

**MINISTRY OF HEALTH OF THE REPUBLIC OF BELARUS
EDUCATIONAL INSTITUTION
BELARUSIAN STATE MEDICAL UNIVERSITY**

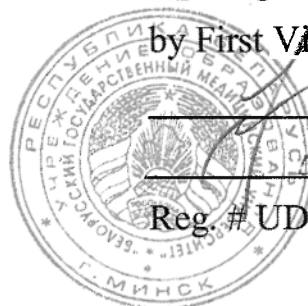
APPROVED

by First Vice-Rector, Professor

S.V. Gubkin

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Reg. # UD- L. 600/1819 /edu.



FORENSIC MEDICINE

**Curriculum of higher educational institution
in the educational discipline for the specialty:**

1-79 01 01 "General Medicine"

Curriculum is based on the standard educational program “Forensic Medicine”, approved on June 20, 2017, registration # ТД-L 600/type.

COMPILERS:

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RECOMMENDED FOR APPROVAL:

by the Forensic Medicine Department of the Educational Institution “Belarusian State Medical University”
(protocol # 10 of 28.05.2018):

by the Methodological Commission in Biomedical Disciplines of the Educational Institution “Belarusian State Medical University”
(protocol # 9 of 30.05.2018)

EXPLANATORY NOTE

Forensic Medicine is a discipline that considers medical and biological issues which arise in the course of enquiry, preliminary investigation and court proceedings, as well as the problems connected with improvement of medical aid quality in health care institutions.

At the present stage of its development Forensic Medicine plays an important medical and social meaning in the struggle with crimes against life, health, honour and dignity of citizens, sexual inviolability and sexual freedom of the person. Currently, Forensic Medicine, as a part of a specific knowledge system, widely includes theoretical and practical achievements of both medical and non-medical sciences (criminalistics, criminal and civil law, etc.). In fact data of any branch of medicine become forensic knowledge if used to resolve legal tasks. For this reason the knowledge of fundamental principles of Forensic Medicine is essential for each doctor irrespectively of the character of work.

The present curriculum reflects the up-to-date structure of the State Forensic Medical Service and its mission in accordance with the Decree of the President of the Republic of Belarus dated December 29, 2001 No. 808 "On the State Service of Medical Forensic Examinations" and the Decree of the President of the Republic of Belarus dated April 22, 2013 No. 202 "On Formation the State Committee of Forensic Examinations in the Republic of Belarus".

In the academic curriculum the amendments to the new Criminal, Criminal Procedure and Civil Procedure Codes are taken into consideration.

The present curriculum includes recent scientific data on thanatology, traumatology, toxicology, forensic examination of living persons and material evidence.

The specific feature of the new curriculum is the goal setting in studying and teaching Forensic Medicine focused on formation of students' social, personal, academic and vocational competences.

The objective of study and teaching Forensic Medicine is to shape skills and acquire scientific knowledge by students in order to fulfill forensic specialist duties under the mandate of judicial and investigating authorities.

The study tasks include acquiring academic competence based on the ability of students to work independently with information resources, master the necessary methods to acquire and apply knowledge of:

- Legislative and departmental standard legal acts regulating the actions of state forensic medical specialists in the Republic of Belarus and set the limits of their competence;
- General methodological approaches for conducting forensic medical examination of corpses, living persons and material evidence;
- Tasks solved by medical specialists (a forensic medical practitioner or a doctor of other specialty) at the incident scene;
- External inspection of a body at the incident scene (place of detection) and description of material evidence of biological nature (blood, semen, hair, etc.);
- The ways to describe bodily injuries;

- Modern methods of material evidence investigation;
- Legal responsibility of medical specialists due to their professional activity;
- Norms of medical ethics and deontology;
- Current scientific terminology.

The tasks of teaching the discipline include the formation of students' social, personal and professional competences, based on the knowledge and application of:

- Theoretical issues and procedural skills which form clinical thinking according to the norms of medical ethics and deontology;
- Rules of procedure connected with legal responsibility of medical specialists who are in charge due to their professional activity;
- Methods of conducting different kinds of forensic medical examinations (including corpses, living persons, criminal and civil cases).

Specific features of training doctors in the specialty 1-79 01 01 "General Medicine" require purposeful study of Forensic Medicine.

The specificity of the student training in Forensic Medicine is determined by the necessity of targeted study of legal and medical issues for high-quality performance the duties of forensic medical experts under the mandate of law enforcement authorities.

Forensic medicine training is to be combined with legal education of students. First of all, it refers to legal regulation of professional activity of medical specialists in the Republic of Belarus and responsibility for non-compliance of their professional duties.

