

**MINISTRY OF HEALTH IN UKRAINE  
DANYLO HALYTSKYI LVIV NATIONAL MEDICAL  
UNIVERSITY  
Department of Pathological Anatomy and Forensic Medicine**

CONFIRM

Fir

st Vice-Rector for

educational and scientific

work Associate Professor

Iryna SOLONYNKO



2023

**EDUCATIONAL PROGRAM**

in

**«Forensic Medicine»**

for 4<sup>rd</sup> year students of General Medicine Faculty  
for preparation of specialists of the second (master's degree) level of  
higher education

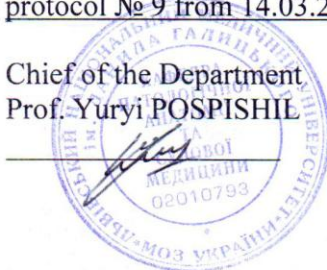
**OK40.1**

**area of knowledge 22 «Public Health»**

**speciality 222 «Medicine»**

**Discussed and approved** at the  
Methodological meeting of the  
Department of Pathological Anatomy  
and Forensic Medicine,  
protocol № 9 from 14.03.2023

Chief of the Department  
Prof. Yuri POSPISHIL



**Confirmed**

by profile Methodological Committee  
in medical and biological subjects.  
protocol № 2 from 23.03.2023

Chief of the profile Methodological Committee  
Prof. Alexander LUTZYK

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Lviv-2023

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## INTRODUCTION

**the education program of Forensic Medicine  
according to the academic standart of the second  
(master's) leveleducation sector 22 "Public Heath"  
speciality 222 "Medicine"  
education program of Master of Medicine**

### The Description of the Subject (Summary)

*Forensic medicine* is an independent educational medical discipline that studies and solves medical and biological problems that arise in investigative and judicial practice in the investigation of crimes (criminal proceedings) committed against the life and health of the individual. Forensic medicine is an independent science, which is a set of medical, biological and other knowledge, creatively processed and aimed at solving problems of justice and health care.

Forensic medicine:

- A. Based on knowledge, which students got from other commonly biological and clinical subjects.
- B. Give knowledge, which help to do the function of specialist in the field of forensic medicine.
- C. Give knowledge how to estimate the moment of death, to describe corpse in a place where it was revealed, to describe injuries, to find and describe material evidence of biological origin.
- D. Give knowledge about professional and official offences of medical workers.

**2. STRUCTURE OF THE DISCIPLINE** "Forensic medicine" and charging points for current educational activity (converting of traditional estimations in marks; estimation in marks for implementation of individual tasks, if it is foreseen by a current educational curriculum).

#### The distribution of the educational process

Structure of educational discipline	Amount of hours, from them			IOCSW	Academic semester	Type of control
	Totally	Auditorial				
		Lectures	Practical classes			
Forensic medicine	45 hours (1.5 - credits ECTS)	-	<b>24</b>	<b>21</b>	4 year (VII or VIII Semester)	Credit

Note: 1 credit ECTS - 30 hours. Audit load - 53 %, SPES - 47 %.

#### Object of the subtest's studding

Forensic medicine and its practical part (forensic-medical examination) is a science, which is an accumulation of the medical, biological and other knowledge, which transformed and turned on the solving of problems of justice and health protection.

Examination is prescribed during the inquest, forehead inquiry, during the judicial trial, when special knowledge of science, technique, art and craft are required. Examination is performed by the experts of appropriate institutions or other specialists, which were assigned by the person, which perform the inquest, investigator, public prosecutor or by the judge. Expert is the person who possesses the appropriate knowledge to make the examination.

Among the all examinations only the forensic-medical examination has the state structure, what determines the especial importance of the person in the legislation system and care of its health and dignity of individuality.

The specialist, who has the medical education, can be involved in the forensic-medical examination. During this work, such person is considered the expert by the procedural condition

(Decree of the Ministry of the Health Care of the Ukraine # 6 from 17.01.1995)

According to the laws of our country, there is no difference, what faculty the doctor, who involved in the forensic-medical examination, has graduated from. The choosing of the doctor-expert does not depend on the period of the practical work, specialty, post etc. That's why the level of knowledge and practical skills of the students should be equal, not depending on the specialty of the future doctor. That's why the only program of the forensic medicine for the students of medical, pediatrics and stomatology faculties is necessary.

Each doctor should receive the knowledge of main themes of the forensic medicine and ability to apply him or her on practice.

Except this, the duty of the doctor-forensic-expert is to improve the quality of the health care of the population in our country, using all means to decrease the illness rate and lethality.

