

# SYLLABUS

## 1. General information on the course

<b>Full course name</b>	Sectional Course
<b>Full official name of a higher education institution</b>	Sumy State University
<b>Full name of a structural unit</b>	Medical Institute. Department of Pathology
<b>Author(s)</b>	Hyriavenko Nataliia Ivanivna
<b>Cycle/higher education level</b>	The Second Level Of Higher Education, National Qualifications Framework Of Ukraine – The 7th Level, QF-LLL – The 7th Level, FQ-EHEA – The Second Cycle
<b>Semester</b>	1 week during the 9th or 10th semester
<b>Workload</b>	The content of the discipline is 5 credits ECTS, 150 academic hours, of which 36 hours is contact work with a lecturer (36 hours of practical classes), 114 hours is individual studying
<b>Language(s)</b>	English

## 2. Place in the study programme

<b>Relation to curriculum</b>	Elective course available for study programme "Medicine"
<b>Prerequisites</b>	Clinical Anatomy and Surgery, Pathophysiology, Pathomorphology, Clinical disciplines
<b>Additional requirements</b>	There are no specific requirements
<b>Restrictions</b>	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 Exemplary report card of material and technical equipment of the pathological institutions (subdivisions).</p> <p>Exemplary report card of material and technical equipment of the pathological institutions (subdivisions)(devices and medical instruments, medical furniture and equipment, ware, sets of reagents and other items).</p>
<p>Topic 6 Autopsy of the deceased.</p> <p>Procedure and methods of autopsy in the stationary treatment-and-prophylactic institutions</p>
<p>Topic 7 Autopsy logging.</p> <p>Autopsy logging. Autopsy card of the pathological examination (parts, order, filling).</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 Clinical and pathological epicrisis.</p> <p>Clinical and pathological epicrisis. The main issues to be reflected in the epicrisis.</p>
<p>Topic 10 Medical death certificate.</p> <p>Medical certificate of death (order of filling, main points). International classification of diseases.</p>
<p>Topic 11 Autopsy of the deceased from diseases of therapeutic profile.</p> <p>Regulations on the pathological examination of the deceased in case of death from the disease of therapeutic profile.</p>
<p>Topic 12 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 13 Autopsy of the deceased from the surgical or obstetric and gynecological pathology.</p> <p>Features and methods of autopsy and registration of pathological documentation in cases of death associated with surgical and obstetric and gynecological pathology and resuscitation manipulations. Rules and requirements for parturients' autopsy.</p>

<p>Topic 14 Autopsy of a deceased child. Autopsy of a deceased child.Features of clinical and anatomical analysis and instructions for autopsies in pediatric practice.</p>
<p>Topic 15 Medical Advisory Commission. The role of pathological service in monitoring the quality of medical preventive work.</p>
<p>Topic 16 Clinical and pathological conference. 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 17 Methods of biopsy examination of the material. 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 18 Final control class: differential credit. Final control class: differential credit.</p>

## 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. Teaching and learning activities

### 7.1 Types of training

<p><b>Topic 1. Development of pathological anatomy in Ukraine.</b></p>
<p>pr.tr.1 "Development of Pathology in Ukraine." (full-time course) 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 documentspathological bureaus (centers) and pathological departments.</p>

**Topic 2. Organization of the work of the pathological institution.**

pr.tr.2 "Organization of the pathological institution." (full-time course)

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).

**Topic 3. Basic requirements for premises and labor protection, safety at work in the pathological institutions (subdivisions).**

pr.tr.3 "Basic requirements for premises and labor protection and safety at work in pathological institutions (subdivisions)." (full-time course)

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).

**Topic 4. Requirements for work in the pathological institutions.**

pr.tr.4 "Requirements for work in pathological institutions." (full-time course)

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).

**Topic 5. Exemplary report card of material and technical equipment of the pathological institutions (subdivisions).**

pr.tr.5 "Exemplary report card of material and technical equipment of 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. Autopsy of the deceased.**

pr.tr.6 "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 7. Autopsy logging.**

pr.tr.7 "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 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. Clinical and pathological epicrisis.**

pr.tr.9 "Clinical and pathological epicrisis." (full-time course)

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).

**Topic 10. Medical death certificate.**

pr.tr.10 "Medical death certificate." (full-time course)

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).

**Topic 11. Autopsy of the deceased from diseases of therapeutic profile.**

pr.tr.11 "Autopsy of the deceased from diseases of therapeutic profile." (full-time course)

Regulations on pathological examination of the deceased in case of death from disease of therapeutic profile. 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).

**Topic 12. Features of the pathological examination in case of death from the disease of infectious pathology.**

pr.tr.12 "Features of pathological examination in case of death from disease of infectious pathology." (full-time course)

Features of pathological examination in case of death from disease of 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 13. Autopsy of the deceased from the surgical or obstetric and gynecological pathology.**

pr.tr.13 "Autopsy of the deceased from the surgical or obstetric and gynecological pathology." (full-time course)

Features and methods of autopsy and registration of pathological documentation in cases of death associated with the surgical and obstetric and gynecological pathology and surgical and resuscitation manipulations. Rules and requirements for autopsy. The course on this topic involves theoretical work in the classroom, application of 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 14. Autopsy of a deceased child.**

pr.tr.14 "Autopsy of a dead 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 15. Medical Advisory Commission.**

pr.tr.15 "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 16. Clinical and pathological conference.**

<p>pr.tr.16 "Clinical and pathological conference." (full-time course)</p> <p>The main tasks of the clinical and pathological conference. The procedure of holding and conducting 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><b>Topic 17. Methods of biopsy examination of the material.</b></p>
<p>pr.tr.17 "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><b>Topic 18. Final control class: differential credit.</b></p>
<p>pr.tr.18 "Final control class: differential credit." (full-time course)</p> <p>Final control class: differential credit.</p>

## 7.2 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

## 8. 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	Scientific discussions / debates
TM7	Demonstration

Teaching of discipline is conducted using modern teaching methods (CBL, TBL, RBL) that promote the development of professional abilities, creative and scientific activities and aimed at training practice-oriented professionals.