Teaching and successful learning of the discipline "Forensic Medicine" is carried out on the basis of the knowledge and skills previously acquired by the students in the following disciplines:

Human Anatomy. Structure of the human body, its organs and systems. Internal organs topography and their anatomical and topographical relations. Projection of viscera on the body surface.

Histology, Cytology, Embryology. International histological terminology. Features of structure and function, age-related changes in the main types of tissues. Spatial relationship of tissues in organs. Features of obtaining material for histological examination.

Biological Chemistry. Molecular basis of pathological processes development in the body. Basic principles of biochemical processes in the body. Basic principles of biochemical methods of diagnosis.

Normal Physiology. Basic principles of the formation and regulation of physiological functions. Physiology of the cardiovascular system. Blood coagulation system. Blood groups, types and other isoserological systems, definition of the group and type of blood. Physiology of respiration. Different types of hypoxia.

Pathological Anatomy. General pathological processes. Hemodynamic disorders. Inflammation. Compensatory and adaptive processes. Immunopathology. Special pathology of internal organ diseases. Pathology of pregnancy. Infectious diseases.

Pathological Physiology. The disease concept. Definitions and categories of pathology. Classifications and nomenclature of diseases. Characteristics of the main features of disease-producing factors. General pathogenesis. Common factors and mechanisms of disease development. Recovery and dying processes. Typical pathological processes. Pathogenesis of inflammation, tumor growth, fever, hypoxia, typical metabolic disorders, neurogenic dystrophy. Compensatory mechanisms and approaches to function and structure disorder corrections.

Radiation diagnostics and Radiation therapy. A set of diagnostic means of radial imaging of various organs. Classification and principles of X-ray methods. Radiation symptoms of traumatic injuries and their consequences. Radiation damages.

Neurology and Neurosurgery. Birth injury. Intracranial epidural, subdural and intracerebral hematomas, intraventricular hemorrhages. Classification of craniocerebral injury. Pathological anatomy and pathogenesis of craniocerebral lesions. Complications and consequences of craniocerebral trauma.

Obstetrics and Gynecology. Perinatal mortality and ways to reduce it. Developmental abnormalities and pathology of the fetus and placenta. Methods of diagnosing pregnancy in the early and late periods. Anatomical and physiological features of premature and born babies. Indication for abortion. Birth trauma of mother and fetus. Auxiliary reproductive technologies. Medical abortion: social and medical aspects of the problem.

As a result of studying the discipline (name of the discipline) the student should

know:

- Procedural and organizational basis of forensic medical examination in the Republic of Belarus;
- Fundamentals of civil and criminal law;
- Objects of forensic medical examinations;
- Methods of estimation of time since death;
- Rights and responsibilities of an expert according to Article 61 of the Criminal Procedure Code of the Republic of Belarus;
- The definition of “bodily injuries”, their classification according to the Criminal Code of the Republic of Belarus; the notion of “harm to health”;
- Principles of medico-legal diagnostic writing;
- Requirements to expert conclusions;
- Categories, manners and nature of death;
- Notion of “brain death”; regulatory frameworks of death pronouncement;
- Presumptive signs of death, the concept of “outliving” of body tissues (supravital reactions), early and late postmortem changes;
- Causes of sudden death of adults and children;
- Specific features of forensic medical examination of the newborn corpses;
- The mechanism and morphology of injuries sustained as a result of death through violence:
- Conditions of criminal responsibilities of medical specialists for the duties they are in charge of;

be able to:

- pronounce death and estimate postmortem interval in corpse examination at the incident (crime) scene (place of detection);
- describe bodily injuries (on examination of a corpse or a living person);
- apply of specific research methods of object inspection of forensic medical examination;
- render professional assistance to law enforcement representatives in case of inspection at the incidence scene in detecting and withdrawing of material evidence subjected to forensic medical examination;
- prevent and evaluate the most typical professional and official law violations by medical workers stipulated by the Criminal Code of the Republic of Belarus;
- prevent and evaluate the results of violation of deontological principles of relationships doctor – patient, doctor – head of institution relationships, etc.

master:

- the methods of conducting forensic medical examination to establish the nature and severity of injuries;
- the methods of sampling the sectional material for laboratory research (chemical, biological, medical-forensic, histological);
- the methods of ascertaining death;
- the methods of inspection of the corpse at the crime scene or at the place of its detection;
- the methods of describing physical injuries;
- the method of examining victims suspected in sexual offenses.

The structure of the curriculum in the educational discipline “Forensic Medicine” includes nine sections.

