MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS
Educational Institution
«BELARUSIAN STATE MEDICAL UNIVERSITY»

APPROVED
by Rector of the Educational Institution «Belarusian State Medical University»
_____ S.P.Rubnikovich
_____ 26.06.2025
Reg.# UD-0911-01-49/2526/edu.

FORENSIC MEDICINE

Curriculum of the educational institution in the academic discipline for the specialty

1-79 01 01 «General Medicine»

2025

Curriculum is based on the educational program «Medical Psychology», approved 26.06.2025, registration # УД-0911-01-49/2526/уч.; on the educational plan in the specialty 1-79 01 01 «General Medicine», approved 16.04.2025, registration # 7-07-0911-01/2526/mf.

COMPILERS:

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RECOMMENDED FOR APPROVAL:

by the Department of Pathological Anatomy and Forensic Medicine with a course of advanced training and retraining of the Educational Institution «Belarusian State Medical University»
(protocol # 14 of 26.05.2025);

by the Scientific and Methodological Council of the Educational Institution «Belarusian State Medical University»
(protocol # 10 of 26.06.2025)

EXPLANATORY NOTE

«Forensic Medicine» is the academic discipline of the module «Clinical Pathology and Clinical Diagnostics», containing systematized scientific knowledge on medical and biological issues that arise in the course of enquiry, preliminary investigation or trial, as well as problems related to further improvement of the quality of medical care in health care organizations.

The aim of the academic discipline «Forensic Medicine» is to develop the specialist skills required for doctors to contribute to the resolution of medical and biological issues in cases covered by the criminal procedural legislation of the Republic of Belarus, within the limits of their professional competence.

The objectives of the academic discipline «Forensic Medicine» consist in the formation of students' scientific knowledge of the dying process and mechanisms of death, signs of death and postmortem changes in the corpse, types of damaging environmental factors and mechanisms of their impact on the human body, the main types of injuries and mechanisms of their formation, skills and abilities necessary for:

establishing biological death and assessing the postmortem interval (PMI);

providing crime scene investigation (CSI) – solving tasks that arise before a state medical forensic expert or other medical specialist at the scene of an accident (place of the discovery of a corpse);

diagnosing, describing and assessing of the bodily injuries;

conducting various types of forensic medical examinations (cadavers, living persons, physical evidence and materials from criminal and civil cases).

Studying the educational discipline «Forensic Medicine» should ensure the formation of students' specialized competence: conduct forensic medical examination of corpses and living persons, examine the corpse at the site of its discovery (accident).

As a result of studying the discipline «Forensic Medicine» the student should

know:

basic forensic concepts;

medico-legal death classification (categories, genera and types of death);

relative signs of death, postmortem phenomena, features of the supra-vital tissues’ reactions (manifestations of «experiencing» tissues);

methods of the ascertaining death and assessing PMI;

causes of the natural (non-violent) death of adults and children;

types and mechanisms of damaging effects of environmental factors;

types, mechanisms of occurrence and morphological features of the injuries resulting from violet death;

medico-legal causes and grounds for conducting CSI, the basis for the examination of the scene of an CSI, the main objectives, stages and phases of the CSI, the procedure and methodology for the examination of a corpse at the accident scene (site of detection);

general methodological principles of examination and description of corpse clothing, postmortem phenomena, supra-vital tissues’ reactions and bodily injuries during the external examination of a corpse;

stages, basic autopsy methods and techniques for examining of a corpse, general methodological principles of biological samples (evidence) collection for forensic laboratory forensic examinations;

fundamental principles of formulating a medico-legal diagnosis;

cases of compulsory appointment and performance of forensic medical examinations of corpses and living persons;

general methodological principles of forensic medical examination of a corpse and the living persons;

grounds and types of forensic examination of living persons, legal classification of bodily injuries by severity and their criteria;

classification of physical evidence, basic methods and procedure for investigating physical evidence of biological origin;

rules of medical ethics and deontology;

be able to:

apply specific techniques of forensic examination to forensic objects;

ascertain morphological features and describe bodily injuries;

establish the death and to ascertain the PMI;

determine the type and category of death;

assist representatives of law enforcement agencies in the forensic medical examination, including the description of a corpse, detection and collection of evidence subject to forensic examination;

master:

methods of ascertaining death and determining PMI;

methodology of examination of a corpse at the CSI;

methodology for the ascertainment of bodily injuries;

methodology of forensic medical examination of a corpse and living persons;

methodology for the collection of physical evidence for the purpose of subsequent forensic examination in the laboratory units (biological, histological, toxicological and medico-criminalistic forensic examinations).

