



## Syllabus of the discipline "Forensic Medicine"

<b>1. General information</b>	
<b>Faculty name</b>	<b>Medical</b>
<b>Educational program</b>	22 Health care, 222 Medicine, second (master's) level of higher education, full-time
<b>Academic year</b>	2023-2024
<b>Name of discipline, code</b>	"Forensic Medicine" OK 40.1
<b>Department</b>	Department of Pathological Anatomy and Forensic Medicine 790010, Lviv, 52 Pekarska str Phone: +38(032)2769371 E-mail: Kaf_pathanatomy@meduniv.lviv.ua
<b>Head of the department</b>	Yury O. Pospishil, M.D., Ph.D., D.M.Sci., Professor
<b>Year of study</b>	4th year of study
<b>Semester</b>	during the VII and VIII semesters
<b>Type of discipline</b>	<b>Obligatory</b>
<b>Teachers</b>	Mykola M. Shevchuk, M.D., Ph.D., Associate Professor <a href="mailto:shevchuk_mykola@meduniv.lviv.ua">shevchuk_mykola@meduniv.lviv.ua</a> Oksana R. Malyk, M.D., Ph.D., Associate Professor <a href="mailto:malyk_oksana@meduniv.lviv.ua">malyk_oksana@meduniv.lviv.ua</a> Nataliya V. Bartoshyk, M.D., Ph.D., Assistant Professor <a href="mailto:bartoshyk_nataliia@meduniv.lviv.ua">bartoshyk_nataliia@meduniv.lviv.ua</a>
<b>Erasmus Yes/No</b>	No
<b>Person responsible for the syllabus</b>	Mykola M. Shevchuk
<b>Number of credits ECTS</b>	<b>1,5</b>
<b>Number of hours:</b>	total - 45 hours practical classes – 24 hours self-study – 21 hours
<b>Language of instruction</b>	<b>English</b>
<b>Information about consultations:</b>	according to the approved schedule
<b>Address, telephone and rules of operation of the clinical base, bureau</b>	Lviv Regional Bureau of Forensic Medical Examination 79010, Lviv, 61 Pekarska str Phone: +38 (032) 2757896 E-mail: <a href="mailto:lvivpekarska61@gmail.com">lvivpekarska61@gmail.com</a> Head: Mykola Mykolaiovych Shevchuk, Phone: +38 (032) 2756497 Partially located on the territory of the Department of Pathological Anatomy and Forensic Medicine

## 2. Short annotation to the discipline

**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.

This definition reflects the four main features of forensic medicine.

1. Forensic medicine is an independent science that is constantly evolving. Scientific and pedagogical workers of departments and courses of forensic medicine play the leading role in its development.
2. The second feature determines the encyclopedic content of forensic medicine, as it is a set of medical, biological and other knowledge.
3. The third feature determines the creative nature of this discipline, which means that it is not a mechanical sum of medical, biological and other knowledge. Forensic medicine creatively processes and adapts scientific information of many branches of science to solve the tasks of forensic investigative bodies.

4. The fourth feature is formed by two main tasks of forensic medicine - assistance to law enforcement bodies in the investigation and solving crimes against life and health; - assistance to health care authorities in improving the quality of medical care.

**The subject of study of the discipline** is the theory and practice of forensic examination as a practical branch of medicine.

**Interdisciplinary links:** the study of the discipline is based on students' knowledge of medical biology, anatomy, pathomorphology, histology and embryology, biological chemistry, microbiology and virology, a wide range of clinical disciplines (therapy, surgery, traumatology, neurology and neurosurgery, resuscitation and intensive care, etc.) integrates with these disciplines; lays the foundations for students to study physiology, biochemistry, pathological physiology, propaedeutics of clinical disciplines, which involves the integration of teaching with these disciplines and the formation of skills to apply the acquired knowledge of pathomorphology in further study and future professional activities.