Total number of hours provided on learning the discipline is 68 academic hours. Classroom studies according to the types of studies: lectures - 10 hours, practical classes - 35 hours, student independent work (self-study) - 23 hours.

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

Form of higher education – full-time.

**ALLOCATION OF ACADEMIC TIME
ACCORDING TO THE SEMESTERS OF STUDY**

Code, name of the specialty	semester	Number of academic hours					Form of current assessment
		total	in-class	including		out-of-class self-studies	
				lectures	laboratory studies (practical classes and seminars)		
1-79 01 01 "General Medicine"	10	68	45	10	35	23	credit

THEMATIC PLAN

Section (topic) name	Number of class hours	
	lectures	practical (laboratory or seminars)
1. Discipline "Forensic Medicine". Procedural and Organizational Basis of Forensic Medical Examination in the Republic of Belarus.	2	5
2. Forensic Thanatology	2	5
2.1. Dying and death. Postmortem changes. Medico-legal autopsy (training demonstration).	2	5
2.2. Sudden death of adults and children. Forensic medical examination of the newborn and children corpses.		
2.3. Corpse examination at the incident (crime) scene (place of detection).		
3. Documents of Forensic Medical Examination	-	5
4. Forensic Medical Examination of Mechanical Injuries	4	10
4.1. General issues of forensic traumatology. Blunt force injuries.	2	5
4.2. Traffic injuries.		
4.3. Sharp force injuries.	2	5
4.4. Firearm injuries.		
5. Health disorders and death from acute anoxia and physical factors	2	5
5.1. Mechanical asphyxia.	2	
5.2. Temperature-related injuries. Injuries due to other physical agents. Injuries due to heat and cold.		
6. Forensic Toxicology	-	
7. Forensic Medical Examination of Material Evidence	-	
8. Forensic Medical Examination of living persons	-	5
9. Professional and official offenses of medical staff	-	
Total hours	10	35

CONTENT OF THE EDUCATIONAL MATERIAL

1. Discipline "Forensic Medicine". Procedural and Organizational Basis of Forensic Medical Examination in the Republic of Belarus.

Forensic Medicine, its content and objectives. Forensic Medical Examination. Interrelations of Forensic Medicine with other sciences. Research methods in Forensic Medicine. Role of Forensic Medicine in the system of higher medical education.

Evolvement of Forensic Medicine and its brief history. Founders of Forensic Medicine. Main development stages of Forensic Medicine in the pre-revolutionary Russia, the USSR and the Republic of Belarus. Prominent figures of the national Forensic Medicine, their contribution to its theory and practice. Key aspects of the development of Forensic Medicine in Belarus after the collapse of the USSR.

Procedural basis of Forensic Medical Examination in the Republic of Belarus. Concept of the laws and the mission of the law in the State; crimes and offences (misdemeanours). Legislative and institutional sources regulating the activities of a state medical forensic expert in Belarus. Types of practical activities of a forensic medical practitioner.

The definitions of "an expert" and "a forensic medical (medico-legal) examination". Aims, tasks and objects of forensic medical examinations. Types of forensic medical examinations. Grounds and procedure for appointing and conducting an examination. Cases of mandatory appointing and conducting medico-legal examinations. Rights and duties of a forensic medical expert. Procedural grounds for recusation of an expert. Limits of competence of a forensic medical expert. Examination at the stage of preliminary investigation and at the court session. Participation of a forensic medical specialist in investigative actions (crime (death) scene investigation, investigative experiment, etc.).

The organization and structure of the State Committee of Forensic Examinations (SCFE) in the Republic of Belarus. Decree of the President of the Republic of Belarus dated April 22, 2013, No. 202 "On formation of the SCFE in the Republic of Belarus".

Main Department of Forensic Medical Examinations of the SCFE: basic tasks, staffing, subordination, structure, officials, their rights and duties. Structure of the Municipal/Regional Department of Forensic Medical Examinations of the SCFE. Basic normative legal documents regulating the activities of a medical forensic expert. Role of the forensic medical examinations in combatting crime, defending citizens' constitutional rights and legitimate interests and improving the quality of medical care.

Main cooperation areas of the SCFE of the Republic of Belarus with forensic medical services of CIS member-states. Organization and structure of the medico-legal service in Europe, Asia, Africa, the USA.

State Educational Institution "Continuing Professional Education Institute of the SCFE", main directions and forms of its activities.

