

SYLLABUS

1. General information on the course

Full course name	Sectional Course
Full official name of a higher education institution	Sumy State University
Full name of a structural unit	Academic and Research Medical Institute. Кафедра патологічної анатомії
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Cycle/higher education level	The Second Level Of Higher Education, National Qualifications Framework Of Ukraine – The 7th Level, QF-LLL – The 7th Level, FQ-EHEA – The Second Cycle
Duration	one semester
Workload	5 ECTS, 150 hours. For full-time course 50 hours are working hours with the lecturer (50 hours of seminars), 100 hours of the individual study.
Language(s)	English

2. Place in the study programme

Relation to curriculum	Elective course available for study programme "Medicine"
Prerequisites	Clinical Anatomy and Surgery, Pathophysiology, Pathomorphology, Clinical disciplines
Additional requirements	There are no specific requirements
Restrictions	There are no specific restrictions

3. Aims of the course

Study of the practical aspect of the work of a pathologist, organizational issues and structure of pathological service.

4. Contents

Topic 1 Development of pathological anatomy in Ukraine. The structure, tasks and functions of the pathological service of Ukraine and its place in the health care system.
Topic 2 Organization of the work of the pathological institution. Organization of work of pathological institution (bureau, center, laboratory, department). Recommended staffing standards for medical staff of pathological institutions and their branches.

<p>Topic 3 Basic requirements for premises and labor protection, safety at work in the pathological institutions (subdivisions).</p> <p>Basic requirements for premises and labor protection, safety at work in the pathological institutions (subdivisions). Requirements for the territory, planning and equipment of the pathological institutions, bureaus, departments.</p>
<p>Topic 4 Requirements for work in the pathological institutions.</p> <p>Requirements for work in the pathological institutions (general requirements, general rules of conduct in the section hall, cutting of operative-biopsy and section materials, work in the pathohistological laboratories).</p>
<p>Topic 5 Material and technical equipment of pathology institutions (subdivisions).</p> <p>Material and technical equipment of pathological anatomical institutions (subdivisions) (apparatus and devices, medical instruments, medical furniture and equipment, dishes, sets of reagents, etc, other subjects).</p>
<p>Topic 6 Bioethical aspects of autopsy research.</p> <p>Bioethical aspects of autopsy research. Informational and licensing documents. Rules for selecting material for scientific research and publication results. Biobanking and aspects of transplantology.</p>
<p>Topic 7 Autopsy of the deceased.</p> <p>Procedure and methods of autopsy in the stationary treatment-and-prophylactic institutions.</p>
<p>Topic 8 Pathological diagnosis.</p> <p>Structure and construction of pathological diagnosis (sections, variants of the main disease: competing, combined, background). Categories of differences between clinical and pathological diagnoses.</p>
<p>Topic 9 Autopsy logging.</p> <p>Autopsy logging. Autopsy card of the pathological examination (parts, order, filling).</p>
<p>Topic 10 Clinical and pathological epicrisis.</p> <p>Clinical and pathological epicrisis. The main issues to be reflected in the epicrisis.</p>
<p>Topic 11 Medical death certificate.</p> <p>Medical certificate of death (order of filling, main points). International classification of diseases.</p>
<p>Topic 12 Autopsy of the deceased from diseases of therapeutic profile.</p> <p>Autopsy of the deceased from ailments of a therapeutic profile. Provisions on pathological research of the deceased in the case of death from ailments of a therapeutic profile. Features conducting pathological autopsies of people who died from cardiovascular diseases and respiratory systems.</p>
<p>Topic 13 Autopsy of the deceased from diseases of therapeutic profile.</p> <p>Peculiarities of conducting pathological autopsies of people who died from diseases gastrointestinal tract and hepatobiliary system.</p>