That's why the main purpose of the studying of forensic medicine and medical legislation is to prepare the doctor of general profile, who is able to perform the duties of the forensic-medical expert, solve the tasks of investigatory authorities and improve the system of health protection and treatment-prophylactic care.

### **Interdisciplinary Relations**

Student should learn the course of all theoretic and clinical disciplines in medical university, first of all pathological anatomy and traumatology, to study the forensic medicine and medical legislation.

List of the disciplines and their structural parts (themes), which students should study

<b>Discipline</b>	<b>Should know</b>	<b>Should be able to do</b>
Anatomy Topographic anatomy	Anatomical structure of the human body, topography of the internal organs	Determine the localization of the injuries according to the two anatomical oriental points
Pathological anatomy	Signs of reactive inflammation	
Surgery	Morphological signs of the injuries	
Traumatology	Classification of the fractures of tubular and flat bones	Analyze the X-ray examinations, determine the character of the fracture

## **1. Aims and tasks of the subject; its place in the educational process**

### **1.1 Aims as for discipline's studying**

The order of the teaching of the forensic medicine and medical legislation in the higher educational medical institutions of the Ukraine by the program for all faculties foresees, that each doctor, not depending on the chosen specialty and practical work, should be always ready to perform the duties of the forensic expert, as the procedural legislation requires. The modern specialist-forensic-medical expert should be educated and developed person. He should acquire the theoretical bases of his specialty, skillfully use the knowledge of the laws of the society, improve his practical skills, and always remember about the doctor's high mission and responsibility.

### **1.2. The main tasks of studying the discipline "Forensic Medicine":**

Student should know:

- Laws, turned on the protection of inviolability of the individuality in the Ukraine;
- States of the Ukrainian legislation about forensic-medical examination, rules and duties and responsibility of the medical stuff for the professional offence, and also main laws, which

regulate the practice of the medical staff;

The modern scientific data from all parts of the forensic medicine, and also use the main methods of examination of the main objects of forensic-medical examination (examination of the corpses, alive persons and material evidences)

**Student should be able to do:**

According to the state standards of the higher education student of medical faculties should be able to do:

- To know main laws which regulate medical practice.
- Use the laws according to the legislation regulations of the doctor's practice.
- Demonstrate the skills of description and extraction of the material evidences of the biological origin.
- To be able to find and describe the evidence of biological origin during the examination of place of death.
- Demonstrate the ability to perform forensic-medical examination of the corpse and detect the cause of the violent death
- To be able to determine moment of biological death.
- Demonstrate the ability to describe the physical injuries on human body.
- Demonstrate the ability to perform the forensic-medical examination of the victim, accused and other persons.

**1.3 Competency and training results developed by the subject** (the correlation with the normative content of training acquired by those who are obtaining higher education formulated in the terms of study results of Higher Educational Standarts).

According to the requirements of the Higher Education Standard, the discipline ensures that students acquire the following competencies:

- **integral:** the ability to solve typical and complex specialized tasks and practical problems in the learning process, which involves research and/or innovation and is characterized by the complexity and uncertainty of conditions and requirements.

**general:**

- ability to abstract thinking, analysis and synthesis;
- the ability to learn and master modern knowledge;
- ability to apply knowledge in practical situations;
- knowledge and understanding of the subject field and understanding of professional activity;
- ability to adapt and act in a new situation;
- the ability to make informed decisions;
- ability to work in a team;
- the ability for interpersonal interaction;
- the ability to use information and communication technologies;
- the ability to search, process and analyze information from various sources;
- determination and perseverance regarding the assigned tasks and assumed duties;
- the ability to realize one's rights and responsibilities as a member of society, to be aware of the values of public society and the need for its sustainable development, the rule of law, the rights and freedoms of a person and a citizen in Ukraine, awareness of equal opportunities and gender issues;
- the ability to preserve and multiply moral, cultural, scientific values and achievements of society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology and technologies, to use various types and forms of motor activity for active recreation and leading a healthy lifestyle.

- **special** (professional, subject):

- the ability to collect medical information about the patient and analyze clinical data;
- the ability to determine the necessary list of laboratory and instrumental studies and evaluate their results;
- Ability to diagnose emergency conditions.

Detailing of competencies in accordance with the NQF descriptors in the form of the "Competence Matrix".

