understanding of subjects' field and understanding of professional activity:</p>

	maxillofacial region for differential diagnosis of diseases	<p>3K 3. ability to apply knowledge of pathomorphology in practical situations:</p> <p>3K 4. ability to communicate in a state language both orally and in writing:</p> <p>3K 6. ability to use information and communication technologies:</p> <p>3K 9. ability to identify, pose and solve problems:</p> <p>3K 10. ability to be critical and self-critical:</p> <p>3K 11. ability to work in a team:</p> <p>ФК3. ability to diagnose: determine preliminary, clinical, final, accompanying diagnosis, emergency conditions:</p> <p>ФК14. ability to maintain normative medical documentation;</p> <p>ФК15. processing of state, social and medical information</p>
The Student has to know:		
3H-1	Etiology, pathogenesis, gross-view changes and microscopic features of various processes of alteration, their consequences and possible complications.	
3H-2	Etiology, pathogenesis, gross-view changes and microscopic features of various hemodynamic disorders and disorders of lymph flow, their consequences and possible complications.	
3H-3	Etiology, pathogenesis, gross-view changes and microscopic features of different variants of inflammation, their consequences and possible complications.	
3H-4	Etiology, pathogenesis, gross-view changes and microscopic features of different variants of immunopathological processes, their consequences and possible complications.	
3H-5	Etiology, pathogenesis, gross-view changes and microscopic features of different types of adaptation, their consequences and possible complications.	
3H-6	Etiology, pathogenesis, gross-view changes and microscopic features of different types of wound healing, their consequences and possible complications.	
3H-7	Main stages of oncogenesis, physical, chemical and viral cancerogenesis, general morphological characteristic of neoplastic process, variants of tumor growth and metastatic process, basic provisions about tumor progression, paraneoplastic syndrom, main classifications, grading and staging systems, consequences of their local and general influences on the organism, methods of morphological diagnostics and verification of the tumors of different histogenesis, have a concept about choristomas (heterotopias) and hamartomas.	
3H-8	Macro- and microscopical features of the epithelial organ-nonspecific and organ-specific tumors.	
3H-9	Macro- and microscopical features of the mesenchymal and neuroectodermal origin tumors.	
3H-10	Macro- and microscopical features of the hematopoietic tumors and tumors of lymphoid tissue (leukemias and lymphomas).	
3H-11	Macro- and microscopical features of odontogenic tumors.	
3H-12	Basic provisions about nosology, definition of concept «diagnosis», variants of diagnosis, principles of construction of clinical and pathological diagnosis, concept of «pathomorphosis». Concept about the main and immediate cause of the death. Organization of pathological service in Ukraine. Autopsy report and medical death certificate.	
3H-13	Etiology, pathogenesis, gross-view changes and microscopic features of blood	

	system diseases, their consequences and possible complications.
3H-14	Etiology, pathogenesis, gross-view changes and microscopic features of cardiovascular system disease, vascular diseases of CNS, their main clinical signs, consequences and possible complications.
3H-15	Etiology, pathogenesis, gross-view changes and microscopic features of respiratory system diseases, their main clinical signs, consequences and possible complications.
3H-16	Etiology, pathogenesis, gross-view changes and microscopic features of the diseases of GIT, their main clinical signs, consequences and possible complications.
3H-17	Etiology, pathogenesis, gross-view changes and microscopic features of liver diseases, diseases of biliary system and pancreas, their main clinical signs, consequences and possible complications.
3H-18	Etiology, pathogenesis, gross-view changes and microscopic features of kidneys diseases, their main clinical signs, consequences and possible complications.
3H-19	Etiology, pathogenesis, gross-view changes and microscopic features of endocrine system diseases, their main clinical signs, consequences and possible complications.
3H-20	Etiology, pathogenesis, gross-view changes and microscopic features of male and female genital system diseases, complications of pregnancy and postpartum period, main clinical signs, consequences and possible complications.
3H-21	Etiology, pathogenesis, gross-view changes and microscopic features of the diseases of pre- and perinatal period, their main clinical signs, consequences and possible complications.
3H-22	Etiology, pathogenesis, gross-view changes and microscopic features of the diseases of dental hard tissues, pulp and periapical tissues, periodontal and gingival diseases, their main clinical signs, consequences and possible complications.
3H-23	Etiology, pathogenesis, gross-view changes and microscopic features of the diseases of jaws, salivary glands, lips, tongue, soft tissues of the bottom of an oral cavity, their main clinical signs, consequences and possible complications.
3H-24	Etiology, pathogenesis, gross-view changes and microscopic features of tumor-like diseases, cysts and congenital malformations of an oral-facial region, their main clinical signs, consequences and possible complications.
3H-25	Main statements about infectious process, infectious disease, etiology, pathogenesis, gross-view changes and microscopic features of infectious diseases of GIT, caused by different microorganisms, their main clinical signs, consequences and possible complications.
3H-26	Etiology, pathogenesis, gross-view changes and microscopic features of bacterial infectious diseases, transmitted by aerosolic way, their main clinical signs, consequences and possible complications.
3H-27	Etiology, pathogenesis, gross-view changes and microscopic features of viral infectious diseases, transmitted by aerosolic way, their main clinical signs, consequences and possible complications.
3H-28	Etiology, pathogenesis, gross-view changes and microscopic features of infectious diseases, represented by multiorgan lesions (sepsis, odontogenic sepsis, tuberculosis, HIV/AIDS), their main clinical signs, consequences and possible complications.
3H-29	Etiology, pathogenesis, gross-view changes and microscopic features of the diseases of CNS, peripheral nervous system, bones, joints and muscle system, their main clinical signs, consequences and possible complications.
3H-30	Etiology, pathogenesis, gross-view changes and microscopic features of the diseases connected with nutrition, professional diseases, iatrogenic medical pathology, their main clinical signs, consequences and possible complications.
3H-31	Etiology, pathogenesis, gross-view changes and microscopic features of the diseases, caused by rickettsia, protozoa (malaria, balantidiasis, amebiasis), fungi,