<p>Topic 14 Autopsy of the deceased from diseases of therapeutic profile.</p> <p>Peculiarities of conducting pathological autopsies of people who died from central nervous system diseases.</p>
<p>Topic 15 Features of the pathological examination in case of death from the disease of infectious pathology.</p> <p>Features of the pathological examination in case of death from the disease infectious pathology. Anti-plague suit. Selection of material for laboratory research in death from the particularly dangerous infections.</p>
<p>Topic 16 Autopsy of the deceased from the surgical pathology.</p> <p>Features and methods of autopsy and registration of pathological documentation in cases of death associated with surgical pathology. Death associated with operational and resuscitation manipulations.</p>
<p>Topic 17 Autopsy of the deceased from the obstetric and gynecological pathology.</p> <p>Features and methods of autopsy and registration of pathological documentation in cases of death associated with obstetric and gynecological pathology. Death associated with operational and resuscitation manipulations. Rules and requirements for parturients' autopsy.</p>
<p>Topic 18 Autopsy of a deceased child.</p> <p>Autopsy of a deceased child. Features of clinical and anatomical analysis and instructions for autopsies in pediatric practice.</p>
<p>Topic 19 Medical Advisory Commission.</p> <p>The role of pathological service in monitoring the quality of medical preventive work.</p>
<p>Topic 20 Clinical and pathological conference.</p> <p>The main tasks of the clinical and pathological conference. The order of organization and conduct clinical and pathological conferences in treatment and prevention facilities.</p>
<p>Topic 21 Peculiarities of conducting a pathological examination in military conditions time.</p> <p>Peculiarities of conducting a pathological examination in wartime conditions. Transportation of the dead. Accompanying documentation.</p>
<p>Topic 22 Molecular genetic methods in autopsy.</p> <p>Molecular genetic methods in autopsy. Identification of residues. The concept of exhumation.</p>
<p>Topic 23 Methods of biopsy examination of the material.</p> <p>The main provisions of biopsy in hospitals. Basic rules of preparation surgical and biopsy materials for histological and cytological examinations. Rating results of biopsy examination in various pathological processes.</p>
<p>Topic 24 Peculiarities of disposal of biological waste.</p> <p>Peculiarities of biological waste disposal in Ukraine. Normative base. Sorting contaminated materials.</p>

Topic 25 Final control class: differential credit.

Final control class: differential credit.

5. Intended learning outcomes of the course

After successful study of the course, the student will be able to:

LO1	Develop and consolidate theoretical knowledge by solving situational problems on the holding of pathological services, autopsies, formation of pathological diagnosis and filling of death certificates.
LO2	Participate in autopsies, adhering to the relevant ethical and legal norms, to form pathological diagnoses and prescribe medical death certificates.
LO3	Carry out a comparative characterization of clinical and pathological diagnoses. Know the categories of discrepancies in diagnoses.
LO4	Master the basic provisions for the organization of medical and control commissions (MCC) and holding pathological conferences.
LO5	Get acquainted with the research of surgical and biopsy material in pathological departments. Be able to solve complex problems and problems that arise in professional activities. Be able to apply the acquired knowledge in practical situations in the differential diagnosis of diseases.

7. Soft Skills

SS1	Ability to analyze, evaluate and objectively interpret information, make informed judgments and solve complex problems through logical reasoning and evidence-based decision-making (critical thinking).
SS2	Determination and persistence in relation to assigned tasks and assumed responsibilities.
SS3	The ability to be critical and self-critical.
SS4	Ability to identify, pose and solve problems.
SS5	Ability to act on the basis of ethical considerations (motives).
SS6	Ability to abstract thinking, analysis and synthesis.
SS7	Ability to adapt and act in a new situation.
SS8	The ability to learn throughout life (the pursuit of permanent personal and professional development, active search for new knowledge, acquisition of new ones skills and adaptation to new trends and technologies).
SS9	Ability to evaluate and ensure the quality of the work performed.
SS10	The ability to perceive changes, quickly adapt to new situations and demonstrate resilience in the face of uncertainty and new workers requirements (adaptability and flexibility).

8. Teaching and learning activities

Topic 1. Development of pathological anatomy in Ukraine.