### 3. The purpose and objectives of the discipline

**1. The purpose of teaching the discipline "Forensic Medicine"** is to identify and study injuries, their severity, mechanism of trauma and the mechanism of formation of bodily injuries, study the etiology, pathogenesis, determination of diagnostic criteria for various types of traumas and bodily injuries, microscopic changes in organs and tissues of the human body in various living conditions, which includes:

- ✓ study of typical general pathological processes, the set of which determines the morphological manifestations of diseases, traumas;
- ✓ study of the structural basis in the formation of various types of traumatic injuries, their complications and consequences;
- ✓ forensic substantiation of the mechanism of trauma and cause of death due to exposure to various external factors;
- ✓ study of methods of forensic and pathomorphological examinations: autopsy, examination of biomaterial, physical (real) evidence of biological material and instruments of crime in different departments of the department of forensic examination of physical (real) evidence.

**2. The main tasks of studying the discipline "Forensic Medicine" are the following:**

- ✓ understanding the basics of the mechanism of injury and the formation of bodily injuries in the development of general pathological processes of the human body as a result of injury, the combination of which determines the morphological manifestations of certain traumatic injuries;
- ✓ knowledge of the morphology of the manifestation of various types of injuries, complications and consequences;
- ✓ understanding the division of bodily injuries by severity;
- ✓ determination of the state of health and age, concepts in conducting forensic medical examinations for controversial sexual conditions and crimes;
- ✓ ability to describe a corpse at the place of its discovery (scene);
- ✓ concepts in forensic research;
- ✓ comparison of morphological and clinical manifestations of injuries, poisonings at all stages of their development, pathological conditions associated with them;
- ✓ obtaining skills of clinical and anatomical analysis, synthetic generalization of diagnostic signs of traumatic injuries and their correct interpretation in cause-and-effect relationships.

**3. Competences and learning outcomes**, the formation of which is facilitated by the discipline "Forensic Medicine"

In accordance with the requirements of the Standard of Higher Education, the discipline provides students with the acquisition of **competencies**:

integrated - the ability to solve typical and complex specialized problems and practical problems in the learning process, which involves research and innovation, and is characterized by complexity and uncertainty of conditions and requirements;

general :

- ✓ ability to apply knowledge of forensic medicine in practical situations;
- ✓ ability to choose communication strategy, ability to work in a team, interpersonal skills;
- ✓ ability to communicate in the state language both orally and in writing;
- ✓ ability to communicate in another language;
- ✓ skills of using information and communication technologies;
- ✓ ability to abstract thinking, analysis and synthesis, ability to learn and be trained in a modern way;
- ✓ ability to evaluate and ensure the quality of work performed;
- ✓ certainty and persistence in the tasks and responsibilities.

special (professional, subject):

- ✓ ability to master the methods of forensic research: autopsy, laboratory methods of research of physical (real)

- ✓ evidence of biological origin, experimental modeling of traumas and bodily injuries;
- ✓ ability to analyze morphological manifestations of any type of traumatic injuries;
- ✓ ability to evaluate the results of forensic autopsy, investigating physical evidence of biological origin;
- ✓ ability to evaluate diagnostic criteria for various types of traumatic injuries, poisonings;
- ✓ ability to analyze the structural basis of the formation of injuries, bodily injuries, poisoning and their clinical manifestations, the structural basis of complications, various consequences, including death.

#### 4. Course details

To successfully study and master the competencies of the discipline "Forensic Medicine", the student must have knowledge of the following disciplines:

1. human anatomy
2. pathological anatomy
3. histology, cytology and embryology
4. medical biology, parasitology and genetics
5. physiology
6. biological chemistry
7. pathological physiology
8. traumatology
9. neurology
10. neurosurgery
11. resuscitation and intensive care