	helminths, their main clinical signs, consequences and possible complications.
The student must be able to:	
Y _M -1	Diagnose gross-view changes and microscopic features of various processes of alteration, determine their consequences and possible complications.
Y _M -2	Diagnose gross-view changes and microscopic features of various processes of hemodynamic disorders and disorders of lymph flow, determine their consequences and possible complications.
Y _M -3	Diagnose gross-view changes and microscopic features of various types of inflammation, determine their consequences and possible complications.
Y _M -4	Diagnose gross-view changes and microscopic features of various types of immunopathological processes, determine their consequences and possible complications.
Y _M -5	Diagnose gross-view changes and microscopic features of various types of adaptational processes, determine their consequences and possible complications.
Y _M -6	Diagnose gross-view changes and microscopic features of different types of wound healing, determine their consequences and possible complications.
Y _M -7	Diagnose gross-view changes and microscopic features of the epithelial organ-nonspecific and organ-specific tumors, determine their consequences and possible complications.
Y _M -8	Diagnose gross-view changes and microscopic features of the mesenchymal and neuroectodermal origin tumors, determine their consequences and possible complications.
Y _M -9	Diagnose gross-view changes and microscopic features of the odontogenic tumors, determine their consequences and possible complications.
Y _M -10	Diagnose gross-view changes and microscopic features of the hematopoietic tumors and tumors of lymphoid tissue (leukemias and lymphomas), determine their consequences and possible complications.
Y _M -11	Formulate pathological diagnosis, fill in medical death certificate, fill in direction for pathomorphological examination of biopsy and operation material.
Y _M -12	Diagnose gross-view changes and microscopic features of the diseases of cardiovascular system; determine their consequences and possible complications.
Y _M -13	Diagnose gross-view changes and microscopic features of the respiratory system diseases, determine their consequences and possible complications.
Y _M -14	Diagnose gross-view changes and microscopic features of the diseases of GIT, determine their consequences and possible complications.
Y _M -15	Diagnose gross-view changes and microscopic features of the hepato-biliary system diseases, determine their consequences and possible complications.
Y _M -16	Diagnose gross-view changes and microscopic features of the urogenital system diseases, diseases of pre- and perinatal period, determine their consequences and possible complications.
Y _M -17	Diagnose gross-view changes and microscopic features of the endocrine system diseases, determine their consequences and possible complications.
Y _M -18	Diagnose gross-view changes and microscopic features of the diseases of dental hard tissues, pulp and periapical tissues, periodontal and gingival diseases, determine their main clinical signs, consequences and possible complications.
Y _M -19	Diagnose gross-view changes and microscopic features of the diseases of jaws, salivary glands, lips, tongue, soft tissues of the bottom of an oral cavity and determine their main clinical signs, consequences and possible complications.
Y _M -20	Diagnose gross-view changes and microscopic features of the tumor-like diseases, cysts and congenital malformations of an oral-facial region; determine their main clinical signs, consequences and possible complications.

Y _M -21	Diagnose gross-view changes and microscopic features of the infectious diseases of GIT, caused by different microorganisms and determine their main clinical signs, consequences and possible complications.
Y _M -22	Diagnose gross-view changes and microscopic features of the bacterial infectious diseases transmitted by aerosolic way, reveal their main clinical signs, consequences and possible complications.
Y _M -23	Diagnose gross-view changes and microscopic features of the viral infectious diseases, transmitted by aerosolic way, determine their main clinical signs, consequences and possible complications.
Y _M -24	Diagnose gross-view changes and microscopic features of the infectious diseases, represented by multiorgan lesions (sepsis, odontogenic sepsis, tuberculosis, HIV/AIDS), detect their main clinical signs, consequences and possible complications.
Y _M -25	Diagnose gross-view changes and microscopic features of the diseases connected with nutrition, professional diseases, iatrogenic medical pathology, determine their main clinical signs, consequences and possible complications. Diagnose gross-view changes and microscopic features of the diseases of CNS, peripheral nervous system, bones, joints and muscle system.
Y _M -26	Diagnose gross-view changes and microscopic features of the diseases, caused by rickettsia, protozoa (malaria, balantidiasis, amebiasis), fungi, helminths and detect their main clinical signs, consequences and possible complications.
K-1	Ability to solve typical and complex specialized problems and a practical tasks in the learning process, which predict research and / or innovation and is characterized by complexity and uncertainty of conditions and requirements.
K-2	Ability to apply knowledge of pathomorphology in practical situations; ability to choose a communication strategy; ability to work in group; interpersonal skills; ability to communicate in the state language both orally and in writing; ability to communicate in other language; ability and skills in using of new technologies; ability for abstract thinking, analysis and synthesis, ability to study and to be modernly trained; the ability to evaluate and ensure the quality of performed work; determination and persistence in the tasks and responsibilities.
K-3	Ability to master the methods of pathomorphological research: autopsy, biopsy, experimental modeling of diseases; ability to analyze the morphological manifestations of diseases; ability to evaluate the results of autopsy and methods of vital diagnosis of diseases; ability to analyze the structural basis of human diseases and their clinical revealing, structural backgrounds of recovering, complications and consequences.
AB-1	Independently plan and conduct research.
AB-2	Take personal responsibility for the results of your own professional activities.
AB-3	Follow generally accepted norms of behavior and morality in interpersonal relationships.