<p>pr.tr.1 "Development of Pathology in Ukraine." (full-time course)</p> <p>The structure, tasks and functions of the pathological service of Ukraine and its place in the health care system. The study of this topic involves theoretical work in the classroom, discussion on functions of pathological service. Acquaintance with normative documents pathological bureaus (centers) and pathological departments.</p>
<p>Topic 2. Organization of the work of the pathological institution.</p>
<p>pr.tr.2 "Organization of the pathological institution." (full-time course)</p> <p>Organization of work of pathological institution (bureau, center, laboratory, department). Recommended staffing standards for medical staff of pathological institutions and subdivisions. The study of this topic involves theoretical work in the classroom. In addition, in case of no quarantine restrictions this course involves work in section hall (acquaintance with the practical activities of the pathologist at the present stage and basic methods of postmortem and lifelong diagnosis of diseases (according to the agreement on co-operation between the medical institution and the university).</p>
<p>Topic 3. Basic requirements for premises and labor protection, safety at work in the pathological institutions (subdivisions).</p>
<p>pr.tr.3 "Basic requirements for premises and labor protection and safety at work in pathological institutions (subdivisions)." (full-time course)</p> <p>Basic requirements for premises and labor protection and safety at work in pathological institutions (subdivisions). Requirements for the territory, planning and equipment of pathological institutions, bureaus, departments. The course on this topic involves theoretical work in the classroom (acquaintance with the requirements and basic regulations and documents). In case of no quarantine restrictions - work in pathological department: acquaintance with the premises and property of the pathological institution (according to the agreement on cooperation between the medical institution and the university).</p>
<p>Topic 4. Requirements for work in the pathological institutions.</p>
<p>pr.tr.4 "Requirements for work in pathological institutions." (full-time course)</p> <p>Requirements for work in pathological institutions (general requirements, general rules of conduct in the section hall, cutting of operative-biopsy and section materials, work in the pathohistological laboratory). The course on this topic involves theoretical work in the classroom, in case of no quarantine restrictions - attending the clipping postoperative material and pathohistological laboratory (according to the agreement on cooperation between the medical institution or university).</p>
<p>Topic 5. Material and technical equipment of pathology institutions (subdivisions).</p>

pr.tr.5 "Material and technical equipment of the pathological institutions (subdivisions)." (full-time course)

Exemplary report card of material and technical equipment of pathological anatomical institutions (subdivisions) (devices, medical instruments, medical furniture and equipment, ware, sets of reagents and other subjects). The course on this topic involves theoretical work in the classroom, application of virtual simulation (watching movies on the topic), followed by discussion. In case of no quarantine restrictions attending the histopathology department and acquaintance with material and technical equipment (according to the agreement on cooperation between the medical institution and university).

Topic 6. Bioethical aspects of autopsy research.

pr.tr.6 "Bioethical aspects of autopsy research." (full-time course)

Bioethical aspects of autopsy research. Informational and licensing documents. Rules for selecting material for scientific research and publication results. Biobanking and aspects of transplantology. The study of this topic involves theoretical work in the classroom, application of virtual simulation (view films on the topic of the lesson), with further discussion.

Topic 7. Autopsy of the deceased.

pr.tr.7 "Autopsy of the deceased." (full-time course)

Procedure and methods of autopsy in stationary medical institutions. The course on this topic involves theoretical work in the classroom, application virtual simulation (watching movies on the topic), followed by discussion. In case of no quarantine restrictions work in the section hall (according to the agreement on cooperation between the medical institution and university).

Topic 8. Pathological diagnosis.

pr.tr.8 "Pathological diagnosis." (full-time course)

Structure and construction of pathological diagnosis (sections, variants of the main disease: competing, combined, background). Categories of differences between clinical and pathological diagnoses. The course on this topic involves theoretical work in the classroom with discussion of situational tasks. In case of no quarantine restrictions, work in the section hall with the subsequent formulation of the pathological diagnosis (according to the cooperation agreement between the medical institution and the university).

Topic 9. Autopsy logging.

pr.tr.9 "Autopsy logging." (full-time course)

Report card of pathological examination (parts, filling procedure). The course on this topic involves theoretical work in the classroom. In case of no quarantine restrictions - work in the section hall with the subsequent filling of the autopsy protocol (according to the agreement on cooperation between the medical institution and the university).

Topic 10. Clinical and pathological epicrisis.