#### 5. Program learning outcomes

##### List of learning outcomes

	The content of the learning outcome	Program competencies
1.	General knowledge of forensic medicine in relation to the objects of examination	<i>Ability to abstract thinking, analysis and synthesis.</i> <i>Ability to learn and master modern knowledge.</i> <i>Ability to apply knowledge in practical situations.</i> <i>Knowledge and understanding of the subject area and understanding of professional practice.</i> <i>Ability to adapt and act in a new situation.</i> <i>Ability to make reasonable decisions.</i> <i>Ability to work in a team.</i> <i>Interpersonal communication skills.</i> <i>Ability to communicate in the state language both orally and in writing.</i> <i>Definiteness and persistence in terms of tasks and responsibilities.</i> <i>Ability to act socially responsibly and consciously.</i> <i>Ability to act on the basis of ethical considerations (motives).</i> <i>Skills of interviewing and clinical examination of the patient.</i> <i>Ability to determine the required list of laboratory and instrumental studies and evaluate their results.</i> <i>Ability to establish a preliminary and clinical diagnosis of the disease.</i> <i>Ability to determine the principles and nature of disease treatment.</i> <i>Ability to carry out sanitary, hygienic, and preventive measures.</i> <i>Ability to keep medical records.</i> <i>Ability to conduct epidemiological and medical-statistical studies of public health; processing of state, social, economic and medical information.</i> <i>Ability to analyze the activities of a doctor, department, health care institution, take measures to ensure the quality of medical care and improve the efficiency of medical resources.</i>
2.	Using the acquired knowledge of forensic medicine to evaluate additional laboratory researches to formulate the cause of death.	<i>Ability to abstract thinking, analysis and synthesis.</i> <i>Ability to learn and master modern knowledge.</i> <i>Ability to apply knowledge in practical situations.</i> <i>Knowledge and understanding of the subject area and understanding of professional practice.</i> <i>Ability to adapt and act in a new situation.</i> <i>Ability to make reasonable decisions.</i> <i>Ability to work in a team.</i> <i>Interpersonal communication skills.</i> <i>Ability to communicate in the state language both orally and in writing.</i> <i>Skills in the use of information and communication technologies.</i> <i>Definiteness and persistence in terms of tasks and responsibilities.</i>

		<p><i>Ability to act socially responsibly and consciously.</i></p> <p><i>Ability to act on the basis of ethical considerations (motives).</i></p> <p><i>Skills of interviewing and clinical examination of the patient.</i></p> <p><i>Ability to determine the required list of laboratory and instrumental studies and evaluate their results.</i></p> <p><i>Ability to establish a preliminary and clinical diagnosis of the disease.</i></p> <p><i>Ability to determine the principles and nature of disease treatment.</i></p> <p><i>Ability to keep medical records.</i></p> <p><i>Ability to analyze the activities of a doctor, department, health care institution, take measures to ensure the quality of medical care and improve the efficiency of medical resources.</i></p>
3.	Determine the forensic diagnosis, type and nature of injuries and traumatic injuries.	<p><i>Ability to abstract thinking, analysis and synthesis.</i></p> <p><i>Ability to learn and master modern knowledge.</i></p> <p><i>Ability to apply knowledge in practical situations.</i></p> <p><i>Ability to adapt and act in a new situation.</i></p> <p><i>Ability to make reasonable decisions.</i></p> <p><i>Ability to work in a team.</i></p> <p><i>Interpersonal communication skills.</i></p> <p><i>Skills in the use of information and communication technologies.</i></p> <p><i>Ability to act socially responsibly and consciously.</i></p> <p><i>Skills of interviewing and clinical examination of the patient.</i></p> <p><i>Ability to determine the required list of laboratory and instrumental studies and evaluate their results.</i></p> <p><i>Ability to establish a preliminary and clinical diagnosis of the disease.</i></p> <p><i>Ability to determine the principles and nature of disease treatment.</i></p> <p><i>Ability to carry out sanitary, hygienic and preventive measures.</i></p> <p><i>Ability to conduct epidemiological and medical-statistical studies of public health; processing of state, social, economic and medical information.</i></p> <p><i>Ability to analyze the activities of a doctor, department, health care institution, take measures to ensure the quality of medical care and improve the efficiency of medical resources.</i></p>
11.	Evaluate physical (real) evidence of biological and non-biological origin.	<p><i>Ability to abstract thinking, analysis and synthesis.</i></p> <p><i>Ability to apply knowledge in practical situations.</i></p> <p><i>Ability to make reasonable decisions.</i></p> <p><i>Definiteness and persistence in terms of tasks and responsibilities.</i></p> <p><i>Skills of interviewing and clinical examination of the patient.</i></p> <p><i>Ability to determine the required list of laboratory and instrumental studies and evaluate their results.</i></p> <p><i>Ability to conduct a working capacity examination.</i></p> <p><i>Ability to keep medical records.</i></p> <p><i>Ability to conduct epidemiological and medical-statistical studies of public health; processing of state, social, economic and medical information.</i></p>
15.	Determine the degree of loss of general and professional capacity for work in persons under examination	<p><i>Ability to abstract thinking, analysis and synthesis.</i></p> <p><i>Ability to apply knowledge in practical situations.</i></p> <p><i>Ability to make reasonable decisions.</i></p> <p><i>Definiteness and persistence in terms of tasks and responsibilities.</i></p> <p><i>Skills of interviewing and clinical examination of the patient.</i></p> <p><i>Ability to determine the required list of laboratory and instrumental studies and evaluate their results.</i></p> <p><i>Ability to conduct a working capacity examination.</i></p> <p><i>Ability to keep medical records.</i></p> <p><i>Ability to conduct epidemiological and medical-statistical studies of public health; processing of state, social, economic and medical information.</i></p>
21.	Form goals and determine the structure of personal responsibility.	<p><i>Ability to abstract thinking, analysis and synthesis.</i></p> <p><i>Ability to learn and master modern knowledge.</i></p> <p><i>Knowledge and understanding of the subject area and understanding of professional practice.</i></p> <p><i>Ability to adapt and act in a new situation.</i></p> <p><i>Ability to make reasonable decisions.</i></p> <p><i>Definiteness and persistence in terms of tasks and responsibilities.</i></p> <p><i>The ability to act socially responsibly and consciously.</i></p>
22.	Adhere to a healthy lifestyle, use the techniques	<p><i>Ability to abstract thinking, analysis and synthesis.</i></p> <p><i>Ability to learn and master modern knowledge.</i></p> <p><i>Ability to adapt and act in a new situation.</i></p>