2. Forensic Thanatology

2.1. Dying and death. Postmortem changes. Medico-legal autopsy (training demonstration).

Doctrine of death. Terminal conditions and their medico-legal significance. Clinical and biological death. Apparent death. Pronouncement of death. Presumptive

signs of death, their detection and medico-legal importance. Confirmatory (indisputable) signs of death. Rate of dying. Pathomorphology of acute (rapid) and agonal (slow) death. Use of cadaveric organs and tissues for transplantation. Legal, ethical and medical aspects of resuscitation and transplantation. Medico-legal evaluation of injuries secondary to resuscitation.

Concept of cause and genesis of death.

Medico-legal classification of death (category, manner, nature of death).

Changes in organs and tissues after death, their medico-legal importance. Reaction of skeletal muscles to mechanical or electrical stimulation. Reaction of the pupil to chemical stimulation. Other supravital reactions, their value in estimation of time since death.

Early postmortem changes. Postmortem body cooling (algor mortis). Thermometry of a corpse. Phenomenon of postmortem partial (local) drying of tissues. Postmortem lividity (livor mortis), phases and timing of its development. Methods of investigation. Cadaveric rigidity (rigor mortis), its mechanism and typical progression. Autolysis. Use of early postmortem changes for estimation of postmortem interval and other expert issues.

Late postmortem changes. Putrefaction of the body. Environmental conditions and other factors affecting the rate of the putrefactive process. Preserving modes of late postmortem changes: mummification, adipocere formation, peat tanning. Development of fauna and flora on the corpse. Animal scavenging. Medico-legal importance of late postmortem changes.

Techniques of artificial preserving the body.

Reasons for medico-legal examination of corpses. Forensic (medico-legal) versus hospital (clinical) autopsies. "Instruction on the procedure for the production of forensic medical examination of a corpse in the State Committee of Forensic Examinations in the Republic of Belarus" (2015). Methods of removal and dissection of the internal organs and the brain. Documentation of the medico-legal autopsy data: expert's autopsy report, its structure and content.

Specific features of medico-legal examination of foreign citizens' corpses. "Instruction on conducting of medico-legal examination of foreign citizens' corpses" (1999). Specific features of medico-legal examination of the dismembered bodies, skeletonized bodies and skeletal remains. Methods of identification of the body. Particular features of the medico-legal examination of unknown persons' bodies.

Exhumation, examination of the exhumed corpse. Restoration of corpses. Issues resolved in the main types of violent death. Determining the cause and mechanism of death.

Diagnostics of the affecting external factor and conditions of its impact. Antemortem versus postmortem injuries. Ability to active actions in case of mortal wounds.

Principles of the medico-legal diagnosis and expert conclusions. Requirements imposed on expert conclusions. Medico-legal clinical-pathologic conferences: key objectives and forms.

2.2. Sudden death of adults and children. Forensic medical examination of the newborn and children corpses.

Sudden death and its causes. Factors contributing to sudden death of adults and children. The most common diseases resulting in sudden death in different age groups. Sudden death in infancy, specific features of medico-legal examinations.

Sudden death due to cardiovascular diseases. Atherosclerosis, arterial hypertension, coronary heart (artery) disease and their complications leading to sudden death. Sudden death due to diseases of the respiratory system, the gastrointestinal tract and the central nervous system. Sudden death due to infectious diseases, sanitary and epidemiological importance of this type of death. Specific features of the autopsy on suspicion for death from especially dangerous infections and AIDS.

Role of laboratory methods for medico-legal examination in cases of sudden death. Importance of forensic medical examination of sudden death records to improve the quality of medical care.

Key issues resolved at the examination of the newborn corpses. Evidences of neonatality, full-term pregnancy, maturity, livebirth, viability and lifetime after birth. "Instruction on establishing the criteria of livebirth, stillbirth and perinatal period" (1993). Particular features of newborn autopsy technique. Causes of nonviolent death of fetuses and neonates prior to, during and after childbirth. Violent death and its causes. Neonaticide: definition, types.

2.3. Corpse examination at the incident (crime) scene (place of detection).

Definition of the concept and legal regulation of the incident scene investigation (ISI). Organization of investigation and its participants. Reasons and grounds for the ISI; main aims of investigation. Cases of mandatory participation of a forensic medical specialist or other physicians in the ISI. Stages of examination: static and dynamic ones. Phases of the ISI and the mission of the forensic medical specialist. Major tasks of a forensic medical practitioner or other physicians in external corpse examination at the crime (death) scene. Procedure and fundamental principles of corpse inspection. Assistance to the investigator in detecting, withdrawing, packaging and sending the material evidence of biological origin to analysis.

Peculiarities of examining the corpse in certain types of death. Registration of the incident (death) scene investigation. "Rules of state forensic medical expert activity in corpse inspecting at the crime (death) scene in the Republic of Belarus" (1999).