<p>pr.tr.10 "Clinical and pathological epicrisis." (full-time course)</p> <p>Clinical and pathological epicrisis. The main issues to be reflected in epicrisis. The course on this topic involves theoretical work in the classroom with discussion of situational tasks. In case of no quarantine restrictions - work in the section hall with the following filling a clinical and pathological epicrisis (according to the cooperation agreement between the medical institution and university).</p>
Topic 11. Medical death certificate.
<p>pr.tr.11 "Medical death certificate." (full-time course)</p> <p>Medical death certificate (order of completion, main points). International classification of diseases. The course on this topic involves theoretical work in the classroom with discussion of situational tasks. In case of no quarantine restrictions - work in the section hall with subsequent filling of a medical death certificate (according to the cooperation agreement between the medical institution and university).</p>
Topic 12. Autopsy of the deceased from diseases of therapeutic profile.
<p>pr.tr.12 "Autopsy of the deceased from diseases of therapeutic profile." (full-time course)</p> <p>Autopsy of the deceased from ailments of a therapeutic profile. Provisions on pathological research of the deceased in the case of death from ailments of a therapeutic profile. Features conducting pathological autopsies of people who died from cardiovascular diseases and respiratory systems. The course on this topic involves theoretical work in the classroom, application of virtual simulation (watching movies on the topic), followed by discussion and formulation of the diagnosis and medical death certificate. Solving situational tasks. In case of no quarantine restrictions - work in the section hall (according to the agreement on cooperation between the medical institution and the university).</p>
Topic 13. Autopsy of the deceased from diseases of therapeutic profile.
<p>pr.tr.13 "Autopsy of the deceased from diseases of therapeutic profile." (full-time course)</p> <p>Peculiarities of conducting pathological autopsies of people who died from diseases gastrointestinal tract and hepatobiliary system. The course on this topic involves theoretical work in the classroom, application of virtual simulation (watching movies on the topic), followed by discussion and formulation of the diagnosis and medical death certificate. Solving situational tasks. In case of no quarantine restrictions - work in the section hall (according to the agreement on cooperation between the medical institution and the university).</p>
Topic 14. Autopsy of the deceased from diseases of therapeutic profile.
<p>pr.tr.14 "Autopsy of the deceased from diseases of therapeutic profile." (full-time course)</p> <p>Peculiarities of conducting pathological autopsies of people who died from central nervous system diseases. The course on this topic involves theoretical work in the classroom, application of virtual simulation (watching movies on the topic), followed by discussion and formulation of the diagnosis and medical death certificate. Solving situational tasks. In case of no quarantine restrictions - work in the section hall (according to the agreement on cooperation between the medical institution and the university).</p>
Topic 15. Features of the pathological examination in case of death from the disease of infectious pathology.

pr.tr.15 "Features of the pathological examination in case of death from the disease of infectious pathology." (full-time course)

Features of pathological examination in case of death from disease infectious pathology. Anti-plague suit. Selection of material for laboratory research in case of death from particularly dangerous infections. The course on this topic involves theoretical work in the classroom, the use of virtual simulation (watching movies on the topic), followed by discussion and formulation of the diagnosis and medical certificate of death. Solving situational problems.

Topic 16. Autopsy of the deceased from the surgical pathology.

pr.tr.16 "Autopsy of the deceased from the surgical pathology." (full-time course)

Features and methods of autopsy and registration of pathological documentation in cases of death associated with the surgical pathology. Death associated with operational and resuscitation manipulations. The course on this topic involves theoretical work in the classroom, application virtual simulation (watching movies on the topic), followed by discussion and representing of the diagnosis and medical certificate of death. Solving situational problems. In case of no quarantine restrictions - work in the section hall (according to the agreement on cooperation between the medical institution and university).

Topic 17. Autopsy of the deceased from the obstetric and gynecological pathology.

pr.tr.17 "Autopsy of the deceased from the obstetric and gynecological pathology." (full-time course)

Features and methods of autopsy and registration of pathological documentation in cases of death associated with the obstetric and gynecological pathology. Death associated with operational and resuscitation manipulations. Rules and requirements for parturients' autopsy. The course on this topic involves theoretical work in the classroom, application virtual simulation (watching movies on the topic), followed by discussion and representing of the diagnosis and medical certificate of death. Solving situational problems. In case of no quarantine restrictions - work in the section hall (according to the agreement on cooperation between the medical institution and university).