	of self-regulation and self-control.	<i>Interpersonal communication skills. The ability to act socially responsibly and consciously.</i>
23.	To raise the general educational and cultural level, to be guided in the practice by civil rights, freedoms and duties.	<i>Ability to learn and master modern knowledge. Ability to apply knowledge in practical situations. Ability to adapt and act in a new situation. Interpersonal communication skills. Ability to communicate in the state language both orally and in writing. Ability to act socially responsibly and consciously. Ability to act on the basis of ethical considerations (motives). Ability to carry out sanitary, hygienic, and preventive measures. Ability to plan and carry out preventive and anti-epidemic measures against infectious diseases.</i>
24.	Adhere to the norms of bioethics and deontology in professional practice.	<i>Ability to abstract thinking, analysis and synthesis. Knowledge and understanding of the subject area and understanding of professional practice. Ability to work in a team. Interpersonal communication skills. The ability to act socially responsibly and consciously. Ability to act on the basis of ethical considerations (motives).</i>
25.	Organize the necessary level of individual safety in case of dangerous situations in the individual practice.	<i>Ability to abstract thinking, analysis and synthesis. Ability to adapt and act in a new situation. Ability to make reasonable decisions. The ability to act socially responsibly and consciously.</i>

**The student must know:**

1	History of development, procedural and organizational principles of forensic examination in Ukraine; the content of legal documents relating to the appointment and conducting of forensic examination.
2	Contents of legal documents related to human organ or tissue transplantation and donation in Ukraine.
3	Degrees of severity of bodily injuries and their qualification features; the method of examination of the person in relation to the mechanism and age of causing the injury.
4	Features and methods of forensic medical examinations in relation to controversial sexual conditions and morphological features of sexual crimes.
5	Diagnosis of clinical and biological death, probable and absolute signs of death; morphological signs of early (algor mortis, body drying, postmortem lividity, rigor mortis, autolysis) and late (mummification, adipocere, peat tanning) phenomena of death.
6	Methods of forensic autopsy in relation to violent and non-violent genesis of death, composition and purpose of sectional tools; morphological and pathological changes of internal organs and systems of the human body, which most often cause death; methods of extracting biological material for additional laboratory tests.
7	Tasks of a forensic specialist during the examination of the scene, the rules of the external examination of the corpse and its description in the "Protocol of examination of the corpse at the scene."
8	Modern possibilities of forensic medical examination of material evidence of biological and non-biological origin, the principles of their extraction and conducting blood, hair, semen, saliva tests in the appropriate departments.
9	Methods of forensic examinations for the identification of the instrument of the crime, identification of the person, determining the type of damage in biological objects and damage in non-biological objects.
10	Interpretation of the term "injury", classification of injuries caused by blunt hard and sharp objects, the general reaction of the body to injury; modern possibilities of forensic medical examination, forensic medical formulation of the diagnosis and causes of death due to such injuries.
11	Interpretation of the term "injury"; morphological (specific and characteristic) features of injuries, inherent in some groups and types of transport injuries (automobile, motorcycle, railway, animal-drawn transport, water, air, caterpillar transport), the general reaction of the organism to the injury; modern possibilities of forensic medical examination, forensic medical formulation of the diagnosis and causes of death due to such injuries.
12	The main properties of firearms, the mechanism of the shot and the phenomena that accompany it; correlation of morphological features of gunshot wound injury and shooting distance, modern possibilities of forensic examination, forensic medical formulation of the diagnosis and causes of death due to gunshot and explosive injuries.