Total number of hours for the study of the discipline is 108 academic hours, of which 45 classroom hours and 63 hours of student independent work. Classroom hours according to the types of studies: lectures – 9 hours (including 3 hours of supervised student independent work (SSIW)), practical classes – 36 hours.

Form of higher education – full-time.

Intermediate assessment is carried out according to the syllabus of the specialty in the form of a credit (10 semester).

ALLOCATION OF ACADEMIC TIME ACCORDING TO SEMESTERS OF STUDY

Code, name of the specialty	Semester	Total number of academic hours	Number of classroom hours				Out-of-class self-studies	Form of intermediate assessment
			Number of classroom hours	including				
				class lectures	SSIW	practicals		
1-79 01 01 «General Medicine»	10	108	45	6	3	36	63	Credit

THEMATIC PLAN

Section (topic) name	Number of class hours	
	lectures (incl. SSIW)	practical
1. Procedural and Organizational Basis of Forensic Medical Examinations in the Republic of Belarus. Legal Implications of the Professional Activities of Medical Practitioners	1,5	6
2. Forensic Thanatology. Crime Scene Investigation	1,5	6
3. Forensic Traumatology. Blunt Force Injuries. Transportation injury	3	6
4. Sharp Force Injuries. Firearms Injury	1,5	6
5. Health Impairment and Death Resulting from Acute Oxygen Deprivation and Exposure to Physical and Chemical Factors	1,5	6
6. Forensic Examination of the Living Persons and Physical Evidence	-	6
Total hours	**9**	**36**

CONTENT OF THE EDUCATIONAL MATERIAL

1. Procedural and Organizational Basis of Forensic Medical Examinations in the Republic of Belarus. Legal Implications of the Professional Activities of Medical Practitioners

The aims, objectives and objects of the forensic examination. The classification of medico-legal examinations. The grounds for and procedure governing, the appointment and conduct of a forensic examination. The circumstances of the

compulsory appointment and conducting of medico-legal examinations in the Republic of Belarus. The rights and duties of the forensic expert.

The fundamental principles of medical ethics and deontology. The legal, moral and ethical norms that govern the relationship between a doctor and a patient. The ramifications of transgressions committed by medical professionals against the deontological tenets governing their professional conduct.

Forensic examination in cases of professional and official offences of medical practitioners. The objectives of the forensic examination of cases involving medical practitioners who have committed professional or official offences.

Characteristics of the various types of iatrogenic diseases and the factors that contribute to their occurrence. Medical errors and accidents as result of the primary causes of unfavorable outcomes in dentistry.

The legal and medical aspects of medical confidentiality.

Identification and analysis the defects in the quality of medical care provided as a result of conducting a forensic examination. The criminal professional offences of medical practitioners. The legal significance of medical documentation.

2. Forensic Thanatology. Crime scene investigation

Process of dying, characteristics of the dying stages. Clinical and somatic death. Medical and socio-legal classifications of death. Constatation of death. Relative and reliable signs of death. Early and late post-mortem phenomena. Types and significance of supravital reactions. Assessment of the post-mortem interval.

Crime scene investigation: definition, grounds for and legal regulation of conducting, characteristics of the participants. The basis for the examination of the scene of an incident (hereinafter referred to as the CSI), the main objectives, stages and phases of the CSI, the procedure and methodology for the examination of a corpse at the place of detection. Methods of ascertaining death, assessing the post-mortem phenomena and the post-mortem interval. Characteristics of the general methodological principles of examination and description of corpse clothing, post-mortem phenomena, supravital reactions and bodily injuries at CSI.

Characteristics of the main aims and stages of the forensic autopsy. External examination of a corpse: characteristics of applied assessment methods (descriptive, measuring, photographic, stereomicroscopic). Internal examination of a corpse: characteristics of the main methods and techniques of autopsy examination of internal organs and brain. Autopsy diagnostics of air embolism, pneumothorax, pulmonary artery thromboembolism. Shore method: methodological principles of examination and description of internal organs. Virchow's method: methodological principles of examination and description of the brain. Collection of autopsies (cadaveric) specimens for forensic laboratories (biological, histological, medical-criminalistic, chemical) examinations. Methods of conducting the collection of cadaveric biological material. Medical and forensic diagnosis. The concept of the main and immediate causes of death. Causes of non-violent death of adults and children.

3. Forensic Traumatology. Blunt Force Injuries. Transportation Injury

General issues in the field of forensic traumatology. Characteristics of damaging environmental factors and their detrimental effects on the human body. The classification of traumas and the typology of traumatism. The classification and

morphological characteristics of mechanical injuries to various parts of the human body, including the head, neck, trunk and limbs. Causes of death resulting from mechanical injuries.

Blunt force injuries. Falling from height and on flat surface. Transportation injuries. Classification and types of impact with blunt objects. Forensic characteristics of isolated and combined trauma to the head, thorax, abdomen, pelvis and limbs caused by blunt objects.

