MINISTRY OF HEALTH OF UKRAINE
KHARKIV NATIONAL MEDICAL UNIVERSITY
Department of Pathological anatomy
Academic year 2021-2022

SYLLABUS OF THE ACADEMIC DISCIPLINE

"CONTEMPORARY ISSUES OF CLINICAL PATHOLOGY"

Educational component elective

Type of education full-time

Branch of knowledge 22 "Health care"

Specialty 222 "General Medicine"

Educational and professional program "Medicine" of the second (master's) level of higher education

Course fifth

The syllabus of the discipline was approved at the meeting of the Pathological Anatomy Department
Protocol № 1 from "30" August 2021

Acting Head of the Pathomorphology Department, professor
_____ I. Sorokina

Approved by the methodical commission of KhNMU on problems of general and pre-professional training
Protocol № 1 from "31" August 2021

Head of the commission, professor
_____ O. Vovk

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Information about the consultations: consultations in the University: Pathologic Anatomy Department, 4 Nauky Ave., Kharkiv, main building of KhNMU, 3 floor;
Online consultations: Online consultations by prior arrangement for which it is necessary to write a letter to the corporate e-mail to the duty teacher according to the schedule of shifts in the department or a teacher of the academic group, and get a link to the conference in Google Meet, where the online consultation will take place.

Location of the Department: 4 Nauky Ave., Kharkiv, main building of KhNMU, 3 floor

INTRODUCTION

The syllabus of the discipline " Contemporary issues of clinical pathology " is

compiled in accordance with the Educational and Professional Program "Medicine" and the draft Standard of Higher Education of Ukraine (hereinafter - the Standard) of the second level (master) branch of knowledge 22 "Health" speciailty 222 "Medicine".

General characteristics of the discipline Contemporary issues of clinical pathology is an academic discipline that deepens and systematizes knowledge of etiology, pathogenesis, classifications, clinical course, pathomorphology, complications and basics of modern morphological diagnosis of the most common and relevant diseases, pathological conditions and tumor processes that are not properly reflected in the disciplines Pathomorphology and Biopsy-autopsy course.

The role and place of Contemporary issues of clinical pathology in the system of training The basis of Contemporary issues of clinical pathologyis Pathologic anatomy (Pathology). Pathologic anatomy (from the Greek *pathos* – suffering) – a basic science of the structural basis of disease and pathologic processes, which studies changes in organelles, cells, intercellular matrix, tissues and organs of the sick person, as well as the causes and mechanisms of death. Pathologic anatomy is both a clinical science and a branch of practical medicine, it plays a central role in the lifelong and postmortem diagnosis of human diseases. Diagnosis (Greek. *Diagnösis*) in medicine – is the recognition, definition of the disease. Pathologists who work in medical institutions and specialized pathology departments recognize diseases during the life of patients, as well as after their death.

During the course students increase the level of theoretical and practical training in the field of etiology, pathogenesis, classifications, course, pathomorphology, complications and get acquainted with the basics of modern morphological diagnosis of the most pressing diseases, pathological conditions and tumors.

Interdisciplinary links:

Prequisites of the discipline: normal anatomy, physiology, histology, pathomorphology, pathological physiology, genetics, propaedeutics of internal medicine, general surgery;

Co-requisites of the discipline: dentistry, internal medicine, family medicine, obstetrics and gynecology, surgery, pediatric surgery, infectious diseases

Discipline page in the Moodle:

http://distance.knmu.edu.ua/enrol/index.php?id=393

1. The purpose and objectives of the discipline

1.1 The **purpose** of teaching the discipline is to teach students modern methods of morphological research, the ability to interpret the etiology, pathogenesis and morphological changes at different stages of the disease, the structural basis of recovery, complications and consequences of diseases and tumors. etiology, pathogenesis and morphological manifestations of extreme and terminal states of the organism, ability to interpret the causes of pathomorphosis of diseases and etiology, clinical and pathomorphological manifestations of iatrogenic pathology.

1.2 The main **objectives** of studying the discipline are:

– Assimilation of modern methods of morphological examination of biopsy and surgical material and the possibility of their application in the clinic.

– Assimilation of the order of collection and direction of material, interpretation of results.

– Assimilation of methods of lifelong morphological diagnostics in oncomorphology.

– Assimilation of the principles of immunomorphological research and their importance in the verification of tumors and other pathomorphological processes.

– Interpretation of etiology, pathogenesis, course, clinical and morphological changes, complications and consequences of the most common and most relevant diseases, pathological conditions and tumor processes,

– Interpretation of etiology, pathogenesis, course and morphological manifestations of extreme and terminal states of the organism.