6. Format and scope of discipline

Format of discipline	Full-time	
Type of lessons	Amount of hours	Amount of groups
lectures	22	According to approved schedule
practice	67	-<<-
self-reliant study	91	-<<-

7. Topics and content of discipline

According to educational plan main types of educational student's activities are represented by following: a) lectures; b) practical lessons; c) self-reliant work of students.

Topics of lecture course are related to most problematic questions of certain chapters of pathomorphology.

Practical lessons provide:

1) examination of macroscopical changes of injured isolated organs and systems in cases of general pathological processes and diseases of organs and systems;

2) examination of histological changes of injured isolated organs and systems in cases of general pathological processes and diseases of organs and systems;
 3) solving of situational tasks (revealing of morphological changes in cases of various pathological processes) with significant clinical-anatomical directions.
 During practical lesson students draw in and describe microscopical changes of investigated tissue or cells in cases of various pathological processes.
 Current educational student's activity is controlled by supervisor during practical training according to concrete aims of study and during individual work.

Lesson organization system:

Practical classes are held in the form of interactive communication between teacher and students. In order to prepare for the practical lesson the student must:

- 1) listen to and process a lecture on the topic of the lesson;
- 2) to study theoretical material using textbooks, manuals and other available sources;
- 3) to fill in the proposed diagrams, tables, figures in the workbook.

Approximate lesson plan:

1. Formulation of an aim and purposes of the lesson by the teacher.
2. Interactive discussion of the topic in the form of a discussion, which includes information presented in tables, diagrams, drawings, completed by the student independently, with mandatory review and examination of histological slides and gross-view samples related to the topic of the lesson.
3. According to current possibility providing of postmortem examination (autopsy) of deceased patient.
4. Final control of the material of the topic, which includes assessment of independent work, oral answers and test control of theoretical knowledge.

Code of the type of lesson	Topic	Content of study	Code of the result of study	Teacher
Part 1. General Pathomorphology				
L-1 (lecture 1)	Pathomorphology as science, part of practical medicine and educational object. Methods of pathomorphological investigations. Main stages of the development of pathomorphology. Morphology of reversible and irreversible injury of cells and tissues. Acute cell injury. Necrosis. Apoptosis. Chronic cell injury. Intracellular and extracellular accumulations. Term "dystrophy". Disorganization of connective tissue.	Discussion and detailing of the topic of the lecture with by using of a multimedia presentation	3H-1	According to approved schedule
L-2	Disorders of blood and lymph circulation.	Discussion and detailing of the topic of the lecture with by using of a multimedia presentation	3H-2	According to approved schedule
L-3	Host response to injury. Non-specific and specific defensive mechanisms. General studies about inflammation. Exudative and proliferative inflammation. Morphology of exudative and proliferative inflammation.	Discussion and detailing of the topic of the lecture with by using of a multimedia presentation	3H-3	According to approved schedule
L-4	Immunopathological processes: hypersensitivity reactions, immunodeficiency states, autoimmune diseases. Pathomorphology of immunopathological processes.	Discussion and detailing of the topic of the lecture with by using of a multimedia presentation	3H-4	According to approved schedule
L-5	General information about neoplasia. Morphological features of tumors derived from epithelium, mesenchyma and neuroectodermal tissues.	Discussion and detailing of the topic of the lecture with by using of a multimedia presentation	3H-7,8,9,10	According to approved schedule
L-6	Tumors of odontogenic tissues, jaws, other organs of oral cavity	Discussion and detailing of the topic of the lecture with by using of a	3H-11	According to approved schedule