4. Sharp Force Injuries. Firearms Injuries

Sharp force injuries. Classification and types of impact with sharp objects. Forensic characteristics of injuries caused by sharp objects to the head, neck, trunk and limbs.

Firearms injuries. Characteristics of ammunition in relation to the grooved-bore and smooth-bore firearm. The types of mechanical effects of bullets on the human body according to their velocity and design. Wound ballistics, characteristics of the differential-diagnostic morphological features of the entrance and exit gunshot wounds. The concept of gunshot residue evidence. The characteristics of the various ranges of shooting distance and the significant morphological features of the entrance wounds that occurred with different shooting distances.

5. Health Impairment and Death Resulting from Acute Oxygen Deprivation and Exposure to Physical and Chemical Factors

Asphyxiation: characteristics of the periods and stages of its development. Asphyctic genesis of death: mechanism of development, characterization of external and internal general asphyctic features. Forensic classification of mechanical asphyxia and characteristics of the differential-diagnostic morphological features of the various types of mechanical asphyxia.

Thermal injuries. The morphological characteristics of injuries resulting from the localized effects of high and low temperatures. The morphological characteristics of death resulting from the general action of high and low temperatures. Stages of development of burns disease and the causes of death associated with it.

Death due to electrocution and lightning. Characteristics of conditions and types of damaging effect of technical and atmospheric electricity on the human body. Mechanisms and morphological features of death due to electrocution and lightning.

Forensic toxicology. Forensic concept of toxins and their classification. The characteristics of the effects of poison on the human body. Narcomania and toxicomania. Medical and legal concept of narcotic drugs and their pathophysiological classification. Characteristics of the stages of forensic diagnostics of poisoning. The mechanisms of death and morphological features of acute lethal poisoning by caustic, destructive, haemotropic and functional toxins.

6. Forensic Examination of the Living Persons and Physical Evidence

The legal aspects for assigning of a forensic assessment to living individuals and their basic types. The methodology for the organization and conducting of a forensic assessment of the living individuals.

Ascertaining the degree of severity of bodily injuries. The legal classification of bodily injuries according to their degree of severity. The concept of criteria for the classification of bodily injury severity and their characterization.

Classification of physical evidence, basic methods and procedure for investigating physical evidence of biological origin. General principles and methodology for the collection of physical evidence for the purpose of subsequent forensic examination in the laboratory units (biological, histological, toxicological and medico-criminalistic forensic examinations). Blood spot analysis. Forensic identification of personality.

ACADEMIC DISCIPLINE CURRICULAR CHART

Section, topic #	Section (topic) name	Number of hours		Supervised student independent work	Literature	Practical skills	Form of control	
		lectures	practical				of practical skills	of current / intermediate assessment
	Lectures	**6**	**-**	**3**				
1.	Legal regulations and requirements for the organization and conduct of forensic examinations	1,5	-	-	1, 10			
2.	Natural (non-violent) death of adults and children. Examination of the corpses of newborn infants	-	-	1,5	1, 10			Electronic testing
3.	General aspects of forensic traumatology. Blunt force injuries	1,5	-	-	1, 10			
4.	Falling from a height and onto a flat surface. Transportation injury	1,5	-	-	1, 10			
5.	Sharp force injuries. Firearms injuries	1,5	-	-	1, 10			
6.	Health impairment and death resulting from acute oxygen deprivation and exposure to physical and chemical factors	-	-	1,5	1, 10			Electronic testing

	Practical lessons	-	**36**	-				
1.	Procedural and organizational basis of medico-legal examination in the Republic of Belarus. Legal implications and regulatory requirements applicable to the professional activities of medical practitioners	-	6	-	1 - 4, 9, 10			Interview, tests
2.	Forensic Thanatology. Crime scene investigation	-	6	-	1 - 6, 9, 10	1. Ascertaining a death and assessment of post-mortem interval. 2. Examination of a corpse at the site of detection	Situational tasks solving*	Interview, situational tasks, tests*
3.	Forensic Traumatology. Blunt Force Injuries. Transportation Injury	-	6	-	1 - 4, 6, 9, 10	Examination of the bodily injuries	Situational tasks solving*	Interview, situational tasks, tests
4.	Sharp Force Injuries. Firearms Injuries	-	6	-	1 - 4, 6, 9, 10	Examination of the bodily injuries	Situational tasks solving*	Interview, situational tasks, tests
5.	Health impairment and death resulting from acute oxygen deprivation and exposure to physical and chemical factors	-	6	-	1 - 4, 6 - 10	Examination of the bodily injuries	Situational tasks solving*	Interview, situational tasks, tests*
6.	Forensic examination of the living persons and physical evidence	-	6	-	1 - 4, 6, 9, 10	Examination of the bodily injuries	Situational tasks solving	Interview, situational tasks, tests*. Credit
	Total hours	**6**	**36**	**3**				

INFORMATION AND INSTRUCTIONAL UNIT

LITERATURE

Basic(relevant):

1. Pigolkin, Yu. I. Forensic Medicine : textbook / Yu. I. Pigolkin, I. A. Dubrovin. – Moscow : ГЭОТАР-Медиа, 2019. – 456 p.