<b>№</b>	<b>Competence</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Communication</b>	<b>Autonomy and responsibility</b>
<b>Integral competence</b>					
The ability to solve typical and complex specialized tasks and practical problems in professional activities in the field of health care, or in the process of learning, which involves conducting research and/or implementing innovations and is characterized by the complexity and uncertainty of conditions and requirements					
<b>General competences</b>					
1.	<b>Ability to abstract thinking, analysis and synthesis (GC1)</b>	Know the methods of analysis, synthesis and further modern learning.	Be able to analyze information, make informed decisions, be able to acquire modern knowledge.	Ability to effective communication in the course of analytical and synthetic activities	To be responsible for the analysis of acquired modern knowledge and their synthesis
2.	<b>The ability to learn and master modern knowledge (GC2)</b>	To know the ways of further education in order to obtain modern knowledge.	To be able to analyze the received information, to make informed decisions, to be able to acquire modern knowledge.	To establish appropriate connections for the achievement of goals.	To be responsible for the timely acquisition of modern knowledge
3.	<b>Ability to apply knowledge in practical situations (GC3)</b>	Have knowledge of the appropriate level in theoretical and clinical disciplines	Be able to apply knowledge of medical disciplines in practical situations	Ability to effectively form a communication strategy in professional activities; ability to exchange professional knowledge	To bear responsibility for correctness application relevant knowledge in practical situations
4.	<b>Knowledge and understanding of the subject area and understanding of professional activity (GC4)</b>	Know and understand the subject field, understand the basic principles professional activity	To be able to use the acquired knowledge in the subject area and their understanding in professional activity	The ability to effectively form a communication strategy in professional activity	Being responsible for knowledge and understanding subject area and understanding of principles professional activity
5.	<b>Ability to adapt and act in a new situation (GC5)</b>	Know ways to adapt and act in new situations	Be able to choose ways adaptation and actions in new situations	Use communication opportunities in order to adapt and act in new conditions	Be responsibility for timely adaptation and actions in new situations
6.	<b>Ability to make informed decisions (GC6)</b>	Have the knowledge of the appropriate level to accept the justified of decisions	Be able to justify the decisions made	The ability to be effective communication within professional teams in order to make informed decisions	Carry responsibility for decisions made

7.	<b>Ability to work in a team (GC7)</b>	Know communication tactics and strategies, laws and methods of communication behavior	To be able to choose methods and strategies of communication to ensure effective team daily work	Use communication strategies and interpersonal skills actions	To be responsible for the choice and communication tactics
8.	<b>Ability to interpersonal interaction (GC8)</b>	To know communication tactics and strategies, laws and methods of communicative behavior	To be able to choose methods and strategies of communication to ensure effective communication interpersonal interaction	Use communication strategies and interpersonal skills	To be responsible for the results of interpersonal interaction
9.	<b>Ability to use information and communication technologies (GC10)</b>	Have deep knowledge in the field of information and communication technologies used in professional activities	To be able to use information and communication technologies in a professional field that needs updating and integration tions of knowledge	Use information and communication technologies in professional activities	To be responsible for the development of professional knowledge and skills in the field of information and communication technologies
10	<b>Ability to search, process and analyze information from various sources (GC11)</b>	Know the search platforms to get relevant professional information	Be able to provide quality search sources of information, process and analyze the received data	To establish connections to ensure high-quality execution of the search for the necessary information, its processing and analysis	Be responsible for search results, processing and analysis of professional information
11	<b>Determination and persistence in relation to assigned tasks and assumed responsibilities (GC12)</b>	Know the duties and ways of fulfilling the tasks	To be able to determine the goal and task, to be persistent and conscientious in the performance of duties	Establish interpersonal relationships for effective performance of tasks and responsibilities	To be responsible for high-quality performance of the delivered tasks; to be responsible for the fulfillment of obligations
12	<b>The ability to realize one's rights and responsibilities as a member of society, to realize the values of public society and the need for its sustainable development, the rule of law, the rights and freedoms of a person and a citizen in Ukraine (GC14)</b>	Know your social and public rights and responsibilities	To form one's civic consciousness, to be able to act in accordance with it	The ability to convey one's public and social position	Responsibility for one's civic position and activity
13	<b>The ability to preserve and multiply moral, cultural, scientific values and achievements society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development society, technique and technology, use different types and</b>	To know about the need to preserve and multiply moral, cultural and scientific values, based on an understanding of history and patterns of development subject area, its place in the general system of knowledge about nature and society, development of society, equipment and technologies	Preserve and multiply moral, cultural and scientific values, based on an understanding of the history and patterns of development of the subject field and its place in the general system of knowledge about nature	Use all opportunities to preserve and increase moral, cultural and scientific heritage	To be responsible for the preservation and propagation of moral, cultural and scientific values, based on the understanding of meaning subject field as a science and its place in the general system of natural sciences of knowledge