13	Types of mechanical asphyxia and their diagnostic signs, stages of lifelong course of asphyxia, modern possibilities of forensic medical examination, forensic medical formulation of the diagnosis and causes of death due to such injuries.
14	Peculiarities of bodily injuries caused by environmental factors (technical and atmospheric current, high and low temperatures, altered barometric pressure, ionizing radiation); modern possibilities of forensic medical examination, forensic medical formulation of the diagnosis and causes of death due to such injuries.
15	General information about poisons and their classification, diagnosis of poisoning by caustic, blood, destructive, neuro-functional poisons; modern possibilities of forensic medical examination, forensic medical formulation of the diagnosis and causes of death due to poisoning.
	<b>The student must be able to:</b>
1	Interpret the legislation on the appointment and conducting forensic examination, legislation on human organs or tissues transplantation and donation in Ukraine.
2	Determine the severity of injuries and their qualifications, mechanism and age of injury during the examination of the victim or analysis of medical records.
3	From a legal and medical point of view to qualify controversial sexual conditions and morphological features of sexual crimes, determine the severity of injuries and the manner of their infliction during the examination of the victim or analysis of medical records.
4	State the fact of death, perform an examination of the corpse at the scene and document in the "Protocol of examination of the corpse at the scene."
5	Use tools to assess supravital reactions, early and late signs of death; interpret the results of the description of these changes in forensic documents.
6	Formulate a forensic diagnosis; fill in a "Medical Certificate of Death" and "Conclusion of expert" regarding various types of injuries.
7	Record, seize, pack physical evidence of biological and non-biological origin during the inspection of the scene; formulate questions that can be solved by experts in the relevant departments of the bureau during the study of blood, hair, semen, saliva.
8	Perform research on forensic objects using ultraviolet, infrared, luminescent radiation, contact-diffusion method of searching for metals; interpret the results of additional laboratory tests of objects in forensic documents.
9	Identify and differentiate the types of injuries, morphological features and dynamics of healing of injuries caused by blunt hard and sharp objects; interpret the results of additional laboratory tests of objects in forensic documents; formulate a forensic diagnosis and the cause of death in the most common cases of such injuries.
10	Identify and differentiate the types of injuries, morphological features and dynamics of healing of injuries caused during traffic injuries (car, motorcycle, railway); interpret the results of additional laboratory tests of objects in forensic documents; to formulate a forensic diagnosis and the cause of death in the most common cases of such injuries.
11	Differentiate entry and exit gunshot wounds and other trauma, determine the morphological features of the gunshot wound canal; interpret the results of additional laboratory tests of objects in forensic documents; to formulate a forensic diagnosis and the cause of death in the most common cases of gunshot and blast (explosive) injuries.
12	State general asphyxiation signs during the examination of a human corpse, to interpret the results of additional laboratory tests of objects in forensic documents; to formulate a forensic diagnosis and the cause of death in cases of various types of mechanical asphyxia.
13	Determine the morphological and clinical signs of environmental factors (technical and atmospheric current, high and low temperatures, altered barometric pressure, ionizing radiation); interpret the results of additional laboratory tests of objects in forensic documents; to formulate a forensic diagnosis and the cause of death due to various types of such injuries.
14	Differentiate morphological signs of poisoning caused by different groups of poisons; interpret the results of additional laboratory tests of objects in forensic documents, formulate a forensic diagnosis and the cause of death in the most common cases of poisoning.
1	Ability to solve typical and complex specialized problems and practical problems in the learning process, which involves research and/or innovation and is characterized by complexity and uncertainty of conditions and requirements.
2	Ability to apply knowledge of forensic medicine in practical situations; ability to choose communication strategy; ability to work in a team, skills of interpersonal interaction, ability to communicate in the state language both orally and in writing; ability to communicate in another language; skills in the use of information and communication technologies; ability to abstract thinking, analysis and synthesis, ability to learn and be trained in a modern way; ability to evaluate and ensure the quality of work performed; certainty and persistence in the tasks and responsibilities.
3	Ability to master the methods of forensic research: experimental modeling of injuries; ability to analyze morphological changes of injuries; ability to evaluate the results of forensic autopsy,