The discipline provides students such kinds of soft skills as GC 1. Ability to abstract thinking, analysis, and synthesis. GC 2. Ability to learn, master modern knowledge and apply the knowledge in practice. GC 3. Knowledge and understanding of the subject area and professional activity comprehension.

## 9. Methods and criteria for assessment

### 9.1. Assessment criteria

ECTS	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)	$140 \leq RD < 169$
	Fair but with significant shortcomings	3 (Satisfactory)	$120 \leq RD < 139$
	Fail – some more work required before the credit can be awarded	2 (Fail)	$0 \leq RD < 119$

### 9.2 Formative assessment

FA1	Peer assessment
FA2	Computer testing
FA3	Interview and verbal comments of the lecturer according to its results
FA4	Solving situational tasks (formulation of pathological diagnosis and medical death certificate)
FA5	Defence of an individual research project (speech at the conference)
FA6	Teacher's admonishments during performing practical tasks.

### 9.3 Summative assessment

SA1	Survey on the topic of practical class, solving clinical cases and situational tasks with formulation of pathological diagnosis and medical death certificate
SA2	Testing
SA3	Final control: differential credit
SA4	Defence of an individual research project (incentive activities, extra points)



Form of assessment:

<b>9 semester</b>		<b>200 scores</b>
SA1. Survey on the topic of practical class, solving clinical cases and situational tasks with formulation of pathological diagnosis and medical death certificate		<b>80</b>
		80
SA2. Testing		<b>40</b>
		40
SA3. Final control: differential credit		<b>80</b>
	Final control includes testing of theoretical knowledges - 30 points, solving clinical cases with formulation of pathological diagnosis – 20 points, medical death certificate - 10 points, computer test – 10 points, formulation of histological conclusion of biopsy material – 10 points	80
<b>10 semester</b>		<b>200 scores</b>
SA1. Survey on the topic of practical class, solving clinical cases and situational tasks with formulation of pathological diagnosis and medical death certificate		<b>80</b>
		80
SA2. Testing		<b>40</b>
		40
SA3. Final control: differential credit		<b>80</b>
	Final control includes testing of theoretical knowledges - 30 points, solving clinical cases with formulation of pathological diagnosis – 20 points, medical death certificate - 10 points, computer test – 10 points, formulation of histological conclusion of biopsy material – 10 points	80

Form of assessment (special cases):

<b>9 semester</b>		<b>200 scores</b>
SA1. Survey on the topic of practical class, solving clinical cases and situational tasks with formulation of pathological diagnosis and medical death certificate		<b>80</b>
	In case of quarantine restrictions, survey on the topic of practical class, solving clinical cases and situational tasks with formulation of pathological diagnosis and medical death certificate are held at remote mode using Mix.sumdu.edu.ua platform, Zoom, Google meet.	80
SA2. Testing		<b>40</b>
	In case of quarantine restrictions, testing is conducted in remote mode using Mix.sumdu.edu.ua platform, Zoom, Google meet.	40

SA3. Final control: differential credit		<b>80</b>
	In case of quarantine restrictions, final control is conducted in remote mode using Mix.sumdu.edu.ua platform, Zoom, Google meet and includes testing of theoretical knowledge - 30 points, solving clinical cases with formulation of pathological diagnosis – 20 points, medical death certificate - 10 points, computer test – 10 points, formulation of histological conclusion of biopsy material – 10 points	80
<b>10 semester</b>		<b>200 scores</b>
SA1. Survey on the topic of practical class, solving clinical cases and situational tasks with formulation of pathological diagnosis and medical death certificate		<b>80</b>
	In case of quarantine restrictions, survey on the topic of practical class, solving clinical cases and situational tasks with formulation of pathological diagnosis and medical death certificate are held at remote mode using Mix.sumdu.edu.ua platform, Zoom, Google meet.	80
SA2. Testing		<b>40</b>
	In case of quarantine restrictions, testing is conducted in remote mode using Mix.sumdu.edu.ua platform, Zoom, Google meet.	40
SA3. Final control: differential credit		<b>80</b>
	In case of quarantine restrictions, final control is conducted in remote mode using Mix.sumdu.edu.ua platform, Zoom, Google meet and includes testing of theoretical knowledge - 30 points, solving clinical cases with formulation of pathological diagnosis – 20 points, medical death certificate - 10 points, computer test – 10 points, formulation of histological conclusion of biopsy material – 10 points	80

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.

## 10. Learning resources

## 10.1 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

## 10.2 Information and methodical support

<b>Essential Reading</b>	
1	General rules for conducting pathological autopsies of the dead and in vivo pathomorphological examinations of surgical and biopsy materials. Guideline/ SG Gichka, VA Dibrova, MM Purple. –Kyiv: 2017. – 57 p.
2	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.
3	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.
4	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
<b>Supplemental Reading</b>	
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.