		multimedia presentation		
Part 2. Special Pathomorphology with autopsy course				
L-7	Introduction into nosology. Pathology of cardio-vascular system	Discussion and detailing of the topic of the lecture with by using of a multimedia presentation	3H-12,14	According to approved schedule
L-8	Diseases of digestive system organs. Diseases of liver, biliary system and pancreas.	Discussion and detailing of the topic of the lecture with by using of a multimedia presentation	3H-16,17	According to approved schedule
L-9	Diseases of tooth hard tissues, pulp and periapical tissues. Diseases of gingiva. Parodontal diseases. Diseases of jaws, salivary glands, tongue, soft tissues of oral cavity.	Discussion and detailing of the topic of the lecture with by using of a multimedia presentation	3H-19	According to approved schedule
L-10	Tumors and tumor-like diseases and tumors of dental tissues, oral cavity and salivary glands. Cysts of oral cavity. Congenital malformations of facial skull, jaws and organs of oral cavity.	Discussion and detailing of the topic of the lecture with by using of a multimedia presentation	3H-23,24	According to approved schedule
L-11	Infectious and parasitic diseases. General characteristic of infectious process. Bacterial infectious diseases. Sepsis. Odontogenic sepsis. Morphological revealing of infectious diseases in oral cavity.	Discussion and detailing of the topic of the lecture with by using of a multimedia presentation	3H-25,26, 28	According to approved schedule
Part 1. General Pathomorphology				
P-1 (practical lesson-1)	Pathomorphology as science, part of practical medicine and educational object. Methods of research in pathomorphology. Main stages of development of pathomorphology. Injury. General information.	Determining the primary level of student's knowledge by using of testing on the MISA platform. Discussion of issues of the topic. Examination of gross-view samples and microscopic slides, visit to the Museum of Human Diseases, performance of clinical and situational tasks, final testing	3H-1, YM-1, K-1,2,3 AB-1,2,3	According to approved schedule
P-2	Morphology of reversible and irreversible injury of cells and tissues. Necrosis and apoptosis. Death, definition, signs of death.	-«-	3H-1, YM-1, K-1,2,3 AB-1,2,3	According to approved schedule
P-3	Chronic cell injury. Intracellular accumulation.	-«-	3H-1, YM-1, K-1,2,3 AB-1,2,3	According to approved schedule
P-4	Disorganization of connective tissue. Hyaline changes. Amyloidosis.	-«-	3H-1, YM-1, K-1,2,3 AB-1,2,3	According to approved schedule
P-5	Disorders of pigments metabolism. Calcification. Stone's formation.	-«-	3H-1, YM-1, K-1,2,3 AB-1,2,3	According to approved schedule
P-6	Disorders of blood circulation: hyperemia, edema, bleeding, hemorrhage. Disorders of lymph flow.	-«-	3H-2, YM-2, K-1,2,3 AB-1,2,3	According to approved schedule
P-7	Disorders of hemostasis. Thrombosis. Embolism. Infarction. Disorders of	-«-	3H-2, YM-2, K-1,2,3 AB-1,2,3	According to approved schedule

	microcirculation. Shock. DIC-syndrome.			
P-8	Colloquim. Etiology, pathogenesis, gross-view changes and microscopical features of different types of cell injuries and disorders of blood and lymph flow, their complications and consequences. Postmortem examination.	Determining the level of student's knowledge about etiology, pathogenesis, gross-view changes and microscopical features of different types of cell injuries and disorders of blood and lymph flow, their complications and consequences, establishing the level of practical skills in relation to the diagnosis of the above listed general pathological processes.	3H-1,2, YM-1,2, K-1,2,3 AB-1,2,3	According to approved schedule
P-9	General information about inflammation. Exudative inflammation. Morphology of exudative inflammation. Chronic (proliferative) inflammation. Granulomatosis.	Determining the primary level of student's knowledge by using of testing on the MISA platform. Discussion of issues of the topic. Examination of gross-view samples and microscopic slides, visit to the Museum of Human Diseases, performance of clinical and situational tasks, final testing	3H-3, YM-3, K-1,2,3 AB-1,2,3	According to approved schedule
P-10	Pathomorphology of immune system. Immunopathological processes. Hypersensitivity reactions. Autoimmune diseases. Immunodeficiency.	-«-	3H-4, YM-4, K-1,2,3 AB-1,2,3	According to approved schedule
P-11	Processes of adaptation and compensation. Regeneration and repair. Sclerosis.	-«-	3H-5,6, YM-5,6, K-1,2,3 AB-1,2,3	According to approved schedule
P-12	General information about tumors. Nomenclature and morphological peculiarities of tumors of epithelial origin.	-«-	3H-7,8, YM-7, K-1,2,3 AB-1,2,3	According to approved schedule
P-13	Nomenclature and morphological peculiarities of mesenchymal tumors. Nomenclature and morphological peculiarities of neuroectodermal tumors.	-«-	3H-9, YM-8, K-1,2,3 AB-1,2,3	According to approved schedule
P-14	Tumors of hematopoietic tissue. Leukemias. Lymphomas.	-«-	3H-10, YM-10, K-1,2,3 AB-1,2,3	According to approved schedule
P-15	Tumors of dental tissues, oral cavity and salivary glands	-«-	3H-11, YM-9, K-1,2,3 AB-1,2,3	According to approved schedule
P-16	Colloquim. Gross view changes and microscopical features of different types of inflammation, immunopathological processes, adaptation, regeneration, tissue repair and tumors of different origin. Postmortem examination.	Determining the level of student's knowledge about etiology, pathogenesis, gross-view changes and microscopical features of different types of inflammation, immunopathological processes, adaptation, regeneration, tissue	3H-3-11, YM-3-10, K-1,2,3 AB-1,2,3	According to approved schedule