	<b>forms of motor activity for active recreation and maintaining a healthy lifestyle (GC15)</b>				
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**Special (professional, subject) competences**

<b>1</b>	<b>Ability collect medical information about the patient and analyze clinical data (PC1)</b>	To know the methods of obtaining medical information about the patient, to have knowledge about the analysis of clinical data	Be able to collect relevant medical information about the patient and analyze clinical data	Be able to adjust communication skills communication with the patient in order to obtain the necessary medical information about him	Carry responsibility for received medical information in each case; be responsible for the correctness of clinical data analysis
	<b>Ability to definition necessary list laboratory and instrumental them research and their evaluations results (PC2)</b>	Know about the necessary laboratory and instrumental research methods	Be able to determine the necessary list of laboratory and instrumental research methods; to be able to evaluate their results	Use methods of communication in the process definition of the necessary the list of laboratory and instrumental research methods, as well as in the process of evaluating their results	Carry responsibility for the selected list of necessary laboratory and instrumental methods research, as well as for evaluating their results
	<b>Ability to installation previous and clinical diagnosis disease (PC3)</b>	To have specialized (professional) knowledge necessary for establishing preliminary and clinical diagnoses of the disease	Be able to formulate the previous and clinical diagnoses of the disease	Be able to communicate effectively with other members of the professional team in order to establish the correct preliminary and clinical diagnoses of the disease	Carry responsibility for established preliminary and clinical diagnoses of the disease
	<b>Ability to diagnose of emergency conditions (PC7)</b>	Have special knowledge about the variety of emergency conditions and be able to distinguish between them	Be able to collect relevant medical information about the patient and analyze clinical data	To be able to communicate effectively with the patient and other members of the professional team in order to save the victim's life	Be responsible for the patient's condition and be able to provide emergency medical care

**Program learning outcomes determined by the standard of higher education of the specialty**

<b>№</b>	<b>Program learning outcomes</b>	<b>General competences</b>	<b>Professional competences</b>
<b>PLO1</b>	Have thorough knowledge of the structure of professional activity. To be able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, the ability for further professional training with a high level of autonomy	<b>GC1, GC2, GC3, GC4, GC5, GC6.</b>	<b>PC1</b>



<b>PLO 2</b>	Understanding and knowledge of fundamental and clinical biomedical sciences at a level sufficient for solving professional tasks in the field of health care	<b>GC1, GC3,</b>	<b>GC2, GC4, GC5,GC6</b>	<b>PC1, PC2, PC3</b>
<b>PLO 6</b>	Specialized conceptual knowledge, which includes scientific achievements in the field of health care and is the basis for conducting research, critical understanding of problems in the field of medicine and related interdisciplinary problems	<b>GC 1, GC 3,</b>	<b>GC 2, GC 4.</b>	<b>PC2, PC3</b>
<b>PLO 7</b>	Prescribe and analyze additional (mandatory and additional) examination methods (laboratory, functional and/or instrumental) for patients with diseases of organs and body systems for differential diagnosis	<b>GC1, GC2, GC3</b>		<b>PC1, PC2, PC3</b>
<b>PLO 8</b>	Determine the leading clinical syndrome or establish, what determines the severity of the victim's condition by making a reasoned decision and assessing the person's condition under any circumstances (in the conditions of a health care facility and beyond, including in the conditions of an emergency and hostilities, in the field, in the conditions lack of information and limited time.)	<b>GC7, GC8, GC10, GC11 GC 14, GC15</b>		<b>PC3, PC7</b>

## 2. Content of information of Forensic Medicine

Quantity of educational hours – 45 (1.5 credits ECTS), from them:

- ✓ Lectures - 0 hours.
- ✓ Practical classes - 24 hours.
- ✓ Independent work of students - 21 hours.

This discipline has one module, which includes the eight blocks of contenting modules, and there are twenty four themes (for practical classes and independent study) in it.

### CONTENT OF THE DISCIPLINE

1. The subject and task of forensic medicine, its development history, judicial procedure and modern organization. Justice regulation. The legal relations in the field of health protection.
2. Medico-legal examination of living persons.
3. Forensic medicine thanatology.
4. Medico-legal examinations in cases when trauma was inflicted by mechanical factors.
5. Medico-legal examinations in cases when trauma was inflicted by other factors of environment.
6. Medico-legal examinations in cases when trauma was inflicted by chemical factor.
7. Medico-legal examinations in cases when trauma was inflicted by biological factor.
8. Medico-legal research of biological and non-biological material evidences (medical-criminalistics researches).