– Interpretation of the causes of pathomorphosis of diseases.

– Interpretation of etiology, clinical and pathomorphological manifestations of iatrogenic pathology.

1.3 Competencies and Learning outcomes

1.3.1. According to the requirements of the standard, the discipline provides students with the acquisition of competencies:

General competencies:

- Ability to abstract thinking, analysis and synthesis, the ability to learn and be modernly trained
- Ability to apply knowledge in practical situations
- Knowledge and understanding of the subject area and understanding of professional activity
- Ability to adapt and act in a new situation
- Ability to make an informed decision; work in a team; interpersonal skills
- Ability to communicate in the state language both orally and in writing; ability to communicate in a foreign language
- Skills in the use of information and communication technologies
- Definiteness and perseverance in terms of tasks and responsibilities
- Ability to act socially responsibly and consciously

Professional competencies:

- Ability to determine the required list of laboratory and instrumental studies and evaluate their results
- Ability to establish a preliminary and clinical diagnosis of the disease
- Ability to determine the principles and nature of treatment of diseases
- Skills to perform medical manipulations
- Ability to keep medical records

- Ability to assess the impact of the environment, socio-economic and biological determinants on the health of the individual, family, population
- Ability to analyze the activities of the doctor, unit, health care institution, to take measures to ensure the quality and safety of medical care and increase the efficiency of medical resources

1.3.2. Program learning outcomes

PLO 1 - Have general and special fundamental and professionally-oriented knowledge, skills, abilities, competencies necessary to perform typical professional tasks related to activities in the medical field in the relevant position

PLO 2. To have knowledge about psychophysiological features of the person, human health, support of health, prevention of diseases, treatment of the person, health of the population

PLO 3 - to apply the acquired knowledge, skills and understanding to solve typical problems of the doctor, the scope of which is provided by lists of syndromes and symptoms, diseases, emergencies, laboratory and instrumental research, medical manipulations

PLO 4 - to collect information about the patient

PLO 5 - evaluate the results of surveys, physical examinations, laboratory and instrumental research data

PLO 6 - to establish a preliminary clinical diagnosis of the disease

PLO 7 - to determine the nature, principles of treatment of diseases

PLO 16 - assess the impact of the environment on public health

PLO 18 - to assess the state of human health and provide its support taking into account the impact of the environment and other health factors

PLO 20 - apply the acquired knowledge about the existing health care system to optimize their own professional activities and participate in solving practical problems of the industry

PLO 21 - adhere to the code of ethics of the doctor, which ensures the formation of a specialist with appropriate personal qualities

1.3.3. The study of the discipline provides students with the following social skills **(Soft skills):**

- information management
- ability to form one's own opinion and make decisions;
- emotional intelligence;
- ability to communicate with colleagues and relatives of patients.

2. INFORMATION CONTENT OF THE COURSE

<table>
<tr><td rowspan="2">Index</td><td rowspan="2">Branch of knowledge, speciality, educational degree, EPP</td><td colspan="2">Characteristics of the discipline</td></tr>
<tr><td></td><td></td></tr>
<tr><td>Amount of credits – 3,0</td><td>Branch of knowledge 22 "Health care"</td><td colspan="2">Elective</td></tr>
<tr><td rowspan="5">Amount of hours – 90</td><td rowspan="5">Specialty 222 "General Medicine"</td><td colspan="2">Course:</td></tr>
<tr><td colspan="2">3</td></tr>
<tr><td colspan="2">Semester</td></tr>
<tr><td colspan="2">IX or X</td></tr>
<tr><td colspan="2">Lectures</td></tr>
<tr><td rowspan="10">Amount of classroom hours – 20 hours
individual self-study of students – hours</td><td rowspan="10">the second (master's) level of higher education
EPP “Medicine”</td><td>hours</td><td>hours</td></tr>
<tr><td colspan="2">Practical classes</td></tr>
<tr><td colspan="2">20 hours</td></tr>
<tr><td colspan="2">Lab classes</td></tr>
<tr><td></td><td></td></tr>
<tr><td colspan="2">Self-study</td></tr>
<tr><td colspan="2">70 hours</td></tr>
<tr><td colspan="2">Individual tasks:</td></tr>
<tr><td colspan="2">Type of control:
credit</td></tr>
</table>