		repair and tumors of different origin, their complications and consequences, establishing the level of practical skills in relation to the diagnosis of the above listed general pathological processes.		
Part 2. Special Pathomorphology with autopsy course				
P-17	Introduction into nosology. Diagnosis and its structural components. Definition of main and exact reasons of the death. Organization of pathology service in Ukraine. Autopsy report and medical death certificate.	Determining the primary level of student's knowledge by using of testing on the MISA platform. Discussion of issues of the topic. Examination of gross-view samples and microscopic slides, visit to the Museum of Human Diseases, performance of clinical and situational tasks, final testing	3H-12, YM-11, K-1,2,3 AB-1,2,3	According to approved schedule
P-18	Diseases of cardio-vascular system. Atherosclerosis. Essential hypertension disease. Ischemic heart disease. Cerebro-vascular diseases.	-<<	3H-14, YM-12, K-1,2,3 AB-1,2,3	According to approved schedule
P-19	Rheumatic fever. Systemic diseases of connective tissue.	-<<	3H-14, YM-12, K-1,2,3 AB-1,2,3	According to approved schedule
P-20	Acute inflammatory diseases of respiratory system. Chronic obstructive pulmonary diseases. Cor pulmonale. Lung cancer.	-<<	3H-15, YM-13, K-1,2,3 AB-1,2,3	According to approved schedule
P-21	Diseases of oropharynx, esophagus, stomach and intestines. Diseases of liver, biliary system and pancreas.	-<<	3H-16,17, YM-14,15, K-1,2,3 AB-1,2,3	According to approved schedule
P-22	Diseases of endocrine system.	-<<	3H-19, YM-17, K-1,2,3 AB-1,2,3	According to approved schedule
P-23	Colloquium: etiology, pathogenesis, gross view changes and microscopical features, complications and outcomings of blood system diseases, diseases of cardio-vascular, central nervous, respiratory, digestive and endocrine systems. Postmortem examination.	Determining the level of student's knowledge about etiology, pathogenesis, gross-view changes and microscopical features of different diseases of blood system, cardio-vascular pathology, CNS, respiratory system, GIT, hepato-biliary system, endocrine system diseases, their main complications and consequences, establishing the level of practical skills in relation to the diagnosis of the above listed diseases.	3H-12-17,19, YM-11-17, K-1,2,3 AB-1,2,3	According to approved schedule
P-24	Renal diseases: glomerulopathies, acute tubular necrosis, pyelonephritis, nephrolithiasis. Chronic renal insufficiency.	Determining the primary level of student's knowledge by using of testing on the MISA platform.	3H-18, YM-16, K-1,2,3 AB-1,2,3	According to approved schedule

		Discussion of issues of the topic. Examination of gross-view samples and microscopic slides, visit to the Museum of Human Diseases, performance of clinical and situational tasks, final testing		
P-25	Diseases of tooth hard tissues, pulp and periapical tissues. Diseases of gingiva. Parodontal diseases. Diseases of jaws, salivary glands, tongue, soft tissues of oral cavity.	-«-	3H-22, 23 УМ-18, 19 К-1,2,3 АВ-1,2,3	According to approved schedule
P-26	Tumors and tumor-like diseases and tumors of dental tissues, oral cavity and salivary glands. Cysts of oral cavity. Congenital malformations of facial skull, jaws and organs of oral cavity.	-«-	3H-24, УМ-20, К-1,2,3 АВ-1,2,3	According to approved schedule
P-27	Infectious and parasitic diseases. General characteristic of infectious process. Intestinal bacterial infectious diseases. Diphtheria. Meningococcal infection.	-«-	3H-25,26, УМ-21,22 К-1,2,3 АВ-1,2,3	According to approved schedule
P-28	Viral respiratory infections. Corona-viral disease. Rabies. Variola vera.	-«-	3H-27, УМ-23, К-1,2,3 АВ-1,2,3	According to approved schedule
P-29	Infectious diseases with multiorgans' lesions. Tuberculosis. HIV-infection. Sepsis. Odontogenic sepsis.	-«-	3H-28, УМ-24, 21, К-1,2,3 АВ-1,2,3	According to approved schedule
P-30	Colloquium: etiology, pathogenesis, gross view changes and microscopical features, complications and outcomes of renal diseases, female and male reproductive systems, pathology of jaws and oral cavity, infectious diseases. Postmortem examination.	Determining the level of student's knowledge about etiology, pathogenesis, gross-view changes and microscopical features of different renal diseases, pathology of female and male reproductive systems, pathology of jaws and oral cavity, infectious diseases, their main complications and consequences, establishing the level of practical skills in relation to the diagnosis of the above listed diseases.	3H-18,22-31, УМ-16-24, К-1,2,3 АВ-1,2,3	According to approved schedule
Part 1. General Pathomorphology				
SRS-1 (self-reliant study 1)	History of development of pathological anatomy and pathomorphology.	Independent study of the topic with the use of modern innovative technologies, filling in tables, diagrams and tasks in the relevant part of the workbook, control of knowledge in a practical lesson / colloquium	3H-1, УМ-1, К-1,2,3 АВ-1,2,3	According to approved schedule
SRS -2	Ultrastructural pathology of cell. Cellular-matrix	-«-	3H-1, УМ-1, К-1,2,3	According to approved schedule