	additional laboratory tests of biological and non-biological material.
1	Independently plan and conduct research.
2	Take personal responsibility for the results of your own professional practice.
3	Adhere to generally accepted norms of behavior and morality in interpersonal relationships.

<b>6. Format and scope of the course</b>		
<b>Discipline format</b>	<b>full-time</b>	
<b>Kind of classes</b>	Number of hours	Number of groups
<b>Lectures</b>	-	-
<b>Practical classes</b>	24	According to the approved schedule.
<b>Self study</b>	21	-

### **7. Topics and content of the course**

Types of students' educational activities according to the curriculum are: a) practical classes, b) students' independent work (self-study).

The topics of the lecture course deal with the problematic issues of the relevant sections of forensic medicine.

Practical classes provide:

- 1) students' research of macroscopic changes in organs and systems at presence of different types of injuries and pathological processes;
- 2) solving different situational tasks (assessment of morphological changes in case of morphological injuries, pathological processes), which may have clinical and forensic relation.

#### **Organizational system of the classes:**

Practical classes are conducted in a way of interactive communication between a teacher and students. With the aim of preparation to the practical class a student must:

- 1) listen and study the lecture which is presented during the class;
- 2) learn theoretical material with the help of textbooks, handbooks and other sources available;
- 3) memorize suggested diagrams, tables, pictures in the medical documents adapted for students.

Approximate plan for conducting the class:

- 1) The formulation of the goals and objectives by the teacher.
- 2) Interactive communication in the form of discussion, which includes information presented in tables, diagrams, pictures studied by the student, with obligatory discussions on the topic of the class.
- 3) Demonstration of the forensic autopsy of the body of the deceased (according to the calendar-thematic plan).
- 4) Final control of the class includes the assessment of students' independent work (self-study), oral answering and a test to check theoretical knowledge of every student.

Type of a class code	Topic	Learning content	Learning outcome code	Teacher
PC-1 (Practical class 1)	Organizational and procedural principles of forensic examination in Ukraine.	Determining the initial level of knowledge during an oral interview. Discussion of issues of the topic, study of forensic evidence. Execution of situational tasks, final testing.		According to the approved schedule.
PC-2	Forensic examination to determine the severity of injuries, health and age. Forensic examination of living persons.	Determining the initial level of knowledge during an oral interview. Discussion of issues of the topic, study of the objects of the department of forensic medical examination of victims, accused and other persons. Execution of situational tasks, final testing.		According to the approved schedule.
PC-3	Medico-legal determination of doubtful sex. Medico-legal aspects of sexual offences.	Determining the initial level of knowledge during an oral interview. Discussion of issues of the topic, study of the objects of the department of forensic medical examination of victims, accused and other persons. Execution of situational tasks, final testing.		According to the approved schedule
PC-4	Forensic medical thanatology. External examination of a corpse at the scene of death. Composition of the report of the scene examination.	Determining the initial level of knowledge during an oral interview. Discussion of issues of the topic, study of gross specimen of soft tissues, skin, bones. Execution of situational tasks, final testing.		According to the approved schedule.
PC-5	Forensic medical autopsy, its demonstration. Forensic diagnosis and death certificate.	Determining the initial level of knowledge during an oral interview.		According to the approved schedule