Additional:

2. Mykhailychenko, B. V. Forensic Medicine : textbook / ed. by B. V. Mykhailychenko. – 2nd ed. – Kyiv : AUS Medicine Publishing, 2019. – 223 p.
3. DiMaio, V. J. M., Dana, S. E. Handbook of Forensic Pathology. / V. J. M. DiMaio, S. E. Dana. – 2nd ed. – CRC Press, 2017. – 312 p.
4. Color Atlas of Forensic Medicine and Pathology / ed. by Ch. Catanese, B. Heaton. – CRC Press, 2017. – 420 p.
5. Sreenivas, Sujith C. Jaypee's Video Atlas of Medicolegal Autopsy. / Sujith C. Sreenivas. – Jaypee Brothers Medical Publishers, 2017. – 124 p.
6. Clinical Forensic Medicine : A Physician's Guide : textbook. – 4th ed. – Springer, 2020. – 551 p.
7. Forensic Medicine and Toxicology : Practical Manual / ed. by Shankar M. Bakkannavar. – Elsevier, 2018. – 248 p.
8. The Synopsis of Forensic Medicine and Toxicology Paperback. – 29th ed. – Jaypee Brothers Medical Publishers, 2017. – 408 p.
9. Simpson's Forensic Medicine / ed. by J. Payne-James, R. M. Jones. – 14th ed. – CRC Press, 2019. – 360 p.

Electronic courseware for the educational discipline «Forensic Medicine»

10. https://etest.bsmu.by/course/index.php?categoryid=9&browse=courses&perpage=20&page=1.

METHODOLOGICAL RECOMMENDATIONS FOR THE ORGANIZATION AND PERFORMANCE OF STUDENT INDEPENDENT WORK IN THE ACADEMIC DISCIPLINE

The time allocated for independent work can be used by students for:
preparing for lectures and practical classes;
preparing for control works and credit in the academic discipline;
study of the topics (issues) assigned for the self-study;
solving of the situational tasks.

METHODOLOGICAL RECOMMENDATIONS FOR THE ORGANIZATION AND PERFORMANCE OF SUPERVISED STUDENT INDEPENDENT WORK IN THE ACADEMIC DISCIPLINE

APPROXIMATE LIST OF TASKS FOR SUPERVISED STUDENT INDEPENDENT WORK:

preparation of thematic reports, abstracts, presentations;
outlining primary sources;
compiling tests for organizing self-control.

FORMS OF CONTROL OF SUPERVISED STUDENT INDEPENDENT WORK:

electronic testing.

LIST OF AVAILABLE DIAGNOSTIC TOOLS

The following forms are used for competence assessment:
interview;
situational tasks;
tests.

LIST OF AVAILABLE TEACHING METHODS

Traditional method;
active (interactive) methods:
Problem-Based Learning (PBL);
Case-Based Learning (CBL).

LIST OF PRACTICAL SKILLS

Name of practical skills	Form of practical skills control
1. Ascertaining a death and assessment of post-mortem interval	Situational tasks solving
2. Examination of a corpse at the site of detection	Situational tasks solving
3. Examination of the bodily injuries	Situational tasks solving

PROTOCOL OF THE CURRICULUM APPROVAL BY OTHER DEPARTMENTS

Title of the discipline requiring approval	Department	Amendments to the curriculum in the academic discipline	Decision of the department, which designed the curriculum (date, protocol #)
1. Pathological Physiology	Department of Pathological Anatomy and Forensic Medicine with a course of advanced training and retraining	No amendments are required	Protocol # 14 of 26.05.2025

COMPILERS/AUTHORS:

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Head of the Department of Pathological Anatomy and Forensic Medicine with a course of advanced training and retraining of the Educational Institution «Belarusian State Medical University», PhD, Associate Professor T.A.Letkovskaya

Curriculum content, composition and the accompanying documents comply with the established requirements.

Head of the Office of Educational Activities of the Educational Institution «Belarusian State Medical University» I.L.Kotovich
24.06.2025

Methodologist of the Educational and Methodological department of the Office of Educational Activities of the Educational Institution «Belarusian State Medical University» S.V.Zaturanova
24.06.2025