	interactions. Adjustment of intracellular and extracellular mechanisms of metabolism.		AB-1,2,3	
SRS -3	Main pathogenetical mechanisms of hypoxic, free radical, chemical and biological cell injuries.	-«-	3 _H -1, Y _M -1, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -4	Mechanisms of disorganization of connective tissue and amyloidosis.	-«-	3 _H -1, Y _M -1, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -5	Mechanisms of pigments accumulation. Jaundice: definition, ethiological factors, mechanisms, classification. Calcification. Disorders of iron and copper metabolism.	-«-	3 _H -1, Y _M -1, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -6	Mechanisms of edema.	-«-	3 _H -2, Y _M -2, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -7	Disorders of water-electrolytic metabolism.	-«-	3 _H -2, Y _M -2, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -8	Role of vascular wall, blood coagulation system in physiological hemostasis and thrombosis. Hypercoagulability states.	-«-	3 _H -2, Y _M -2, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -9	Basic pathogenetical mechanisms of shock and DIC-syndrome. Anaphilactic shock in dentist's practice: main ethiological factors, pathogenesis, consequences.	-«-	3 _H -2, Y _M -2, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -10	Defensive mechanisms and their morphological equivalents.	-«-	3 _H -3, Y _M -3, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -11	Macrophages and their role in chronic inflammation. Pathogenesis of granulomas.	-«-	3 _H -3, Y _M -3, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -12	Mechanisms of hypersensitivity reactions and autoimmune diseases. Immunological tolerance. Immunodeficiency states.	-«-	3 _H -4, Y _M -4, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -13	Mechanisms of wound healing and reparation of certain tissues.	-«-	3 _H -5,6, Y _M -5,6, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -14	Cancerogenesis, main steps. Cancerogenes. Tumor progression, tumor dissemination. Local and systemic influences of tumors.	-«-	3 _H -7, Y _M -7, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -15	Mesenchymal odontogenic tumors.	-«-	3 _H -9,11, Y _M -8, 9, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -16	Morphological peculiarities of neuroectodermal tumors of CNS and peripheral NS	-«-	3 _H -11, Y _M -9, K-1,2,3 AB-1,2,3	According to approved schedule

SRS -17	Morphology of tumors of certain locations.	-«-	3 _H -7,8, Y _M -7, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -18	Lesions of oral cavity organs in cases of hematopoietic tumors.	-«-	3 _H -10, Y _M -10, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -19	Peculiarities of structure and diagnostics of odontogenic tumors.	-«-	3 _H -11,12, Y _M -9, 11, K-1,2,3 AB-1,2,3	According to approved schedule
Part 2. Special Pathomorphology with autopsy course				
SRS-20	Autopsy report. Medical death certificate, main chapters, rules of filling in. Situational clinical-anatomical tasks.	-«-	3 _H -12, Y _M -11, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -21	Anemias. Hemorrhagic syndroms: vasopathies, trombocytopathies, trombocytopenias, coagulopathies.	-«-	3 _H -13, Y _M -11, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -22	Lesions of an oral cavity in cases of systemic diseases of connective tissue.	-«-	3 _H -14, Y _M -12, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -23	Systemic vasculities.	-«-	3 _H -14, Y _M -12, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -24	Diseases of CNS.	-«-	3 _H -14, Y _M -12, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -25	Pneumoconiosis. Bronchial asthma	-«-	3 _H -15, Y _M -13, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -26	Malabsorbtion syndrome. Chron's disease. Non-specific ulcerative colitis. Pancreatitis. Cholecystitis. Cholangitis.	-«-	3 _H -16,17, Y _M -14,15, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -27	Lesions of an oral cavity in cases of diabetes mellitus.	-«-	3 _H -19,22,23, Y _M -17-19, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -28	Nephrotic and nephritic syndromes. Acute and chronic renal insufficiency.	-«-	3 _H -18, Y _M -16, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -29	Diseases of female and male reproductive systems, pathology of pregnancy and postpartal period.	-«-	3 _H -20, Y _M -16, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -30	Pre- and perinatal pathology.	-«-	3 _H -21, Y _M -16, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -31	Diseases of skeletal muscle system, bones and joints	-«-	3 _H -29, Y _M -25, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -32	Pathomorphological changes typical for nutritional diseases. Occupational pathology. Iatrogenic pathology.	-«-	3 _H -30, Y _M -25, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -33	Non-cariogenic diseases of tooth hard tissues.	-«-	3 _H -22, Y _M -18, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -34	Diseases of jaws, salivary glands, tongue, soft tissues of oral cavity in cases of different internal diseases.	-«-	3 _H -23, Y _M -19, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -35	Congenital malformations of facial skull, jaws and organs of oral cavity.	-«-	3 _H -24, Y _M -20, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -36	Infectious and parasitic diseases. General characteristic of infectious process. Odontogenic sepsis.	-«-	3 _H -25,26, Y _M -21,22 K-1,2,3 AB-1,2,3	According to approved schedule
SRS -37	Pediatric infectious diseases: measles, chickenpox, epidemic parotitis, infectious mononucleosis.	-«-	3 _H -27, Y _M -23, K-1,2,3 AB-1,2,3	According to approved schedule
SRS -38	Mycobacterial infection.	-«-	3 _H -28, Y _M -24,	According to

			K-1,2,3 AB-1,2,3	approved schedule
SRS -39	Parasitic diseases. Helminthic infections. Mycoses.	-«-	3H-31, YM-26, K-1,2,3 AB-1,2,3	According to approved schedule

8. Verification of the results of study

Current control

It is carried out during practical classes and aims to test students' mastery of educational material.

During the **current control** of knowledge, the student is obliged:

- ✓ demonstrate self-filled schemes, tables, algorithms;
- ✓ draw in histological slides of the topic of the lesson and be able to explain the main histological structures and their changes;
- ✓ describe gross-view samples related to the topic;
- ✓ give written answers to the proposed tests (including A-format tests) and situational tasks.