		Discussion of the topic, study of gross specimen. Execution of situational tasks, final testing.		
PC-6	General questions of a forensic medical traumatology. Damages caused by blunt and sharp objects	Determining the initial level of knowledge during an oral interview. Discussion of the topic, study of gross specimen. Execution of situational tasks, final testing.		According to the approved schedule.
PC-7	Forensic investigation of the road traffic accidents.	Determining the initial level of knowledge during an oral interview. Discussion of the topic, study of gross specimen. Execution of situational tasks, final testing.		According to the approved schedule.
PC-8	Medico-legal examination of firearms injuries.	Determining the initial level of knowledge during an oral interview. Discussion of issues of the topic, study of gross specimen of soft tissues, skin. Execution of situational tasks, final testing.		According to the approved schedule.
PC-9	Medico-legal expertise of mechanical asphyxia.	Determining the initial level of knowledge during an oral interview. Discussion of the topic, study of gross specimen. Execution of situational tasks, final testing.		According to the approved schedule.

PC-10	Medico-legal expertise of poisonings by various types of poisons and toxic drugs. Alcohol intoxication. Composition of the "Conclusion of the expert".	Determining the initial level of knowledge during an oral interview. Discussion of issues of the topic, study of gross specimen of soft tissues, skin. Execution of situational tasks, final testing.		According to the approved schedule.
PC-11	Medico-legal expertise of injuries caused by environmental factors.	Determining the initial level of knowledge during an oral interview. Discussion of issues of the topic, study of gross specimen of soft tissues, skin. Execution of situational tasks, final testing.		According to the approved schedule.
PC-12	Forensic investigation of material evidences of biological origin.	Determining the initial level of knowledge during an oral interview. Discussion of issues of the topic, study of gross specimen of soft tissues, skin. Execution of situational tasks, final testing.		According to the approved schedule.
SS-1 (Self-study 1)	Subject and tasks of forensic medicine. History of its development.	Independent elaboration of the topic with the use of modern innovative technologies; filling in tables, algorithmic tasks, control of knowledge in the relevant practical lesson.		According to the approved schedule.
SS-2	Legal aspects donation and transplantation in Ukrain.			According to the approved schedule.
SS-3	Forensic examination of the corpse of a newborn.			According to the approved schedule.
SS-4	Forensic examination of injuries from sharp objects.			According to the approved schedule.
SS-5	Forensic examination of injuries from blunt objects..			According to the approved schedule.
SS-6	Forensic examination of traffic injuries			According to the approved schedule.
SS-7	Forensic examination of gunshot wounds and explosive injuries.			According to the approved schedule.
SS-8	Forensic examination of mechanical asphyxia.			According to the approved schedule.
SS-9	Forensic examination of injuries and death from extreme temperatures.			According to the approved schedule.

SS-10	Forensic examination of injuries from atmospheric and technical electricity.			According to the approved schedule.
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### 8. Verification of learning outcomes.

SS-11	Forensic examination of injuries from the action of radiant energy.			According to the approved schedule.
SS-12	Forensic examination of injuries and death from the action of sharply altered barometric pressure.			According to the approved schedule.
SS-13	Forensic examination of injuries and death from biological factors.			According to the approved schedule.
SS-14	General information about poisons, the mechanism of their action and the basics of forensic diagnosis of poisoning. Forensic diagnosis of poisoning by different groups of poisons.			According to the approved schedule.
SS-15	Forensic examination of physical evidence of biological origin and forensic research methods.			According to the approved schedule.

Current control is carried out at each practical lesson in accordance with the specific objectives of the topic, as well as during the individual work of the teacher with the student for those topics that the student studies on their own and which are not part of the practical class. It is recommended to use the following tools to diagnose the level of preparation of students for tests: solving situational problems; structured written works.

Criteria for evaluating the current educational process - during the evaluation of mastering each topic for the current educational process of the student is given grades on a 4-point (traditional) scale.

All types of work provided by the curriculum are taken into account. The student must receive a grade for each topic. Forms of assessment of current educational process include control of theoretical and practical training.

"Excellent" ("5") - The student correctly answered 90 - 100% of the tests. Correctly, clearly, completely and logically answers the standardized questions of the current topic. Closely connects theory with practice and correctly demonstrates the implementation of practical skills, correctly performed all tasks related to the topic. Freely interprets the position of the topic, is able to summarize the material.