2.1 Description of the discipline

2.2.1 Lectures:

№ з/п	Topic	Amount of hours	Teaching methods	Types of control
1				
2				

2.2.2 Seminars

№ з/п	Topic	Amount of hours	Teaching methods	Types of control
1				
2				

2.2.3 Practical classes:

№	Topic	amount of hours	Teaching methods	Types of control
1	Modern problems of clinical pathomorphology. The value of morphological examination of biopsy and surgical material in the diagnosis. The order of taking and sending of material, interpretation of results. Modern methods of lifelong morphological diagnostics in oncomorphology. Research of the latter using the methods of evidence-based medicine. Immunomorphology as one of the modern methods of diagnosis and its importance in the verification of tumors and other pathomorphological processes.	1	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
2	The concept of nodular pathology of the thyroid gland. Morphology of nodules of the thyroid gland. Modern methods of preoperative diagnosis of thyroid nodules. Tumors of the thyroid gland.	2	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
3	Morphological diagnosis of gastric diseases by gastrobiopsies. The importance of gastrobiopsy in the diagnosis and determination of the treatment plan for patients with gastric pathology. Types of intestinal metaplasia. Helicobacter pylori-associated gastritis. Methods of morphological detection of Helicobacter pylori. Features of reactive morphological changes of the gastric mucosa in diseases of other organs of the gastrointestinal tract. Morphology of Barrett's esophagus.	2	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.

4	Precancerous diseases and cervical cancer. Polyps and endocervicosis. Squamous intraepithelial lesions of the cervix, their differential diagnosis. The role of human papilloma virus in their development. Study of biopsy and postoperative material.	2	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
5	Lymphoma. Modern approaches to the concept of "lymphoma". Principles of clinical-morphological and cytogenetic classification. Morphogenesis and pathomorphological characteristics of Hodgkin's lymphoma and the main types of non-Hodgkin's T- and B-cell lymphomas. Diagnostic and prognostic immunohistochemical markers. Differential diagnosis and clinical significance of lymphoma immunophenotyping.	2	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
6	Clinical and morphological features of some systemic connective tissue diseases: rheumatism, systemic lupus erythematosus, rheumatoid arthritis, dermatomyositis. Systemic vasculitis. Classifications, etiology, pathogenesis, pathomorphology, complications, morphological diagnosis of these diseases.	1	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
7	Coronavirus infection. COVID-19. Etiology, epidemiological features, pathogenesis, diagnosis, clinical picture, features of the course and clinical and pathomorphological picture, complications.	3	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
8	Tuberculosis. Epidemiology, etiology, pathogenesis, clinical and pathomorphological classifications, clinical picture, pathomorphological changes. Features of modern tuberculosis.	2	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
9	Pathology of pregnancy. Maternal diseases as a risk factor for pregnancy pathology. Diagnosis of early pregnancy term complication. Preeclampsia. Miscarriage. Pathology of the placenta, the impact of pathological changes in the placenta on fetal development.	1	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.

10	The influence of various factors in the development of the fetus. Classification. Gametopathy, blastopathy, embryopathy. Fetopathy. Critical periods of fetal development. Hereditary metabolic disorders (thesaurismosis). Congenital anomalies in the development of various organs and systems. Childbirth trauma and birth injuries.	2	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
11	Final conclusion class. Credit.	2	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
Total amount of hours		20		

2.2.4. Lab classes

№ з/п	Topic	Amount of hours	Teaching methods	Types of control
1				
2				
	Amount of hours			

2.2.5. Individual self-study of a student

№	Topic	amount of hours	Teaching methods	Types of control
1	Modern problems of clinical pathomorphology. The value of morphological examination of biopsy and surgical material in the diagnosis. The order of taking and sending of material, interpretation of results. Modern methods of lifelong morphological diagnostics in oncomorphology. Research of the latter using the methods of evidence-based medicine. Immunomorphology as one of the modern methods of diagnosis and its importance in the verification of tumors and other pathomorphological processes.	3	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
2	The concept of nodular pathology of the thyroid gland. Morphology of	3	creative discussions, discussions; dialogue	Current control: oral survey;

	nodules of the thyroid gland. Modern methods of preoperative diagnosis of thyroid nodules. Tumors of the thyroid gland.		with students; work with macro- and microspeciemens;	written survey; test control; individual tasks; abstracts; Final control: credit.
3	Morphological diagnosis of gastric diseases by gastrobiopsies. The importance of gastrobiopsy in the diagnosis and determination of the treatment plan for patients with gastric pathology. Types of intestinal metaplasia. Helicobacter pylori-associated gastritis. Methods of morphological detection of Helicobacter pylori. Features of reactive morphological changes of the gastric mucosa in diseases of other organs of the gastrointestinal tract. Morphology of Barrett's esophagus.	3	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
4	Pathology of the female reproductive system. Pathology of the endometrium. Inflammatory diseases of the endometrium. Pathological conditions of the endometrium of dyshormonal nature. Morphological diagnosis of endometrial pathology.	4	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
5	Precancerous diseases and cervical cancer. Polyps and endocervicosis. Squamous intraepithelial lesions of the cervix, their differential diagnosis. The role of human papilloma virus in their development. Study of biopsy and postoperative material.	3	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
6	Pathological morphology of the ovaries. Cystic-proliferative changes of the ovaries. Pathology of the fallopian tubes. Morphological diagnosis of ovarian and fallopian tube pathology.	5	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
7	Lymphoma. Modern approaches to the concept of "lymphoma". Principles of clinical-morphological and cytogenetic classification. Morphogenesis and pathomorphological characteristics of Hodgkin's lymphoma and the main types of non-Hodgkin's T- and	3	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.