### 3. STRUCTURE OF DISCIPLINE « FORENSIC MEDICINE»

№	Themes content	Lectures	Practical classes	Independent work of students	IW
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<b>Thematic module 1.</b> Tasks and subject of forensic medicine. History of its development, procedural regulations and organizational bases of forensic medical examination.					
1	Topic 1. The object and purpose of forensic medicine. History of forensic medicine.			1	
2	Topic 2. Organizational and procedural principles of performance of a forensic medical examination in Ukraine.		2		
<b>Thematic module 2.</b> Forensic medical examination of victims, accused and other persons.					
1	Topic 3. Medico-legal evaluation of the degree of gravity of body injuries		2		
2	Topic 4. Medico-legal determination of doubt sex. Medico-legal aspects of sexual offences.		2		
<b>Thematic module 3.</b> Forensic thanatology					
1	Topic 5. Forensic medical thanatology		1		
	Topic 6. Forensic investigation of a corpse of an infant.		0,5	1	
2	Topic 7. Legal aspects of donation and transplantation in Ukraine.			1	
3	Topic 8. External examination of a corpse at the scene of death. Composition of the report of the scene examination.		1		
4	Topic 9. Forensic medical autopsy, its demonstration.		1		
5	Topic 10. Composition of the report of the scene examination.		0,5		
<b>Thematic module 4.</b> Forensic medical examination of injuries and death caused by mechanical factors.					
1	Topic 11. General questions of a forensic medical traumatology. Damages caused by the blunt objects.		1,5	1	
2	Topic 12. Forensic investigation of the road traffic accidents.		2	1	
3	Topic 13. Damages caused by blunt objects.		0,5	1	
4	Topic 14. Medico-legal examination of firearms injuries		2	1	
5	Topic 15. Medico-legal expertise of mechanical asphyxia		2	1	
<b>Thematic module 5.</b> Medico-legal examinations in cases when trauma was inflicted by other factors of environment.					
1	Topic 16. Death from exposure to extreme temperatures		0,5	1	
2	Topic 17. Death from atmospheric and technical electricity.		0,5	1	
3	Topic 18. Forensic medical examination of injuries caused by radiation energy		0,5	1	
4	Topic 19. Forensic medical examination of injuries and death due to the effect of sharply changed barometric pressure		0,5	1	
<b>Thematic module 6.</b> Forensic examination of injuries and death caused by chemical substances					
1	Topic 20. General information about poisons, their mechanism of action and the basics of forensic diagnosis of poisoning		0,25	1	
2	Topic 21. Forensic diagnosis of poisoning by different groups of poisons		0,5	1	
<b>Thematic module 7.</b> Forensic examination of health disorders and death from biological factors					
1	Topic 22. Forensic medical examination in case of a health disorder due to the action of a biological factor			1	

<b>Thematic module 8.</b> Forensic medical examination of physical evidence of biological origin and medical and forensic research methods					
1	Topic 23. Forensic medical examination of physical evidence of biological origin		2	0,5	
2	Topic 24. Forensic-medical-criminological studies of objects of forensic-medical examination			0,5	
Theoretical training and practical training skills				6	
Only hours			<b>24</b>	<b>21</b>	-
Credits ECTS		<b>1,5</b>			
Final control		Credit			

#### 4. Thematic plan of the lectures.

Lectures are not provided according to the curriculum.

#### 5. Thematic plan of practical classes

No.	Themes content	Number of hours
1.	Organizational and procedural principles of performance of a forensic medical examination in Ukraine.	2
2.	Estimation and qualification of body injuries according the existing legislation. Medico-legal evaluation of the degree of gravity of body injuries. Medico-legal examination of living persons, evaluation of the condition of persons health.	2
3.	Medico-legal determination of doubt sex. Medico-legal aspects of sexual offences.	2
4.	Forensic medical thanatology. External examination of a corpse at the scene of death. Composition of the report of the scene examination.	2
5.	Forensic medical autopsy, its demonstration. Forensic diagnosis and death certificate.	2
6.	General questions of a forensic medical traumatology. Damages caused by blunt and sharp objects.	2
7.	Forensic investigation of the road traffic accidents.	2
8.	Medico-legal examination of firearms injuries.	2
9.	Medico-legal expertise of mechanical asphyxia.	2
10	Medico-legal expertise of poisonings by various types of poisons and toxic drugs. Alcohol intoxication. Composition of the "Conclusion of the expert".	2
11.	Medico-legal expertise of injuries caused by environmental factors.	2
12.	Forensic investigation of material evidences of biological origin.	2
Totally:		<b>24</b>