Good ("4") - The student correctly answered 70-89% of the tests. Correctly and essentially answers the questions of the current topic. Demonstrates the implementation of practical skills, correctly or with minor errors performed all tasks related to the topic of the lesson. Correctly uses theoretical knowledge for interpretation of situational tasks. The student has the necessary practical skills and techniques to do them to an extent exceeding the required minimum.

"Satisfactory" ("3") - The student answered 50-69% of the tests correctly. Incomplete, with the help of additional questions, answers the standardized questions of the current topic. Cannot build a clear, logical answer on their own. During the answer and demonstration of practical skills makes significant mistakes, with significant mistakes completed the task. The student solves only easy situational problems, has only a minimum of necessary practical skills.

"Unsatisfactory" ("2") - The student answered less than 50% of the tests correctly. Does not know the material of the current topic. The student cannot independently build a logical answer to additional questions, does not understand the content of the material. Makes practical, serious mistakes when answering and demonstrating practical skills.

Criteria for assessing independent work (self-study): Assessment of independent work of students, which is provided in the topic along with classroom work, is carried out during the current control of the topic at the relevant class. Assessment of topics that are submitted only for independent work and are not included in the topics of classroom classes, is controlled during the credit.

Learning outcome code		Method of verifying learning outcomes	Enrollment criteria
		See the diagrams described above in the section "Current control"	During the assessment of mastering each topic for the current educational activity of the student, grades are set on a 4-point (traditional) scale. This takes into account all types of work provided by

			the curriculum. The student must receive a positive grade on each topic. Forms of assessment of current educational activities include control of theoretical and practical training.
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<b>Final control</b>	
<i>In the 7th / 8th semester, when studying "Forensic Medicine", the form of final control is a credit</i>	
General evaluation system	Participation in the work during the semester - 100% on a 200-point scale
Rating scales	traditional 4-point scale, multi-point (200-point) scale, rating scale ECTS

Type of final control	Methods of final control	Enrollment criteria
Credit	All topics submitted for current control must be included. Grades from the 4-point scale are converted into points on a multi-point (200-point) scale in accordance with the Regulation "Criteria, rules and procedures for evaluating the results of students' learning activities."	The maximum number of points is 200. The minimum number of points is 120.

**Conversion table on a 200-point scale of arithmetic mean.**

4 - point scale	200 - point scale	4 - point scale	200 - point scale	4 - point scale	200 - point scale	4 - point scale	200 - point scale
5	120	4.45	107	3.91	94	3.33	80
4.95	119	4.41	106	3.87	93	3.29	79
4.91	118	4.37	105	3.83	92	3.25	78
4.87	117	4.33	104	3.79	91	3.2	77
4.83	116	4.29	103	3.74	90	3.16	76
4.79	115	4.25	102	3.7	89	3.12	75
4.75	114	4.2	101	3.62	87	3.08	74
4.7	113	4.16	100	3.58	86	3.04	73
4.66	112	4.12	99	3.54	85	3	72

**9. Course policy**

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

**10. Literature**

**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.

#### **11. Equipment, logistics and software of the discipline / course**

Collections of macro preparation (educational collection of wet tissue preparations and native bone preparations); tables; photos; multimedia presentations; methodical developments for teachers; methodical instructions for practical classes for students; methodical materials that provide independent work of students; training platform software MISA.

#### **12. Additional information**

Lectures and practical classes are held on the basis of department, at the address: 790010, Lviv, st. Pekarska, 52.

Responsible for the educational process at the department - Associate Professor Servetnyk M.I.  
[doctorservetnyk@gmail.com](mailto:doctorservetnyk@gmail.com)

The head of the scientific circle in the discipline "Forensic Medicine" - Associate Professor Shevchuk M.M.  
[shevchuk\\_mykola@meduniv.lviv.ua](mailto:shevchuk_mykola@meduniv.lviv.ua)

Syllabus compiler

Mykola M. Shevchuk, M.D., Ph.D., Associate Professor

Head of the department

Yuriy O. Pospishil, M.D., Ph.D., D.M.Sci., Professor