	B-cell lymphomas. Diagnostic and prognostic immunohistochemical markers. Differential diagnosis and clinical significance of lymphoma immunophenotyping			
8	Skin pathology. Disorders of melanin metabolism and pathology of melanocytes (freckles, lentigo, melanocyte nevus, dysplastic nevus, melanoma). Benign epithelial tumors (seborrheic keratosis, black acanthosis, fibroepithelial polyp, etc.). Precancerous lesions and malignant epidermal tumors (squamous cell carcinoma, basal cell carcinoma). Tumors of the dermis. Neoplasms of tumor cells that have migrated into the skin. Dermatoses, dermatitis.	4	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
9	Clinical and morphological features of some systemic connective tissue diseases: rheumatism, systemic lupus erythematosus, rheumatoid arthritis, dermatomyositis. Systemic vasculitis. Classifications, etiology, pathogenesis, pathomorphology, complications, morphological diagnosis of these diseases.	3	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
10	Coronavirus infection. COVID-19. Etiology, epidemiological features, pathogenesis, diagnosis, clinical picture, features of the course and clinical and pathomorphological picture, complications.	5	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
11	Influenza. Epidemiology, risk groups, etiology, pathogenesis, clinical picture, pathomorphological changes, complications. Features of the course and pathomorphological picture of influenza caused by new strains of the pathogen.	5	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
12	HIV infection, AIDS caused by HIV infection. Epidemiology, risk groups, etiology, pathogenesis, clinical picture, pathomorphology, complications, causes of death.	5	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.

13	Tuberculosis. Epidemiology, etiology, pathogenesis, clinical and pathomorphological classifications, clinical picture, pathomorphological changes. Features of modern tuberculosis.	3	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
14	Pathology of pregnancy. Maternal diseases as a risk factor for pregnancy pathology. Diagnosis of early pregnancy term complication. Preeclampsia. Miscarriage. Pathology of the placenta, the impact of pathological changes in the placenta on fetal development.	2	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
15	The influence of various factors in the development of the fetus. Classification. Gametopathy, blastopathy, embryopathy. Fetopathy. Critical periods of fetal development. Hereditary metabolic disorders (thesaurismosis). Congenital anomalies in the development of various organs and systems. Childbirth trauma and birth injuries.	3	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
16	Extreme conditions of the body. Definition. Classification. General links of pathogenesis. The difference between extreme states of the body from the terminal. Shock. The concept of shock, etiology and pathogenesis, morphogenesis, stages and types of shock and their morphological manifestations. Collapse, coma. Causes, stages and types of coma. General mechanisms of development and manifestations of coma states. DIC syndrome. Modern ideas about DIC syndrome, patho- and morphogenesis, forms, course, stages of development, clinical manifestations, DIC syndrome in obstetric practice.	4	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
17	Terminal states of the organism. Definition. Mechanisms and stages of development. Resuscitation pathology. The concept of resuscitation pathology, stages of development, diseases of the living organism, causes and mechanisms of their development, principles of	4	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.

	morphological diagnosis. Sudden cardiac death. Modern ideas, causes and mechanisms of development, morphological manifestations of acute heart failure and ventricular fibrillation. Morphological bases and equivalents of arrhythmias.			
18	Pathomorphosis of diseases: causes and types. Natural and therapeutic pathomorphosis. Iatrogenic pathology. The concept of iatrogenic, types and categories of iatrogenic, the procedure for determining iatrogenic and their place in the diagnosis.	3	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
19	Final credit preparation.	5	creative discussions, discussions; dialogue with students; work with macro- and microspeciemens;	Current control: oral survey; written survey; test control; individual tasks; abstracts; Final control: credit.
Total amount of hours		70		

Individual tasks:

Writing of essays, preparing of presentations, making of projects.

3. ASSESSMENT POLICY

3.1. Assessment policy The current learning activities of students are controlled in practical classes in accordance with specific goals and during the individual work of the teacher with students: solving situational problems; structured written works; control of practical skills and abilities.