## 6. Thematic plan of independent works

No	The topic	Number of hours
	Theoretical training and skills training. Home preparation to practical lessons	6
1.	The object and purpose of forensic medicine. History of forensic medicine.	1
2.	Legal aspects of donation and transplantation in Ukraine.	1
3.	Forensic investigation of a corpse of an infant.	1
4.	Medico-legal expertise of injuries caused by blunt objects.	1
5.	Medico-legal expertise of injuries caused by sharp objects.	1
6.	Forensic investigation of the road traffic accidents.	1
7.	Medico-legal examination of firearms injuries. Forensic investigation of explosion injuries.	1
8.	Medico-legal expertise of mechanical asphyxia.	1
9.	Forensic examination of the injuries and death caused by the temperature effect.	1
10.	Forensic examination of the injuries caused by atmospheric and technical current.	1
11.	Forensic examination of the injuries caused by radiation.	1
12.	Forensic examination of the injuries and death caused by the rapid change of barometric pressure.	1
13.	Forensic examination of the injuries and death caused by biological factors.	1
14.	Common data about poisons. Forensic toxicology.	1
15.	<b>Forensic examination of material evidences of biological origin. Forensic-criminalistics researches of the forensic objects.</b>	1
	Totally:	<b>21</b>

**7. Individual tasks of the student** will be credited to the discipline on the condition that he fulfills the requirements of the educational program and, on the condition that the student has drawn up and submitted to the teacher the conclusion of the forensic medical examination of the corpse and does not have unworked absences of practical classes and negative evaluations.

When working on Topic 10: "Forensic examination of poisoning by various groups of poisons. Forensic-medical substantiation of the cause of death due to poisoning. Compilation of expert conclusions based on autopsy materials.", students complete the work "Expert's conclusion".

The evaluation of the "Conclusion of the forensic medical examination of the corpse" is carried out according to the following criteria:

"Passed" - awarded for the complete design of the "Conclusion" title page, the presence of a competent description of the external examination, the "injuries" section, the internal examination with the inclusion of the results of all necessary additional research methods (which correspond to the performed autopsy and the cause of death), with the wording of the final part " Conclusion" where the cause of death is correctly substantiated and confirmed, the physical injury is correctly assessed and characterized, and all questions are answered; grade "4" - given if all sections of the "Conclusion" are present, but with minor errors in its design, some incompleteness in the descriptive part (external and internal research), but with a full description in the final part, with answers to all questions, presented to the expert;

"Not counted" - issued for illegible handwriting in which the "Conclusion" is written, gross violation of the scheme and principles of wording of all sections of the "Conclusion", absence of part of the "Conclusion" or summaries, illiterate design of the "Conclusion".

## 8. Teaching methods

Types of educational activities of students according to the curriculum are: a) practical classes, c)

independent work of students (SRS).

Current educational activities of students are monitored in practical classes in accordance with specific goals and during individual work of the teacher with students.

Evaluation of students' independent work, which is provided for in the topic along with classroom work.

Evaluation of students' independent work, which is provided for in the topic along with classroom work, is carried out during the current control of the topic in the corresponding classroom practical session.

The evaluation of topics that are assigned only to independent work and are not included in the topics of classroom training sessions is controlled during the final control.

The system of organizing classes:

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

- study theoretical material using textbooks, methodical guides and other available sources;
- work out the topic of the student's independent work.

Approximate lesson plan:

- Formulation of the teacher's purpose and goals of the lesson.  
- Interactive discussion of the topic in the form of a discussion, which includes information presented in tables, diagrams, pictures.

- If possible, conducting a demonstrative autopsy of the deceased's body.
- Final control of the lesson material, which includes assessment of independent work, oral answers and test control of theoretical knowledge.

## **9. Control methods**

Forms of control and the evaluation system are carried out in accordance with the requirements of the discipline program and the Instruction on the evaluation system of students' educational activities under the credit-module system of the organization of the educational process, approved by the Ministry of Health of Ukraine (2005).

Current control is carried out at each practical session in accordance with the specific goals of each topic. When evaluating students' educational activities, it is necessary to give preference to standardized control methods: testing, structured written works, structured according to the procedure of control of practical skills in conditions close to real ones.

Types of control:

- current (in practical classes)
- final control form according to the curriculum - credit;

**10. Current control** is carried out during training sessions and is aimed at checking the students' assimilation of educational material (it is necessary to describe the forms of current control during training sessions on a 4-point (national) scale). Assessment forms for current educational activities should be standardized and include control of theoretical and practical training. It is carried out during practical classes and is aimed at checking the students' assimilation of the educational material.