Criteria for evaluation of current educational activities - during the assessment of mastering of each topic for the student's current educational activity is used 4-point (traditional) scale grading system. Grading procedure includes scores of all types of work provided by the curriculum. The student must receive a grade for each topic. Forms of assessment of current educational activities include control of theoretical and practical training. Scores on the traditional scale are converted into points.

Evaluation of current educational activities in current practical lessons and colloquiums:

- ✓ completed schemes, tables, algorithms are evaluated from 0 to 3 points: 0 - not completed, 1 point - completed 1/3, 2 points - completed 2/3, 3 points - all completed;
- ✓ sketching and marking of histological slides is estimated from 0 to 2 points: 0 points – not done, 1 point - only sketched or only marked, 2 points - everything is done;
- ✓ test control is evaluated from 0 to 5 points: 0 points - less than 60% of correct answers, 3 points - 60-79% of correct answers, 4 points - 80-89%, 5 points -> 90% of correct answers.

The total amount of points is from 5 to 10, which corresponds to the traditional score: 5-6 points - grade "satisfactory", 7-8 points - grade "good", 9-10 points - grade "excellent".

«Excellent («5»)» – The student correctly answered 90-100% of the tests of format A. Correctly, clearly, completely and logically answers the standardized questions of the current topic, including questions of the lecture course and independent work; correctly filled in all the tables and diagrams in the "Workbook". Closely connects theory with practice and correctly demonstrates the implementation of practical skills, correctly performed all tasks related to histological slides. Freely interprets the identified morphological changes in gross-view samples and histological slides, solves situational problems of increased complexity, is able to summarize the material.

«Good («4»)» – The student correctly answered 70-89% of the tests of format A. Correctly and essentially answers the questions of the current topic, including questions of the lecture course and independent work, with minor errors filled in all the tables and diagrams in the "Workbook". Demonstrates the performance of practical skills, correctly or with minor errors performed all tasks related to histological slides. Correctly uses theoretical knowledge to interpret the identified morphological changes in gross-view samples and histological slides, solves easy and medium-sized situational problems. Have the necessary practical skills and techniques to perform them in excess of the required minimum.

«Satisfactory («3»)» – The student correctly answered 60-69% of the tests of format A. Incomplete, with the help of additional questions, answers the standardized questions of the current topic, including questions of the lecture course and independent work, filled in all the tables and diagrams in the "Workbook" with significant errors. Cannot create own clear, logical answer. During the answer and demonstration of practical skills makes significant mistakes, with significant mistakes performed tasks related to histological slides. The student solves only easy situational problems, has only a minimum of necessary practical skills.

«Unsatisfactory («2»)» – The student correctly answered less than 60% of the tests of format A. Does not know the material of the current topic, did not fill in all the tables and diagrams in the "Workbook". Cannot independently build a logical answer to additional questions, does not understand the content of the material. When answering and demonstrating, performing practical skills makes significant, serious mistakes.

Criteria for evaluation of self-reliant study: Assessment of students' independent work, which is provided in the topic along with practical lesson work, is carried out during the current control of the topic in the relevant practical class. Assessment of topics that are submitted only for independent work and are not included in the topics of practical classes, is controlled by the final control (colloquiums).

Code of the results of study	Code of the type of the lesson	Methods of verifying of learning outcomes	Criteria for credit
3H-1-31, YM-1-26, K-1,2,3 AB-1,2,3	L-1-11, P-1-30, SRS-1-39	See the schemes described above in the chapter " Current control "	During the assessment of mastering each topic for the current educational activity of the student, grades are set on a 4-point (traditional) scale. This includes all types of work provided by the

			curriculum. The student must receive a positive grade on each topic. Forms of assessment of current educational activities include control of theoretical and practical training
Final control			
<p>In IV semester, dedicated to «General Pathomorphology», the form of final control is a credit. In V semester, dedicated to «Special Pathomorphology with Autopsy Course», the form of final control is a credit from the relevant part of discipline («Special Pathomorphology with Autopsy Course») and exam in discipline «Pathomorphology with Autopsy Course»</p>			
General system of assessment	Participation in the work during the semester/exam – 60%/40% According to 200-score grading system		
Scales of assessments	traditional 4-score scale, multi-score (200-score) scale, rating scale ECTS		
Conditions for admission to final control	Student attend all practical lessons and received not less than 120 points for current activity		
Type of final control	Methods of final control		Credit criteria
Credit	All topics submitted for current control must be passed. The average arithmetic mean of the grades given during the semester on a 4-point scale is converted into points on a multi-score (200-score) scale in accordance with the Regulation "Criteria, rules and procedures for evaluating the results of student learning activities"		<i>Maximum amount of points - 200.</i> <i>Minimum amount of points - 120</i>
Criteria for assessing of the exam in the discipline “Pathomorphology with Autopsy Course”			
Exam	Exam consists of two parts: 1) determination of the level of mastery of practical skills in the discipline - knowledge and ability to diagnose pathomorphological changes in cells, tissues and organs, characteristic for general pathological processes and diseases (maximum - 20 points); 2) determination of the level of theoretical training in the discipline (maximum - 60 points). Each of the parts is evaluated separately. The total maximum amount of points that a student can receive for the exam is 80.		Maximum amount of points for exam – 80 . Minimum amount of points for exam – 50 . The average arithmetic mean of the scores for two semesters is added to the scores obtained for the exam; after that, accordingly, the final grade is calculated from the discipline. Minimum amount of points, required to obtain « satisfactory » - 120 . Minimum amount of points, required to obtain « good » - 140 . Minimum amount of points, required to obtain « excellent » - 170 . Maximum amount of points, which the student can get as the final score for studying discipline – 200 .
Maximum amount of points that student can score for the current academic activity for admission to the exam (differentiated credit) is 120 points.			