Assessment of individual self-study of a student:

Assessment of students' individual self-study, which is provided in the topic along with classroom work, is carried out during the current control of the topic in the relevant practical class.

Assessment of topics that are submitted only for individual self-study and are not included in the topics of classroom training, is controlled by the final control.

The final control is carried out upon completion of all topics study in the last practical class of the school year.

Students who have completed all types of work provided in the curriculum and have got amount of points not less than the minimum are allowed to pass the final control.

Assessment of current learning activities

During the assessment of mastering each subject of the discipline and the final lesson the student is graded according to the traditional 4-point system: "excellent", "good", "satisfactory" and "unsatisfactory". Conversion of the average grade for current educational activities in a multi-point scale, for a sectional course, is carried out in accordance with table 1.

Assessment of the final lesson

Current educational activities (hereinafter - CEA) must be conducted during the semester on schedule, during classes.

Admission of CEA is carried out by the teacher of the academic group.

Materials for preparation for CEA software are posted on the information stand and in the course of the Department of Pathological Anatomy in SDN KhNMU Moodle, as:

- list of theoretical questions (including questions on individual self-work);
- list of practical skills;
- list of medical records for the section course;
- criteria for assessing the knowledge and skills of students;
- schedule of students completing missed classes during the semester.

Assessment of CEA:

1. Assessment of the practical skills (assessment criteria - "passed" or "failed");

2. During the assessment of the student's knowledge on theoretical issues included in the lesson the student is given a traditional mark, which is converted into a multi-point scale (table 1).

3. Tasks for practical and professional training that reflect the skills and abilities in the study of certain pathological processes on the issues of the

“Contemporary issues of clinical pathology”, and the peculiarities of filling in medical documents on the organization and operation of the pathology service according to orders of the Ministry of Health. Registration of the autopsy report. During the evaluation of the results of the autopsy and the study of biopsy, which are defined in the list of the working curriculum of disciplines.

Table 1

Recalculation of the average score for current activities in a multi-point scale

4-point scale	200-point scale	4-point scale	200-point scale	4-point scale	200-point scale
5	200	4.22-4,23	169	3.45-3,46	138
4.97-4,99	199	4.19-4,21	168	3.42-3,44	137
4.95-4,96	198	4.17-4,18	167	3.4-3,41	136
4.92-4,94	197	4.14-4,16	166	3.37-3,39	135
4.9-4,91	196	4.12-4,13	165	3.35-3,36	134
4.87-4,89	195	4.09-4,11	164	3.32-3,34	133
4.85-4,86	194	4.07-4,08	163	3.3-3,31	132
4.82-4,84	193	4.04-4,06	162	3.27-3,29	131
4.8-4,81	192	4.02-4,03	161	3.25-3,26	130
4.77-4,79	191	3.99-4,01	160	3.22-3,24	129
4.75-4,76	190	3.97-3,98	159	3.2-3,21	128
4.72-4,74	189	3.94-3,96	158	3.17-3,19	127
4.7-4,71	188	3.92-3,93	157	3.15-3,16	126
4.67-4,69	187	3.89-3,91	156	3.12-3,14	125
4.65-4,66	186	3.87-3,88	155	3.1-3,11	124
4.62-4,64	185	3.84-3,86	154	3.07-3,09	123
4.6-4,61	184	3.82-3,83	153	3.05-3,06	122
4.57-4,59	183	3.79-3,81	152	3.02-3,04	121
4.54-4,56	182	3.77-3,78	151	3-3,01	120
4.52-4,53	181	3.74-3,76	150	**Less 3**	**Not enough**
4.5-4,51	180	3.72-3,73	149		
4.47-4,49	179	3.7-3,71	148		
4.45-4,46	178	3.67-3,69	147		
4.42-4,44	177	3.65-3,66	146		
4.4-4,41	176	3.62-3,64	145		
4.37-4,39	175	3.6-3,61	144		
4.35-4,36	174	3.57-3,59	143		
4.32-4,34	173	3.55-3,56	142		
4.3-4,31	172	3.52-3,54	141		
4,27-4,29	171	3.5-3,51	140		
4.24-4,26	170	3.47-3,49	139		

Mark for the discipline

The maximum amount of points that a student can get for studying a Contemporary issues of clinical pathology is 200 points. The minimum amount of points is 120.

Assessment of individual student tasks

Points for individual tasks (not more than 10) are accrued to the student once only on a commission basis (commission - head of the department, head teacher, group teacher) only if they are successfully completed and defended. The total amount points could not exceed 200 points.