3. Documents of Forensic Medical Examination

Content and components of the "Expert's Report" in examining a corpse and a living person. Requirements for the expert's conclusions.

Procedure of the "Expert's Report" submission to investigative and judicial authorities.

4. Forensic Medical Examination of Mechanical Injuries

4.1. General issues of forensic traumatology. Blunt force injuries.

The definition of "bodily injury". Major injury classifications (damaging factors, character and severity). Traumatism and its types. Causes of traumas. Importance of forensic medical examinations for the prevention of various types of traumatism.

Definitions of "a tool", "an object". Mechanical injuries and their morphological characteristics: abrasions, bruises, wounds, dislocations, fractures, lacerations and avulsions of the organs, chop and crush injuries. Types of wounds caused by blunt

objects. Characteristics of fractures of long tubular bones according to their formation. Main types of blunt force fractures of the cranial vault. Signs of bending and extension rib fractures.

Injury complications, their morphological characteristics. Exacerbation of diseases caused by injury. Causes of death from mechanical injuries, their morphological manifestations. Distinguishing between antemortem and postmortem injuries.

Ability to independent actions of the mortally wounded. Evidence of self-inflicted injuries. Objectives and methods of injury examination in forensic medicine. Key issues resolved in the process of mechanical injuries examination. Algorithm of bodily injuries documentation.

Definition and classification of blunt objects. Mechanism of action of blunt objects on human body and the nature of caused damages. Injuries caused by parts of the human body (arms, legs, teeth). Injuries inflicted with the objects in the human hand. Possibilities to define the type of a blunt object and the mechanism of its action by different injury patterns on the body and clothing of the victim.

Injuries from falls on the plane and from different heights; falls on the flight of stairs.

4.2. Traffic injuries.

General characteristics of modern transportation traumas and their types. Importance of forensic medical examinations in traffic accident investigation.

Motor vehicle injuries and their types. Mechanisms of formation and injury patterns sustained in common types of crashes: collisions of a pedestrian and a moving motor vehicle, run-over of the human body by a vehicle wheel; fall from a moving motor vehicle, injury to the driver and passengers inside the car. Specific features of motor vehicle accident scene inspection. Importance of forensic medical examinations for investigation of motor vehicle crashes.

Railway injuries, their types, nature of the damage.

Motorcycle injuries. Tractor injuries. Forensic medical examination of injuries caused by waterborne transport.

Aviation-related injuries and their types. Specific features of forensic medical examination and its value for determining the causes of aircraft accidents.

4.3. Sharp force injuries.

Definition and classification of sharp objects. Mechanism of action of sharp objects. Types of injuries and their anatomy. Distinguishing between wounds from sharp objects. Establishing types of sharp objects and their mechanisms of action by the analysis of tool marks on the body and clothing of a victim.

4.4. Firearm injuries.

Firearms and their types. Ammunition. Fundamentals of wound ballistics. Gunshot additional factors. Types of bullet action. Vinogradov phenomenon.

Anatomy of wounds due to shots from different distances. Signs of contact gunshot wounds. Traces of intermediate range shots on clothing and the body, their significance and methods of recognition. Distant gunshot wounds. Distinguishing between entrance and exit wounds, determining the direction of discharge. Blind,

penetrating, engirdling and graze (tangential) wounds. Detection of the bullet and its value.

Injuries inflicted by birdshot or buckshot pellets. Injuries resulting from firing blank. Specific features of gunshot injuries inflicted by gas or gas powered pellet (gunshot) weapons. Injuries due to shots from atypical, homemade (“country”) and air guns. Sequencing of gunshot injuries. Establishing the possibility of self-inflicted gunshot wounds.

Determining the type of weapon by damage nature on the body and the clothing of the victim.

Explosive trauma, its specific features and morphological characteristics. Specific features of wound ballistics of certain modern ammunition types.

5. Health disorders and death from acute anoxia and physical factors.

5.1. Mechanical asphyxia.

Concept of hypoxia and mechanical asphyxia. Types of mechanical asphyxia. Stages of mechanical asphyxia.

Strangulation asphyxia: hanging, ligature strangulation, manual strangulation (throttling). Nooses and their types, variants of their location on the neck. Mode of death in ligature strangulation. Strangulation (ligature) mark (abrasion furrow) in hanging and in ligature strangulation. Determination of antermortem origin of strangulation furrow. Forensic pathology of manual strangulation.

Traumatic asphyxia: compression of the chest and the abdomen, special aspects of thanatogenesis, morphological features.

Mechanical asphyxia secondary to airway obturation: smothering, choking due to foreign bodies, bulk materials, gastric contents, blood.