Minimum amount of points that student must score for the current academic activity for admission to the exam (differentiated credit) is 72 points.

The calculation of the number of points is based on the student's score on a 4-point (national) scale during the study of the discipline, by calculating the average arithmetic mean (CA), rounded to two decimal places. The value obtained is converted into points on a multi-score scale as follows:

$$x = \frac{CA \times 120}{5}$$

Conversion table on a 200-point scale:

4- score scale	200- score scale	4- score scale	200- score scale	4- score scale	200- score scale	4- score scale	200- score scale
5	120	4.45	107	3.91	94	3.33	80
4.95	119	4.41	106	3.87	93	3.29	79
4.91	118	4.37	105	3.83	92	3.25	78
4.87	117	4.33	104	3.79	91	3.2	77
4.83	116	4.29	103	3.74	90	3.16	76
4.79	115	4.25	102	3.7	89	3.12	75
4.75	114	4.2	101	3.62	87	3.08	74
4.7	113	4.16	100	3.58	86	3.04	73
4.66	112	4.12	99	3.54	85	3	72
4.62	111	4.08	98	3.49	84	Less than 3	Unsu- ficient
4.58	110	4.04	97	3.45	83		
4.54	109	3.99	96	3.41	82		
4.5	108	3.95	95	3.37	81		

9. Politics of the course

Students during studying the discipline "Pathomorphology with Autopsy course" must act in educational and professional situations from the standpoint of academic integrity and professional ethics, to perform educational tasks independently; correctly refer to sources of information in the case of borrowing ideas, statements, information; to realize the importance of the norms of academic integrity, to evaluate examples of human behavior in accordance with them; evaluate examples of human behavior in accordance with the norms of academic integrity; to give a moral assessment of one's own actions, to correlate them with moral and professional norms.

10. Literature

Obligatory

1. Robbins&Cotran Pathologic Basis of Disease (Robbins Pathology) 10th Edition by V.Kumar, A.K.Abbas, J.C.Aster. – Canada: Elsevier Health Sciences, 2017 – 952 p.
2. Robbins Basic Pathology (Robbins Pathology) 10th Edition by V.Kumar, A.K.Abbas, J.C.Aster. – Canada: Elsevier Health Sciences, 2017 – 670 p.
3. Robbins and Cotran Atlas of Pathology 3rd Edition by E. Klatt. – Saunders, 2014. – 600 p.

Additional

1. Diagnostic Pathology: Cytopathology 2nd Edition by D.M.Michael, J.Thrall, S.Krishnamuthy. – Elsevier Health Sciences, 2018 – 850 p.
2. S.E.Mills. Histology for Pathologists. – Lippincott Williams and Wilkins, 2012. – 1328 p.
3. Sternberg's Diagnostic Surgical pathology [2-Volume Set] 6th Edition by S.E.Mills, J.K.Greenon, J.L.Hornick, T.A.Longacre, V.E.Reuter. – Lippincott Williams and Wilkins, 2015.

4. Pathology: Implications for the Physical Therapist 4th Edition by C.C.Goodman, K.S.Fuller. – Elsevier Health Sciences, 2015 – 1800 p.
5. Fundamentals of Veterinary Clinical Pathology 2nd Edition by S.L.Stockman, M.A.Scott. – Wiley-Blackwell, 2008. – 908 p.
6. Comprehensive Radiographic Pathology 6th Edition by R.L.Eisenberg, N.M.Johnson. – Elsevier Health Sciences, 2016 – 480 p.
7. BRS Pathology 6th Edition by M.E.Peyton Gupta. – Wolters Kluwer Health, 2020. – 496 p.
8. Molecular Pathology 2nd Edition: The Molecular Basis of Human Diseases by W.Coleman, G.Tsongalis. – Academic Press, 2017. – 802 p.
9. Oral and Maxillofacial Pathology: a Rationale for Diagnosis and Treatment 2nd Edition by Robert E.Marx, Diane Stern. – Quintessence Publishing, 2012. – 1017.

11. Equipment, logistics and software providing of discipline

Microscopes, collections of gross-view samples and histological slides (academic collection and collection of the Museum of Human Diseases); tables; photos; multimedia presentations; methodical recommendations for teachers; methodical recommendations for practical lessons for students; methodical materials for self-reliant students' work; software providing of training platform MISA.

12. Additional information

Lectures and practical classes are taken place on the basis of the department, at the adress:
790010, Lviv, Pekarska str. 52

Responsible teacher for educational process at the Department:

Associate Professor, MD PhD, M.I.Servetnyk, doctorservetnyk@gmail.com

Head of students' scientific group:

Prof. L.I.Volos, liliya.volos@gmail.com

Author of Syllabus

Servetnyk M.I., MD PhD, Associate Professor

Head of Department

Pospishil Yu.O., MD DMSci, Professor