Topic 18. Autopsy of a deceased child.

pr.tr.18 "Autopsy of a deceased child." (full-time course)

Autopsy of a deceased child. Features of clinical and anatomical analysis and organization of autopsies in pediatric practice. The course on this topic involves theoretical work in the classroom, application of virtual simulation (watching movies on the topic), followed by discussion and formulation of the diagnosis and medical certificate of death. Solving situational tasks.

Topic 19. Medical Advisory Commission.

pr.tr.19 "Medical Advisory Commission." (full-time course)

The role of pathological service in quality control of treatment and prevention work. The course on this topic involves theoretical work in the classroom, role-playing games (conducting a medical advisory commission and discussing most interesting cases).

Topic 20. Clinical and pathological conference.

<p>pr.tr.20 "Clinical and pathological conference." (full-time course)</p> <p>The main tasks of the clinical and pathological conference. The procedure of holding and conduct clinical and pathological conferences in treatment-and-prophylactic institutions. Topic involves theoretical work in the classroom, role-playing games (conducting clinical and pathological conference and discussion of the most interesting cases).</p>
<p>Topic 21. Peculiarities of conducting a pathological examination in military conditions time.</p>
<p>pr.tr.21 "Peculiarities of conducting a pathological examination in military conditions time." (full-time course)</p> <p>Peculiarities of conducting a pathological examination in wartime conditions. Transportation of the dead. Accompanying documentation. The study of this topic involves theoretical work in the classroom, application of virtual simulation (view films on the topic of the class), followed by a discussion of the specifics of the event pathological examination in wartime conditions. Solving situational tasks.</p>
<p>Topic 22. Molecular genetic methods in autopsy.</p>
<p>pr.tr.22 "Molecular genetic methods in autopsy." (full-time course)</p> <p>Molecular genetic methods in autopsy. Identification of residues. The concept of exhumation. The study of this topic involves theoretical work in the classroom with discussion situational tasks.</p>
<p>Topic 23. Methods of biopsy examination of the material.</p>
<p>pr.tr.23 "Methods of biopsy examination of the material." (full-time course)</p> <p>The main provisions of biopsy in hospitals. Basic rules of preparation surgical and biopsy materials for histological and cytological research. Rating results of biopsy research in various pathological processes. The course on this topic involves theoretical work in the classroom, in case of no quarantine restrictions attend the excerpt of biopsy material (according to the agreement on cooperation between the medical institution and university).</p>
<p>Topic 24. Peculiarities of disposal of biological waste.</p>
<p>pr.tr.24 "Peculiarities of disposal of biological waste." (full-time course)</p> <p>Peculiarities of biological waste disposal in Ukraine. Normative base. Sorting contaminated materials. The study of this topic involves theoretical work in the classroom with discussion of situational tasks.</p>
<p>Topic 25. Final control class: differential credit.</p>
<p>pr.tr.25 "Final control class: differential credit." (full-time course)</p> <p>Final control class: differential credit.</p>

9. Teaching methods

9.1 Teaching methods

Course involves learning through:

TM1	Case-based learning (CBL)
TM2	Team-based learning (TBL)
TM3	Research-based learning (RBL)
TM4	Case-study
TM5	Brain storm
TM6	Demonstration
TM7	Electronic learning
TM8	Self-study

The discipline is taught using modern teaching methods (CBL, TBL), lectures-visualizations, problem lectures, seminars, practical demonstrations., which contribute not only to the development of professional abilities, but also stimulate creative and scientific ones activity.

The discipline ensures that students master the following soft skills: GC 1. Ability analyze, evaluate and objectively interpret information, make reasonable judgment and solve complex problems through reasoning and acceptance decisions based on evidence (critical thinking). GC 2. Determination and perseverance in relation to assigned tasks and assumed responsibilities. GC 3. The ability to be critical and self-critical. GC 4. Ability to identify, pose and solve problems. GC 5. Ability to act on the basis ethical considerations (motives). GC 6. Ability to abstract thinking, analysis and synthesis. GC 7. Ability to adapt and act in a new situation. GC 8. Ability to study continuously life (pursuit of constant personal and professional development, active search for new knowledge, acquisition of new skills and adaptation to new trends and technologies). GC 9. Ability evaluate and ensure the quality of the work performed.