Drowning, its types, forensic medical diagnosis. Effect of the type of drowning on its morphological picture. Laboratory tests for drowning. Natural death whilst in the water, definition, the main causes. Injuries on the corpses recovered from the water. Signs of water immersion. Determination of the length of the corpse stay in the water.

Environmental suffocation.

5.2. Temperature-related injuries. Injuries due to other physical agents. Injuries due to heat and cold.

Local and systemic effects of high temperature. Burns. Burn disease. Outcomes of burns. Issues resolved in the examination of burns. Determination of the damaging factor, area and degree of burns. Distinguishing between flame burns and scalds.

Examination of fire deaths. Examination of bodies discovered in fire. Determination of the antemortem effect of the flame. Burning of corpses (cremation). Systemic effect of heat on the organism. Heat stroke and sunstroke, thanatogenesis, autopsy findings.

Local and systemic effects of low temperature. Death from hypothermia, autopsy findings. Frostbites, their degree, morphological characteristics. Conditions contributing to death from hypothermia. Signs of freezing of a dead body.

Electrocution. Physiological effects of electrical current. Conditions affecting the outcome of electrical injury. Morphology of electrocution: the cutaneous electric mark, electrical burns, mechanical damage. Mechanism of death in electrocutions. Principles of the incident scene investigation and forensic medical examinations in case

of electrical injuries due to household and technical electricity. Injury by lightning, thanatogenesis, autopsy findings.

Action of high and low pressure of the gas environment on the body. Health disorders and death due to changes of the partial pressure of gases. Decompression (caisson) disease (aeroembolism). Mountain (altitude) sickness. Autopsy procedures to diagnose gas embolism and pneumothorax.

Physiological effects of ionizing radiation. Acute and chronic radiation sickness, specific features of postmortem examination. Local radiation damages.

6. Forensic Toxicology.

Concept of the poisons and the fatal dose. Forensic medical classification of poisons. Poisoning, their origin. Factors modifying action of poisons: toxic substances nature and other properties, the mode of exposure, the condition of the body and environment. Addictive poisons. Types of poisoning.

Narcomania and toxicomania (drug addiction). Medical and legal concept of the narcotic substances, pathophysiological classification.

Specific features of accident (death) scene investigation in case of suspected poisoning. Forensic detection of poisoning. Issues resolved in the examination of poisoning. Main stages of forensic medical examination of poisoning: analysis of the case papers and medical records, forensic autopsy, laboratory testing. Collection of autopsy samples for forensic chemical (toxicological), biochemical, histological, botanical and other analyses. Expert interpretation of postmortem toxicology tests.

Fatal poisoning with acids and alkalis; salts of heavy metals and arsenic; carbon monoxide and other poisons that change the composition and properties of blood; ethylene glycol, dichloroethane and other technical fluids; organophosphoric and other pesticides; systemic poisons (cyanides, hydrogen sulfide, carbon dioxide); medicinal drugs.

Poisoning with ethyl alcohol and alcohol-containing liquids. Physiological action of ethanol. Forensic medical diagnosis of death from alcohol intoxication. The value of the measurement of alcohol in the blood, urine and other body fluids, tissues and organs for poisoning diagnosis. Methyl alcohol poisoning.

Food poisoning, classification, specific features of forensic medical examination.

7. Forensic Medical Examination of Material Evidence.

Concept of material evidence. Material (forensic physical) evidence subject to forensic medical examination. Basic normative documents regulating examination of material evidence. "Rules of forensic-biological, forensic-histological, medical-criminalistic and forensic-chemical examinations in the Republic of Belarus". Forensic sampling: detection, withdrawal, sending material evidence submitted to examination to forensic laboratories: the role and tasks of a forensic-medical practitioner. Chain of custody. Classification of blood stains and patterns according to their shape and formation mechanism. Principles of detecting the presence of blood, determining its gender profile, conventional grouping and species identification. Other issues addressed at blood examination.

Principles and possibilities of examining semen, saliva, hair and other biological objects. Issues addressed at examination of biological objects, basic research methods. Specificities of antigen secretion.

Forensic medical cytological techniques.

Medical and criminalistic studies in forensic medicine.

8. Forensic Medical Examination of living persons.

Reasons for forensic medical examination of victims, suspects, defendants and other persons; its organization and conducting.

Examination to determine the severity of bodily injuries. Legal classification of bodily injuries by severity level. Criteria of grave injuries, injuries of average gravity and light injuries. "Instructions on the procedure for conducting Forensic medical examination to determine the severity of injuries" (2016). Procedure of examination, resolved issues. Methodological principles of assessment of the gravity of bodily injuries in case of head injuries in survivors.