Assessment of Individual self-study of students (ISS):

Assimilation of topics that are submitted only for individual self-work is checked during the final lesson.

Discipline assessment technology

Evaluation of the results of the study of Contemporary issues of clinical pathology is carried out directly during the test. The amount of points is min - 120 to max - 200. The correspondence of points on the 200-point scale, four-point (national) scale and ECTS scale is shown in Table 2.

Table 2

The correspondence of points on the 200-point scale, four-point (national) scale and ECTS scale

200-point scale	ECTS scale	Four-point (national) scale
180–200	A	Excellent
160–179	B	Good
150–159	C	Good
130–149	D	Satisfactory
120–129	E	Satisfactory
Less than 120	F, Fx	Unsatisfactory

Table 4

Criteria for evaluating the results of educational activities of students

Mark	Evaluation criteria
"Excellent"	The student shows special creative abilities, is able to acquire knowledge independently, without the help of the teacher finds and processes the necessary information, is able to use the acquired knowledge and skills for decision-making in unusual situations, convincingly argues answers, independently reveals own talents and inclinations.

"Very good"	The student is fluent in the studied amount of material, applies it in practice, freely solves exercises and problems in standard situations, independently corrects mistakes, the number of which is insignificant
"Good"	The student is able to compare, summarize, systematize information under the guidance of the teacher; as a whole to apply it independently in practice; control their own activities; to correct mistakes, among which there are significant ones, to choose arguments to confirm opinions
"Satisfactory"	The student reproduces a significant part of the theoretical material, shows knowledge and understanding of the basic provisions; with the help of the teacher can analyze the educational material, correct mistakes, among which there are a significant number of significant ones
"Enough"	The student has the study material at a level higher than the initial, a significant part of it is reproduced at the reproductive level
"Unsatisfactory" with the possibility of re-compiling the semester control	The student has the material at the level of individual fragments that constitute a small part of the study material
"Unsatisfactory" with mandatory re-study of credit	The student has the material at the level of elementary recognition and reproduction of individual facts, elements, objects
In particular, criteria for assessing practical skills in disciplines	
"Completed"	The student independently demonstrates the performance of practical skills, admitting some inaccuracies, which he quickly corrects, has theoretical knowledge (knows the method of performing practical skills, indications and contraindications, possible complications, etc.)
"Completed"	The student corresponds to a high (creative) level of competence: the student shows special creative abilities, without errors demonstrates the implementation of practical skills and has systematic theoretical knowledge (knows the methods of practical skills, indications and contraindications, possible complications, etc.) and has ability to make decisions in unusual situations.
"Completed"	The student demonstrates the implementation of practical skills, making some mistakes that can be corrected by their teacher, has satisfactory theoretical knowledge (knows the

	basic principles of methods of practical skills, indications and contraindications, possible complications, etc.).
"Failed"	The student cannot independently demonstrate practical skills (performs them, making gross errors), does not have a sufficient level of theoretical knowledge (does not know the methods of practical skills, indications and contraindications, possible complications, etc.).

The final mark is given only to those students who passed final conclusion.

Those students who haven't fulfilled the requirements of the studying program (curriculum) have got an Fx mark if they were allowed to the credit but did not pass it. A mark F is given to students who are not allowed to pass the credit.

Marks "Fx" or "F" ("unsatisfactory") are given to students who are not credited with the study of the discipline.

After completing the study, the teacher puts the student's "credit" in accordance with the scales in the credit book and fills in the registration form.

Elimination of academic debt (working off).

Missed classes or unsatisfactory marks could be worked off to the teacher of the group or to the duty teacher. All works off and consultations are taken daily from 15:00 to 17:00 and on Saturdays in accordance with the "Regulations on the procedure for students work off" from 07.12.2015 № 415.

3.2. List of questions for credit:

1. Modern methods of morphological examination of biopsy and surgical material, their role in the diagnosis of diseases.
2. The order of collection and direction of the material, interpretation of results.
3. Methods of lifelong morphological diagnosis in oncomorphology.
4. Principles of immunomorphological studies and its importance in the verification of tumors and other pathomorphological processes.
5. Clinical and morphological changes, complications and consequences of systemic connective tissue diseases and systemic vasculitis. Methods of their morphological diagnosis.

6. Morphological manifestations of inflammatory and dyshormonal processes of the endometrium. Morphological diagnosis of endometrial pathology.

7. Morphological manifestations of inflammatory and hormonal processes of the ovaries. Pathology of the fallopian tubes. Morphological diagnosis of ovarian and fallopian tube pathology.