9.2 Learning activities

LA1	E-learning in systems (Zoom, MIX.sumdu.edu.ua)
LA2	Self-training
LA3	Preparation for practical classes
LA4	Discussion of cases
LA5	Solving situational tasks
LA6	Interpretation of macro- and microscopic changes of postoperative and biopsy material
LA7	Practice of practical skills in the section hall
LA8	Participation in the discussion (in groups and pairs)
LA9	Work with textbooks and relevant information sources
LA10	Watching movies on the topic
LA11	Individual research project (student research work, article, thesis, etc.)
LA12	Preparation for certification

10. Methods and criteria for assessment

10.1. Assessment criteria

Definition	National scale	Rating scale
Outstanding performance without errors	5 (Excellent)	$170 \leq RD \leq 200$
Above the average standard but with minor errors	4 (Good)	$164 \leq RD < 169$
	4 (Good)	$140 \leq RD < 163$
Fair but with significant shortcomings	3 (Satisfactory)	$127 \leq RD < 139$
	3 (Satisfactory)	$120 \leq RD < 126$
Fail – some more work required before the credit can be awarded	2 (Fail)	$70 \leq RD < 119$
	2 (Fail)	$0 \leq RD < 69$

10.2 Formative assessment

	Description	Deadline, weeks	Feedback
FA1 Peer assessment	Partnership interaction aimed at improving the results of educational activities by comparing one's own current level of success with previous indicators. Provides an opportunity to analyze one's own educational activities	During the entire period of studying the discipline	Adjustment of approaches to learning together with students, taking into account the results of the assessment
FA2 Computer testing	A method of effective verification of the level of assimilation of knowledge, abilities and skills from each subject of an educational discipline. Testing allows you to check the assimilation of educational material from each subject.	During the entire period of studying the discipline	The student must provide 60% of the correct answers, which is an admission to the practical part
FA3 Interview and verbal comments of the lecturer according to its results	It provides an opportunity to identify the state of educational experience acquired by students in accordance with the set goals, to find out the prerequisites of the state of formation of the obtained results, the causes of difficulties, to adjust the learning process, to track the dynamics of the formation of learning results and to forecast their development.	During the entire period of studying the discipline	According to the obtained data on the results of training, based on their analysis, it is proposed to determine the evaluation as an indicator of the achievements of the educational activities of the applicants

FA4 Solving situational tasks (formulation of pathological diagnosis and medical death certificate)	Checking the level of knowledge acquisition, the ability to interpret changes in internal organs in histological preparations from each topic of the educational discipline	During the entire period of studying the discipline	According to the obtained data on the results of training, based on their analysis, it is proposed to determine the evaluation as an indicator of the achievements of the educational activities of the applicants
FA5 Defence of an individual research project (speech at the conference)	The guidelines reveal the methods of pedagogical control over the professional activities of applicants. Efficiency is determined by compliance with all stages of practical tasks. The effectiveness of the formation of the necessary practical skills and abilities depends on the level of formation of practical competence.	During the entire period of studying the discipline	Teacher's oral comments. The student is given additional incentive points (from 5 to 10), depending on the type of research project
FA6 Teacher's admonishments during performing practical tasks.	Practicing practical skills in the classroom.	During the entire period of study.	At the last lesson, the student must successfully perform practical skills

10.3 Summative assessment

	Description	Deadline, weeks	Feedback
SA1 Survey on the topic of practical class, solving clinical cases and situational tasks with formulation of pathological diagnosis and medical death certificate	It includes an oral survey, interpretation of macro- and microscopic changes in internal organs, solving clinical individual and group cases, current testing. Students who are involved in research activities have the opportunity to present the results of their own research at conferences, student research competitions, etc. (incentive activities, additional points).	During the entire period of studying the discipline	It is held at every lesson. The performance result affects the comprehensive assessment for the practical session

SA2 Testing	A method of effective verification of the level of assimilation of knowledge, abilities and skills in an educational discipline. Testing allows you to check the learning results during the cycle and determine the level of knowledge at the end of the discipline	Final computer test at the end of the course (20 points)	It is an admission to the preparation of the credit
SA3 Assessment implementation practical skills.	Comprehensive practice practice component of programs of educational disciplines. Provides an opportunity to master skills (histomorphological examination of tissue internal organs).	On to the last occupation with discipline the student has successfully to fold list practical skillf	There is mandatory for admission to credit
SA4 Final control: differential credit	Compilation of differentiated assessment. Applicants who have successfully mastered the material from the discipline, passed practical skills and final computer testing are allowed to take the test.	According to the schedule	the miner can get 80 points for credit. The minimum number of points a student must receive is 48 points