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

- demonstrate self-completed schemes, tables, algorithms (provided they are available for the corresponding lesson);
- to give written answers to the proposed tests (including A-format tests and multiple-choice tests - R, X) and situational problems. Evaluation criteria of current educational activity

- during the evaluation of the mastery of each topic for the current educational activity, the student is given grades on a 4-point (traditional) scale. At the same time, all types of work provided by the educational program are taken into account. The student must receive a grade in each topic.

- Forms of assessment of current educational activities include control of theoretical and practical training. Estimates given on a traditional scale are converted into points.

10.1. Assessment of current educational activities. Assessment of the current educational activity of students is carried out comprehensively with the use of standardized means of knowledge control, which allows to assess both theoretical knowledge and practical skills: students' initial knowledge of the topic is assessed, theoretical material is examined using visual forensic material - drugs, examinations, etc., and at the end of the lesson, the degree of assimilation of the educational material by the students is determined by solving situational problems.

During the evaluation of the mastery of each topic for the current educational activity, the student is assigned a 4-point (national) grade. At the same time, all types of work provided for by the discipline program are taken into account. The student must receive a grade on each topic for further conversion of grades into points on a multi-point (200-point) scale.

Evaluation of current educational activities in practical classes:

"Excellent ("5") - The student correctly answered 90-100% of the tests. Answers correctly, clearly, completely and logically to standardized questions of the current topic, including questions of the lecture course and independent work. Closely connects theory with practice and correctly demonstrates the implementation of practical skills, correctly completed all tasks related to the subject of the lesson. Freely interprets detected morphological changes in the research object, solves situational problems of increased complexity, knows how to summarize the material.

"Good ("4") - The student answered correctly on 70-89% of the tests. Correctly and substantively answers the questions of the current topic, including the questions of the lecture course and independent work. Demonstrates performance of practical skills, completed all assigned tasks correctly or with minor errors. Correctly uses theoretical knowledge to interpret morphological findings changes in the object of research, solves easy and medium-complexity situational problems. Possesses the necessary practical skills and methods of their implementation in an amount that exceeds the required minimum.

"Satisfactory" ("3") - The student answered 50-69% of the tests correctly. Partially, with the help of additional questions, answers the standardized questions of the current topic, including questions of the lecture course and independent work. Can't independently construct a clear, logical answer, answers with significant errors. During the response and demonstration the performance of practical skills makes significant mistakes, with significant mistakes he completed the tasks set before him by the teacher. The student solves only easy situational problems, possesses only a minimum of necessary practical skills.

Unsatisfactory ("2") - The student correctly answered less than 50% of the tests. Does not know the material of the current topic, did not perform one of the mandatory types of work provided for in the practical lesson. He cannot independently construct a logical answer to additional questions, he does not understand the content of the material. During the response and demonstration of practical skills, he makes significant, gross mistakes.

Criteria for evaluating independent work: Evaluation of students' independent work, which is provided for in the topic along with classroom work, is carried out during the current control of the topic in the corresponding classroom lesson. The evaluation of topics that are assigned only to independent work and are not included in the topics of classroom training sessions is controlled during the final control.

10. The form of final control of the success of learning credits is a form of final control, which

consists in assessing the student's assimilation of educational material solely on the basis of the results of his performance of certain types of work in practical, seminar or laboratory classes. Discipline assessment is carried out after the end of its study, before the beginning of the examination session.

#### **11. Form of final control**

- credit for the discipline "Forensic Medicine" is given only to students who have passed all topics in the discipline;

- the grade in the discipline is set as the average of the grades received in the classroom classes that are available in the academic discipline.

- incentive points by decision of the Academic Council can be added to the number of points from disciplines to students who have scientific publications or won prizes for participation in discipline Olympiad among universities of Ukraine and others.

#### **12. Scores calculation:**

The maximum number of points that a student can score for the current educational activity when studying the discipline is 200 points.

The minimum number of points that a student must score for the current educational activity for the enrollment of the discipline is 120 points.

The number of points is calculated on the basis of the grades received by the student for the 4th year point (national) scale during the study of the discipline, by calculation arithmetic mean (CA), rounded to two decimal places. The obtained value is converted into points on a multi-point scale as follows:

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

*For convenience, a calculation table is given on a 200-point scale:*

Recalculation of the average grade for the current activity into a multi-point scale for disciplines ending with credit.