8. Cervical polyps and endocervicosis. Definition, etiology and pathogenesis, pathomorphology, consequences, complications, significance.

9. Squamous intraepithelial lesions of the cervix, their differential diagnosis.

10. The role of human papilloma virus in the development of squamous intraepithelial lesions of the cervix.

11. The value of gastrobiopsy in diagnosis.

12. Types of intestinal metaplasia.

13. Morphological characteristics of Helicobacter pylori-associated gastritis. Methods of morphological detection of Helicobacter pylori.

14. Features of reactive morphological changes of the gastric mucosa in diseases of other organs of the gastrointestinal tract.

15. Barrett's esophagus: morphological characteristics and morphological diagnosis.

16. Morphology of nodules of the thyroid gland.

17. Modern methods of preoperative diagnosis of thyroid nodules.

18. Tumors of the thyroid gland: morphological characteristics and morphological diagnosis.

19. Principles of clinical and morphological and cytogenetic classification of lymphomas.

20. Morphogenesis and pathomorphological characteristics of Hodgkin's lymphoma.

21. Morphogenesis and pathomorphological characteristics of the main types of non-Hodgkin's T- and B-cell lymphomas.

22. Diagnostic and prognostic immunohistochemical markers used in the diagnosis of lymphoma. Differential diagnosis and clinical significance of lymphocyte immunophenotyping.

23. Disorders of melanin metabolism and pathology of melanocytes (freckles, lentigo, melanocyte nevus, dysplastic nevus, melanoma).

24. Benign epithelial tumors (seborrheic keratosis, black acanthosis, fibroepithelial polyp, etc.).

25. Precancerous lesions and malignant epidermal tumors (actinic keratosis, squamous cell carcinoma, basal cell carcinoma).

26. Tumors of the dermis.

27. Neoplasms of tumor cells that have migrated into the skin.

28. Dermatoses, dermatitis.

29. Maternal diseases as a risk factor for pregnancy pathology.

30. Classification, morphological characteristics of preeclampsia.

31. Miscarriage. Definition, etiology and pathogenesis, pathomorphology, consequences, complications, significance.

32. Pathology of the placenta, the impact of pathological changes in the placenta on fetal development.

33. The influence of various factors in the development of the fetus.

34. Morphological manifestations, effects on the fetus and the body of a woman, the consequences of infectious processes in the placenta.

35. Morphological manifestations of gametopathies, blastopathies, embryopathies, fetopathies. Critical periods of fetal development.

36. Hereditary metabolic disorders (thesaurysmosis).

37. Classification and morphology of congenital anomalies of development of various organs and systems.

38. Morphological manifestations of birth trauma and birth injuries.

39. Coronavirus infection. COVID-19. Etiology, epidemiological features, pathogenesis, diagnosis, clinical picture, features of the course and clinical and pathomorphological picture, complications.

40. Morphogenesis, clinical and morphological manifestations, complications, consequences and causes of death from influenza.

41. Pathomorphological features of influenza caused by new strains of the pathogen.

42. Pathogenesis, clinical and morphological manifestations, complications, consequences and causes of death from HIV infection and AIDS caused by HIV infection.

43. Clinical and morphological manifestations and complications of tuberculosis. Features of its modern course.

44. Definition, classification, general links of pathogenesis of extreme conditions of an organism.

45. The difference between extreme states of the body from the terminal.

46. Etiology, pathogenesis and morphological manifestations of shock.

47. Etiology, pathogenesis and morphological manifestations of collapse.

48. Etiology, pathogenesis and morphological manifestations of coma.

49. Terminal states of the organism: definitions, mechanisms and stages of development.

50. Pathology of resuscitation: concepts, stages of development.

51. Diseases of the living organism, causes and mechanisms of their development, principles of morphological diagnosis.

52. Etiology, pathogenesis and morphological manifestations of DIC syndrome.

53. ICE syndrome in obstetric practice.

54. Causes and mechanisms of development, morphological manifestations of sudden cardiac death.

55. Morphological bases and equivalents of arrhythmias.

56. Pathomorphosis of diseases: causes and types. Natural and therapeutic pathomorphosis.

57. Iatrogenic pathology. The concept of iatrogenia, types and categories of iatrogenia

3.5. Rules for appealing the assessment

OD is announced to the applicant immediately after the final lesson. If the applicant does not agree with the assessment, he can announce it to the teacher of the academic group. In this case, the applicant has the opportunity to re-take the test of the

commission, consisting of the head of the department, head teacher and lecturer of the academic group.

4. DISCIPLINE POLICY:

Students are required to systematically master the theoretical knowledge and practical skills provided by the curriculum of the discipline; always have a neat appearance (lab coat, medical cap); turn off mobile devices during practical classes; comply with the rules of procedure of KhNMU.