Examination of health status: simulation, dissimulation, malingering (aggravation), demalingering, artificial diseases, self-mutilation. Value of medical records, investigative materials, studies of material evidence and restoration of conditions under which the damage occurred. Examinations related to sexually transmitted diseases and HIV-infection.

Forensic medical estimation of age: reasons and methods of examination.

Forensic medical examination of disputed paternity.

Sexual crimes as provided for by the Criminal Code of the Republic of Belarus. Peculiarities of examining gender issues and sexual crimes. "Rules of forensic obstetric examination" and "Rules of forensic medical examination of men's sexual status". Controversial sexual conditions.

Examination of sodomy cases, resolved issues.

Examination to establish pregnancy, occurred delivery and abortion. Criminal abortion. Peculiarities and importance of examining the scene of illegal abortion. Methodology of examining women with suspected criminal abortion. Forensic medical diagnosis of death in criminal abortion.

Examination methodology in rape cases; resolved issues.

9. Professional and official offenses of medical staff.

Reasons to appoint examinations in criminal and civil cases. Objects of study: medical records, medico-legal expert reports, protocols of incident scene inspection, interrogations, etc. Organization and methodology of examining case files. "Instruction on the procedure for the production of Forensic medical examinations on materials and cases in the State Committee of Forensic Examinations in the Republic of Belarus" (2015).

Legal, moral and ethical norms regulating the doctor-patient relationships. Professional duties and rights of medical and pharmaceutical workers under the Law of the Republic of Belarus "On Public Health Care". Medical duty of confidentiality: legal and medical aspects. Consequences of violating the patient - safety principles by medical professionals. Peculiarities of deontology in the activity of a forensic medical expert. Iatrogenic diseases.

Definitions of crime and offence; actions committed negligently; justified risk; extreme necessity. Professional and official crimes and offenses of medical and pharmaceutical workers and their responsibility under the Criminal Code of the Republic of Belarus.

Medical errors and accidents in medical practice.

Examinations in the cases of criminal responsibility for alleged medical malpractice.

Limits of competence of the expert commission. The use of commission examination materials to improve the quality of medical care.

Medical and legal aspects of biological transplantation. The Law of the Republic of Belarus "On Transplantation of Human Organs and Tissues".

Legal aspects of medical intervention in human reproductive processes: abortion; artificial fertilization; sterilization. Surrogacy as an alternative reproductive technology. Indications for surrogacy. Legal regulation of medical genetics. Topical ethical and legal issues of cloning.

EDUCATIONAL DISCIPLINE CURRICULAR CHART

Section, topic #	Section (topic) name	number of hours		Self-studies	Equipment	Mode of control
		lectures	practical (<i>laboratory or seminars</i>)			
1.	Discipline "Forensic Medicine". Procedural and Organizational Basis of Forensic Medical Examination in the Republic of Belarus.	2	5	3	1. Laptop HP-530 (KP 477AA) 3. Multimedia projector NEC NP40G	Interview Situational tasks and tests Control questioning
2.	Forensic Thanatology	2	5	4		
2.1	Dying and death. Postmortem changes. Medico-legal autopsy (training demonstration).	2	5	4	---/--/--/--	Interview Situational tasks and tests Control questioning Test
2.2	Sudden death of adults and children. Forensic medical examination of the newborn and children corpses.					
2.3	Corpse examination at the incident (crime) scene (place of detection).					
3.	Documents of Forensic Medical Examination	-	5	2	---/--/--/--	Interview Control questioning Written classroom practical exercises

4.	Forensic Medical Examination of Mechanical Injuries	4	10	6		
4.1	General issues of forensic traumatology. Blunt force injuries.					Interview Situational tasks and tests
4.2	Traffic injuries.	2	5	3	--/--/--/--	Control questioning Essays Test
4.3	Sharp force injuries.					Interview Situational tasks and tests
4.4	Firearm injuries.	2	5	3	--/--/--/--	Control questioning Essays Test
5.	Health disorders and death from acute anoxia and physical factors.	2		2		Interview Situational tasks and tests
5.1	Mechanical asphyxia.		5		--/--/--/--	Control questioning Essays Test
5.2	Temperature-related injuries. Injuries due to other physical agents. Injuries due to heat and cold.	2		2		
6.	Forensic Toxicology	-		2		
7.	Forensic Medical Examination of Material Evidence	-		1		Interview Situational tasks and tests
8.	Forensic Medical Examination of living persons	-	5	2	--/--/--/--	Control questioning Essays Test
9.	Professional and official offenses of medical staff	-		1		Oral credit
Total hours		10	35	23		