4- points scale	200- points scale	4- points scale	200- points scale	4- points scale	200- points scale	4- points scale	200- points scale
5	200	4.45	178	3.92	157	3.37	135
4.97	199	4.42	177	3.89	156	3.35	134
4.95	198	4.4	176	3.87	155	3.32	133
4.92	197	4.37	175	3.84	154	3.3	132
4.9	196	4.35	174	3.82	153	3.27	131
4.87	195	4.32	173	3.79	152	3.25	130
4.85	194	4.3	172	3.77	151	3.22	129
4.82	193	4.27	171	3.74	150	3.2	128
4.8	192	4.24	170	3.72	149	3.17	127
4.77	191	4.22	169	3.7	148	3.15	126
4.75	190	4.19	168	3.67	147	3.12	125
4.72	189	4.17	167	3.65	146	3.1	124
4.7	188	4.14	166	3.62	145	3.07	123
4.67	187	4.12	165	3.57	143	3.02	121
4.65	186	4.09	164	3.55	142	3	120
4.62	185	4.07	163	3.52	141	Less than 3	
4.6	184	4.04	162	3.5	140		
4.57	183	4.02	161	3.47	139		
4.52	181	3.99	160	3.45	138		
4.5	180	3.97	159	3.42	137		
4.47	179	3.94	158	3.4	136		

Conversion of the points according to ECTS-scale and traditional 4-pointed scale

Students, which study by one specialty are ranged by the ECTS-scale by such a way:

<b>Traditional (national) mark</b>	<b>Points</b>	<b>Mark ECTS</b>	<b>Statistical indicator</b>
<b>“5”</b> - excellent	175-200	<b>A</b> (excellent)	The best 10% students
<b>“4”</b> - good	160-174	<b>B</b> (very good)	The next 25% students
	140-159	<b>C</b> (good)	The next 30% students
<b>“3”</b> - satisfactory	120-139	<b>D</b> (satisfactory)	The next 25% students
<b>“2”</b> - badly (with the possibility of second passing*)	90-119	<b>E</b> (weakly)	The last 10% students
<b>“2”</b> - badly (with the possibility of second passing*)	< 90	<b>F<sub>x</sub></b> – did not pass / was absent	
<b>“2”</b> - badly (with the possibility of second course*)		<b>F</b> – is not allowed to pass the offset	

Footnote: \* - by the decision of the dean's office.

### 13. Methodological support (educational content)

- Test and control tasks for practical classes;
  - Questions and tasks to control the assimilation of the chapter;
  - Methodical developments for the teacher;
- Materials that are additionally distributed using the MISA electronic platform:
- Working curriculum of the discipline;
  - Plans of lectures, practical classes and independent work of students;
  - Abstracts of lectures on the discipline;



- Methodical instructions for practical classes for students;
- Materials that ensure independent work of students;
- Base of test control.

#### **14 Recommended reading**

##### Basic literature

1. Mykhailychenko B.V., Biliakov A.M., Savka I.G. Forensic medicine Textbook //Kyiv, 2022.-223 p.
2. Babanin A.A., Belovitsky O.V., Skrebkova O.Yu. Forensic medicine. Textbook // Simferopol, 2007. - 464 p.
3. Simpson's forensic medicine. 13-th ed, 2011.

##### Supporting literature

1. Forensic evidence: science and the criminal law / Terrence F. Kiely - CRC Press. - 2001.
2. Forensic science: an illustrated dictionary / by John C. Brenner. - CRC Press. - 2000.
3. Guide to forensic pathology / Jay Dix, Roben Calaluce; with contributions by Mary Fran Ernst. - 1999.
4. Molecular forensics / edited by Ralph Rapley, David Whitehouse. - Wiley. - 2007.
5. Forensic Medicine : practical guide / V.V. Franchuk. - Ternopil : TSMU, 2011. - 204 p.
6. Lecture Notes on Forensic medicine, Third Edition. Gee P.J. Oxford London, 1979
7. Forensic pathology. Williams D.J., Ansford A.J., Priday D.C., Forrest A.S. - 1996. - 139 p.
8. Forensic pathology: Practical Aspects of Criminal and Forensic Investigations Series. DiMaio Vincent J., DiMaio D. - 2nd ed. - CRC Press LLC,. - 2001. - 565 p.
9. Textbook of medical jurisprudence, forensic medicine and toxicology. Parikh C.K. Parikhs - 2002. - 1249 p.

#### 15. INFORMATIONAL RESOURCES

<http://library.med.utah.edu/WebPath/webpath>.

<http://www.webpathology.com/>