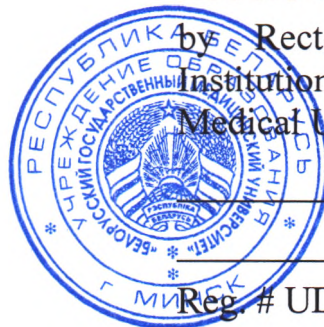


MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS
Educational Institution
BELARUSIAN STATE MEDICAL UNIVERSITY

**Контрольный
экземпляр**

APPROVED



by Rector of the Educational
Institution «Belarusian State
Medical University»

 S.P. Rubnikovich

20.11.2024

Reg. # UD-091-051/2425 /edu.

FORENSIC MEDICINE

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

1-79 01 07 «Dentistry»

Curriculum is based on the educational program «Forensic Medicine», approved 20.11.2024, registration # УД-091-051/2425/уч.; on the educational plan in the specialty 1-79 01 07 «Dentistry», approved 15.05.2024, registration # 7-07-0911-03/2425/mf.

COMPILERS:

V.V.Siamionau, Senior Lecturer 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»

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 # 3 of 30.09.2024);

by the Scientific and Methodological Council of the Educational Institution «Belarusian State Medical University»
(protocol # 3 of 20.11.2024)

EXPLANATORY NOTE

«Forensic Medicine» is an academic discipline of the General Clinical Therapy Module # 2, which contains systematized scientific knowledge about pertaining to medical and biological issues that arise during the course of an inquiry, preliminary investigation, or trial. Additionally, it addresses concerns related to the enhancement of medical care quality within healthcare organizations.

The aim of the academic discipline «Forensic Medicine» is the formation of basic professional competencies required for the resolution of issues that may arise during the course of a forensic medical examination by a duly qualified physician, as stipulated by the criminal procedural legislation of the Republic of Belarus.

The objectives of the academic discipline «Forensic Medicine» are to facilitate students' acquisition of scientific knowledge pertaining to the processes of dying and death, the indications thereof, the changes that occur in a corpse following death, the detrimental effects of environmental factors and the mechanisms through which they impact the human body, the principal types of injuries and the processes through which they are formed, and the skills and abilities necessary for:

- determination of biological death and post-mortem interval assessment;
- resolution of some expert's or other medical specialist's issues at the crime scene investigation (examination of the corpse at the place of detection);
- diagnosis, description and assessment of bodily injuries;
- conducting a forensic medical examination of a corpse and the living individuals.

The acquisition of knowledge, skills and abilities during the study of the academic discipline «Forensic Medicine» is a prerequisite for the study of the following academic disciplines such as «Psychiatry and Narcology» and «Clinical Pharmacology».

The student who has mastered the content of the educational material of the academic discipline «Forensic Medicine» should ensure the formation of students' basic professional 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:

- procedural and organizational bases of forensic medical examination in the Republic of Belarus;
- rights and duties of the state medical forensic expert in accordance with the Code of Criminal Procedure of the Republic of Belarus;
- cases of compulsory appointment and performance of forensic medical examinations of corpses and living individuals;
- types of forensic medical examinations of living individuals;
- legal classification of bodily injuries by severity;
- general methodological principles of forensic medical examination of a corpse and the living individuals;

the basis for the examination of the scene of an incident (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;

socio-legal classification of death (categories, births, types of death);

relative signs of death, post-mortem phenomena, manifestations of «experiencing» tissues;

methods of ascertaining death and determining the post-mortem interval;

causes of non-violent (Natural Death) of adults and children;

types and mechanisms of damaging effects of environmental factors;

types, mechanisms of formation, morphology of injuries in violent death;

peculiarities of diagnostics, description and assessment of injuries of soft tissues of the face, maxillofacial bones and teeth in cases of mechanical trauma, firearms injuries, wounding impacts of physical and chemical factors;

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

general methodological principles of examination and description of corpse clothing, post-mortem phenomena, supravital reactions, bodily injuries during external examination of a corpse;

fundamental principles of formulating a forensic medical diagnosis;

circumstances under which a medical practitioner may be held criminally liable for performing or failing to perform their official and professional duties in an improper manner;

principles of medical ethics and deontology;

be able to:

apply specific techniques of forensic examination to forensic objects;

determine morphology and describe bodily injuries;

establish the death and to assess the post-mortem interval;

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 the post-mortem interval;

methodology of examination of a corpse at the place of detection (CSI);

technique of describing bodily injuries.

Total number of hours for the study of the discipline is 48 academic hours, of which 30 classroom hours and 18 hours of student independent work. Classroom hours according to the types of studies: lectures – 12 hours (including 3 hours of supervised student independent work (SSIW)), practical classes – 18 hours.

Intermediate assessment is carried out according to the syllabus of the specialty in the form of a credit (8 semester).