During classes it is allowed: to leave the classroom for a short time if necessary and with the permission of the teacher; drink soft drinks; take photos of presentation slides; take an active part in the class; it is forbidden: to eat (except for persons whose special medical condition requires another – in this case medical confirmation is required); smoking, drinking alcohol and even low-alcohol drinks or drugs; to use obscene language or use words that offend the honour and dignity of colleagues and faculty; gamble; to damage the material and technical equipment of the university (damage inventory, equipment; furniture, walls, floors, litter the premises and territories); shouting, listening to loud music in classrooms and even in halls of the department during classes. Students are not allowed to be late for practical classes and lectures. Practical classes involve active participation in the discussion in the classroom, students should be ready to understand the material in detail, ask questions, express their opinion, discuss. During the discussion are important: respect for colleagues, tolerance for others and their experience, receptivity and impartiality, the ability to disagree with the opinion, but to respect the personality of the opponent, careful argumentation of his opinion and the courage to change their position under the influence of evidence, self-expression avoids unnecessary generalizations, describes his feelings and formulates his wishes based on their own thoughts and emotions, mandatory acquaintance with the original sources. A creative approach in its various manifestations is welcome. Students are expected to be interested in participating in local, national and international conferences,

competitions and other events in the subject profile. Attendance of practical classes and lectures is compulsory.

During the practical class, the group monitor appoints the student-on-duty, who must provide the group with microscopes and microspeciemens according to the lesson topic and is responsible for cleanliness and order in the classroom and storage of equipment, micro- and macrospeciemens.

During the control of students' knowledge cheating is forbidden, use of cellphones or other electronic devices, various software, use of hints.

Students with special needs must warn the teacher before the start of classes, at the request of the student it can be done by the monitor of the group. If a student has any questions, he can always solve it first of all with the teacher or head of the department, if necessary.

Occupational Health:

The first lesson of the course will explain the basic principles of labor protection by conducting appropriate training. It is expected that everyone should know where the nearest evacuation exit is, where the fire extinguisher is, how to use it, etc.

Plagiarism and academic integrity:

The Department of Pathological Anatomy maintains zero tolerance for plagiarism. Male and female students are expected to constantly raise their awareness of academic writing. The first lessons will provide information on what to consider plagiarism and how to properly conduct research and scientific research.

5. ACADEMIC INTEGRITY

During the control of students' knowledge, writing, use of various software, tips, use of mobile phones or other electronic devices are not allowed.

The Department of Pathological Anatomy maintains zero tolerance for plagiarism. Students are expected to constantly raise their awareness of academic writing. The first lessons will provide information on what to consider plagiarism and how to properly conduct research and scientific research.

6. SUGGESTED TEXT-BOOKS:

1. Dabbs D.J. Diagnostic immunohistochemistry. – Churchill Livingstone, 2006. – 828p.
2. Feller A.C., Diebold J. Histopathology of nodal and extranodal non Hodgkin's lymphomas. Based on the WHO classification. 3rd completely rev. and updated ed. Berlin; New York: Springer; 2004. – 428 p.
3. Knowles D.M. Neoplastic hematopathology. 2nd ed. Philadelphia: Lippincott Williams & Wilkins; 2001. 1957 p.
4. Pathology and Genetics of Tumors of Endocrine Organs. Ed. by R.A. DeLellis, R.V. Lloyd, Ph.U. Heitz, Ch. Eng. – IARCPress. – Lyon, 2004. – 320 p
5. Pathomorphology: textbook / I.V. Sorokina, V.D. Markovskyi, D.I. Halata et al. ; edited by I.V. Sorokina, V.D. Markovskyi, D.I. Halata. – Kyiv : AUS Medicine publishing, 2019. – 320 p. + 2 colour inserts (8p. + 12 p.).
6. Robbins & Cotran Pathologic Basis of Disease, 10th Edition / Elsevier, 2017. – 952 p.
7. Oral and Maxillofacial Pathology / Brad W. Neville & Douglas D. Damm & Carl M. Allen & Angela C. Chi / Elsevier, - 2015. - 928 p
8. Oral Pathology: Clinical Pathologic Correlations, 6th Edition / Joseph A. Regezi & James J. Sciubba / 2016. - 492 p.
9. Textbook of Pathology Harsh Mohan // Jaypee Brothers Medical Publishers (P) Ltd. – India, 2010. – 933 p.
10. Anderson's Pathology / Edited by John M. Kissane. The C.V. Mosby Company. – Toronto – Philadelphia, 1990. –2196 p.