Form of assessment:

	Points	Можливість перескладання з метою підвищення оцінки
The first semester of teaching	200 scores	
SA1. Survey on the topic of practical class, solving clinical cases and situational tasks with formulation of pathological diagnosis and medical death certificate	80	
	80	No
SA2. Testing	20	
	20	No
SA3. Assessment implementation practical skills.	20	
	20	No
SA4. Final control: differential credit	80	
Assessment implementation practical skills 20 points, Final computer testing 20 points, Interpretation of the results of the histological conclusion operative and biopsy material 20 points, Assessment of the level of theoretical training- 20 points.	80	No

During the course, a student is awarded a maximum of 5 points for each practical class (the grade is set in the traditional 4-point grading system). The maximum number of points for the current

educational activities of the student – 120 points (survey on the topic of the practical class, solving clinical cases and situational tasks – 80 points, testing – 40 points). A student is admitted to the module if he has fulfilled the conditions of the curriculum and if for the current educational activity he scored at least 72 points. The final module control is carried out according to the schedule at the last class. The final module control includes testing of theoretical knowledge - 30 points, solving clinical cases with the formulation of pathological diagnosis – 20 points, medical death certificate - 10 points, computer test – 10 points, formulation of the histological conclusion of biopsy material – 10 points. The credit is credited to the student if he scored at least 48 points out of 80. Additional points are added to the grade for the discipline for the implementation of an individual research project (defense of an individual research project – 12 points, speech at the conference – 5 points, poster report at the conference – 4 points, thesis work – 3 points). The total score in the discipline may not exceed 200 points.

11. Learning resources

11.1 Material and technical support

MTS1	Information and communication systems
MTS2	Library funds
MTS3	Medical facilities / premises and equipment (section halls of Sumy Regional Hospital, premises for in vivo examination of postoperative material, macropreparations of samples of internal organs, histological preparations, etc. pathohistological laboratory)
MTS4	Computers, computer systems and networks
MTS5	Laboratory equipment (microscopes, the device for the automated painting of samples, microtomes, medical equipment, etc.)
MTS6	Multimedia, video and audio reproduction, projection equipment (video cameras, projectors, screens, smart boards, etc.)
MTS7	Software (to support distance learning: training materials "Lectur.ED", training platform "MIX")
MTS8	Sumy Regional Hospital

11.2 Information and methodical support

Essential Reading	
1	Fundamentals of pathology according to Robinson: translation of the 10th English edition: in 2 vols. Vol. 1 / Viney Kumar, Abul K. Abbas, John K. Aster .; Edited by prof. I. Sorokin, S. Gichko, I. Davydenko. - K.: BCB «Medicine», 2019. - XII, 420 p.
2	Fundamentals of pathology according to Robinson: translation of the 10th English edition: in 2 vols. Vol. 2 / Viney Kumar, Abul K. Abbas, John K. Aster .; Edited by prof. I. Sorokin, S. Gichko, I. Davydenko. - K.: BCB «Medicine», 2020. - XII, 532 p.

3	Device for histological and histochemical staining of samples. Patent 144872 U Ukraine, IPC G01N 1/30 (2006.01) G01N 1/31 (2006.01). [Text] / YV Kuzenko, AM Romaniuk, MS Skidanenko, and others; applicant and patent owner of SSU. - № u202003
Supplemental Reading	
1	Pathomorphology and histology: atlas / ed .: D.D. Zerbino, M.M. Bagria, Y.Y. Bodnara, V.A. Dibrovi. - Vinnytsia: Nova Kniga, 2016. - 800 p.
2	Bodnar Ya., Romaniuk A., Voloshyn V., Gargin V. Essentials of pathology. / Ya. Bodnar, A. Romaniuk, V. Voloshyn, V. Gargin. – Kharkiv: Planeta-Print, 2020. – 216 p.