Form of higher education – full-time.

ALLOCATION OF ACADEMIC TIME ACCORDING TO SEMESTERS OF STUDY

Code, name of the specialty	semester	Number of academic hours						Form of intermediate assessment
		total	in-class	including			out-of-class self-studies	
				lectures	supervised student independent work	practical classes		
1-79 01 07 «Dentistry»	8	48	30	9	3	18	18	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	1,5	-
2. Legal Implications of the Professional Activities of Medical Practitioners	1,5	2
3. Forensic Thanatology	1,5	-
4. Crime Scene Investigation	1,5	2
5. Forensic Autopsy	1,5	2
6. Forensic Traumatology	1,5	2
7. Mechanical Asphyxia	1,5	2
8. Thermal Injuries	1,5	2
9. Death due to Electrocution and Lightning	-	2
10. Forensic Toxicology	-	2
11. Forensic Examination of the Living Individuals	-	2
Total hours	12	18

CONTENT OF THE EDUCATIONAL MATERIAL

1. Procedural and Organizational Basis of Forensic Medical Examinations in the Republic of Belarus

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.

2. Legal Implications of the Professional Activities of Medical Practitioners

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.

3. Forensic Thanatology

Process of dying, characteristics of the dying stages. Clinical and somatic death. Medical and socio-legal classifications of death. Constation 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.

4. Crime scene investigation

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.

5. Forensic Autopsy

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 autopsy (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.

6. Forensic Traumatology

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.

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.

7. Mechanical Asphyxia

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.

8. 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.

9. 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.

10. 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.

11. Forensic examination of the living individuals

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.

Peculiarities of diagnostics, description and assessment of injuries of soft tissues of the face, maxillofacial bones and teeth in cases of mechanical trauma, firearms injuries, wounding impacts of physical and chemical factors.

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	9	-	3				
1.	Legal regulations and requirements for the organization and conduct of forensic examinations	1,5	-	-	1,10			
2.	Injuries resulting from blunt and sharp force trauma	1,5	-	-	1,10			
3.	Falling from a height and onto a flat surface	1,5	-	-	1,10			
4.	Firearms injuries. Blast trauma	1,5	-	-	1,10			
5.	Asphyxial death due to asphyxiation	1,5	-	-	1,10			
6.	Forensic toxicology	1,5	-	-	1,10			
7.	Forensic thanatology	-	-	1,5	1,10			Interview, electronic testing
8.	Temperature-related injuries. Death due to electrocution and lightning	-	-	1,5	1,10			Interview, electronic testing

	Practical lessons	-	18	-				
1.	Legal framework and regulatory requirements applicable to medical practitioners. Crime scene investigation. Forensic autopsy	-	6	-	1-4, 10	Ascertaining a death and assessment of post-mortem interval. Examination of a corpse at the place of detection	Situational tasks solving*	Interview, situational tasks, tests
2.	Forensic traumatology. Thermal injuries. Death due to electrocution and lightning	-	6	-	1, 3, 5, 8, 10	Examination of the bodily injuries	Situational tasks solving*	Interview, situational tasks, tests
3.	Mechanical asphyxia. Forensic toxicology. Forensic examination of the living individuals	-	6	-	1, 3, 6-10	Examination of the bodily injuries	Situational tasks solving	Interview, situational tasks, case-based assessment. Tests*. Credit
	Total hours	9	18	3				

*This is a mandatory form of current certification

INFORMATION AND INSTRUCTIONAL UNIT

LITERATURE

Basic (relevant):

1. Pigolkin, Yu. I. Forensic Medicine : textbook / Yu. I. Pigolkin, I. A. Dubrovin. – Moscow : ГЭОТАР-Медиа, 2023. – 472 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, Vincent J. M., Dana, Suzanna E., Handbook of Forensic Pathology – 2nd ed. – CRC Press, 2017. – 312 p.
4. Color Atlas of Forensic Medicine and Pathology / ed. by Ch. Catanese, B. Heaton. – 1st ed. – CRC Press, 2017. – 420 p.
5. Sujith, Sreenivas C., Jaypee's Video Atlas of Medicolegal Autopsy. – 1st ed. – 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/view.php?id=262>

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:

interview;
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 place 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. Psychiatry and Narcology	Department of Psychiatry, Narcology, Psychotherapy and Medical Psychology with a course of advanced training and retraining	No amendments are required	Protocol # 3 of 30.09.2024
2. Clinical Pharmacology	Department of the Clinical Pharmacology	No amendments are required	Protocol # 3 of 30.09.2024

COMPILERS/AUTHORS:

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V.V.Siamionau

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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»

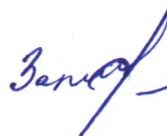
18.11.2024



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18.11.2024



S.V.Zaturanova