INFORMATION AND INSTRUCTIONAL UNIT

LITERATURE

Basic (relevant):

1. Biswas, G. Review of Forensic Medicine and Toxicology / G. Biswas. – 2nd ed. – Jaypee Brothers Medical Publications, 2012.
2. Clinical Forensic Medicine. A physician guide / ed. M.M.Stark. – Totowa; New Jersey: Humana Press, 2005.
3. Color Atlas of Forensic medicine and Pathology / ed. Ch.A. Catanese. – CRC Press, 2010. – 402p.
4. Di Maio, D.J. Forensic pathology / D.J. Di Maio, V.J.M. Di Maio. – 2nd ed. – London [etc.]: Boca Raton, D.C., 2001. – (Practical aspects of criminal and forensic investigation).
5. Dr. Dinesh Rao's Forensic Pathology // <http://www.forensicpathologyonline.com>

Additional:

6. Dettmeyer, R.B. Forensic Histopathology / R.B. Dettmeyer. – Springer-Verlag Berlin Heidelberg, 2011.
7. Di Maio, V.J.M. Handbook of Forensic Pathology / V.J.M. Di Maio, S.E. Dana. – Landes, USA.
8. Pralow, J.A. Forensic Pathology for Police, Death Investigators, Attorneys, and Forensic Scientists / J.A. Pralow. – Springer Science+Business Media (Humana Press), 2010. – 634 p.
9. Simpson's forensic medicine / J. Payne-James, R. Jones, S.B. Karch, J. Manlove. – 13th ed. – London: Arnold.

LIST OF AVAILABLE DIAGNOSTIC TOOLS

The following forms are used for competences assessment:

1. Oral form:
 - interviews;
 - situational tasks and tests;
 - oral credits.
2. Written form:
 - control questioning;
 - tests;
 - written classroom practical exercises;
 - essays.

LIST OF LECTURES

1. Discipline "Forensic Medicine". Procedural and Organizational Basis of Forensic Medical Examination in the Republic of Belarus.
2. Forensic Thanatology: Dying and death. Postmortem changes. Sudden death of adults and children. Forensic medical examination of the newborn and children corpses.
3. General issues of forensic traumatology. Blunt force injuries. Traffic injuries.
4. Sharp force injuries. Firearm injuries.
5. Health disorders and death from acute anoxia and physical factors.

LIST OF PRACTICAL STUDIES

1. Discipline "Forensic Medicine". Procedural and Organizational Basis of Forensic Medical Examination in the Republic of Belarus.
2. Dying and death. Postmortem changes. Medico-legal autopsy (training demonstration). Sudden death of adults and children. Forensic medical examination of the newborn and children corpses. Corpse examination at the incident (crime) scene (place of detection).
3. Documents of Forensic Medical Examination.
4. General issues of forensic traumatology. Blunt force injuries. Traffic injuries.
5. Sharp force injuries. Firearm injuries.
6. Health disorders and death from acute anoxia and physical factors. Forensic Toxicology.
7. Forensic Medical Examination of Material Evidence. Forensic Medical Examination of living persons. Professional and official offenses of medical staff.

**PROTOCOL OF THE CURRICULUM APPROVAL
BY OTHER DEPARTMENTS¹**


Title of the discipline requiring approval	Department	Amendments to the curriculum of the academic discipline	Decision of the department, which designed the curriculum (date, protocol #) ²
1. Human Anatomy	Normal Anatomy	Amendments to the protocol have not been introduced	Protocol of the curriculum approval admitted by the decision at the meeting department of Forensic Medicine. September 28, 2017, #2.
2. Histology	Histology		
3. Biological Chemistry	Biological Chemistry		
4. Normal Physiology	Normal Physiology		
5. Pathological Anatomy	Pathological Anatomy		
6. Pathologic Physiology	Pathologic Physiology		
7. Radiation diagnostics and Radiation therapy	Radiation diagnostics and Radiation therapy		
8. Neurology and Neurosurgery	Neurology and Neurosurgery		
9. Obstetrics and Gynecology	Obstetrics and Gynecology		

¹ Содержание учебной программы УВО должно быть согласовано с кафедрами, обеспечивающими преподавание учебных дисциплин, для усвоения которых необходимо изучение данной дисциплины.

² При наличии предложений об изменениях в содержании учебной программы УВО.


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V.V.Semyonov

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

Dean of the Medical Faculty for
International Students

06.06 2018



A.V.Haiduk

Methodologist of Educational Institution
“Belarusian State medical University”

07.06 2018

O.R.Kachan

Head of the Foreign Languages Department

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