

Federal State Autonomous Educational Institution of Higher Education
«Peoples' Friendship University of Russia»

Medical Institute

Recommended MCSD

SYLLABUS
(STUDY GUIDE)

Subject

Forensic Medicine

Recommended for the direction of training (specialty)

31.05.01 General Medicine

Program (profile, specialization)

General Medicine

1. Aims and objectives of discipline:

Students are required to master their professional competencies based on knowledge of theoretical and practical issues of forensic medicine in order to perform the medical examiner's duties by the task of police and judicial authorities and implementation of tasks designated by Russian healthcare system aimed to further improvement of therapeutic and prophylactic healthcare quality provided for the citizens.

2. Place of discipline in the structure of OP HE:

The discipline «Forensic medicine» refers to the basic part of Block 1 of the curriculum.

Table №1 shows preceding and following discipline aimed at forming general professional (GPC-3; GPC-6; GPC-9) and professional (PC-5, PC-6, PC-7) competences in accordance with the matrix competences OP HE.

Table 1. Preceding and following the discipline aimed at creating competencies

№	Code and title of competence	Preceding disciplines	Following disciplines (groups of disciplines)
General Professional Competences			
	GPC-1 GPC-5	Human anatomy; Histology, embryology, cytology; Normal physiology; Pathological anatomy, Clinical pathological anatomy Topographic anatomy and operative surgery	Infectious diseases; Oral and maxillofacial surgery; Traumatology and orthopedics; Anesthesiology, reanimatology, intensive care
Professional competences			
	PC-4	Neurology Medical genetics Neurosurgery	Polyclinic therapy

3. Requirements to results of studying of disciplines:

The process of studying the discipline is to set the following competences:

Competences	Competence Code and Name	Competence Achievement Indicator Code and Name
GPC-1.	Being able to implement moral and legal norms, ethical and deontological principals in professional activity	GPC-1.1. Being able to abide by the ethical standards and legal regulations in professional activity.
GPC-5	Being able to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks	GPC-5.3. Being able to determine morpho-functional, physiological states and pathological processes of the human body.
PC-4	Being able to implement and monitor the patient's medical rehabilitation efficacy, including when implementing individual rehabilitation and habilitation programmes for persons with disabilities; assess the patient's ability to work	PC-4.1. Being able to conduct an examination of temporary disability and work as part of a medical commission which examines temporary disability.

As a result of study of the discipline a student must:

Know:

- The fundamentals of the Russian Federation's healthcare legislation;
- Criminal and civil procedural legislation and normative documents regulating the appointment, conducting and documentation in cases of forensic medical examination of living persons, corpses, biological evidences, forensic case materials; rights and duties of the medical examiner; principles of forensic medical examination organization;
- The rules of forensic medical examination of the corpse, forensic medical examination of the severity of the injuries to health; principles of expert's insights report compiling;
- Modern scientific data dealing with general and incidental aspects forensic thanatology, forensic examination of damages from different kinds of external impacts, forensic identification of the personality;
- Criminal legislation regulating the responsibility in cases of crime against the life and health of citizens, improper performance of professional and official duties by the medical staff;
- Fundamentals of the civil legislation and other legislative acts regulating the responsibility of the medical professionals in cases of the violation of citizens' rights in the field of healthcare considered as a national priority task; modern state of medico-legal examination of volume and quality of medical care.

Be handy at:

- To provide the qualified assistance to the investigator during the examination of the corpse on the site of its discovery: establishing the fact of death, examination of signs of death, body damages, time of death;
- To possess the methods of unidentified corpse examination, to describe damages caused by various types of external impacts in accordance with conventional schemes;
- To determine the severity of the injuries to health in cases of different body damages;
- To perform a comparative study of the corpse of an unknown person and data collected from medical records (outpatient's card, X-rays, dental casts, photographs, etc.) in order of identification of personality of the deceased;
- To conduct peer reviews in cases of adverse outcomes in medical practice, delinquencies and professional crimes of medical staff; to give a written opinion after examining the materials of criminal and civil cases in cases of improper performance of professional and official duties by the medical staff;
- To use educational, scientific, popular scientific literature, Internet network in professional activities;

Manage:

- Basic skills of terminal states evaluation, relative and reliable signs of death, the dynamics of the development and evaluation of early and late cadaveric changes when establishing of the fact and time of death coming is being performed (the examination of the corpse on the site of its discovery);
- Skills for diagnosing and analyzing the features of traumatic process in cases of body damages, forensic evaluation of diseases and pathological conditions associated with external factors (physical, chemical, etc.);
- Techniques and methods of a number of clinical disciplines for injuries diagnosing, determining the medico-legal criteria of severity of the injuries to health, verifying age etc. in cases of forensic medical examination of victims, suspects and other persons;
- Techniques and methods for comparative identification using the inner characteristics of bones, teeth; dental sex, age and race determination;
- Skills required for assessment of the causes of adverse outcomes in medical practice when forensic medical examination is being performed using the data of criminal and civil cases.

4. Timetable of discipline and types of training activities

General credit value of the discipline is **3 credit units**.

Types of activities	Total hours	Semesters
		11
Class hours (total)	68	68
Include:		
<i>Lectures</i>	-	-
<i>Practical training (PT)</i>	68	68
<i>Seminars (S)</i>	-	-
<i>Laboratory research (LR)</i>	-	-
Independent work (IW, total)	40	40
Total labor input	hours 108	108
	Credit units 3	3

5. Contents of the discipline.

5.1. The content of the discipline sections

№	Name of the section of discipline	Contents of the section
1.	Module 1 Procedural and institutional issues of forensic medical examination. Examination of the scene of crime and cadaver examination on the accident scene	<p>Particular module - Definition of forensic medicine. Forensic medicine and forensic medical examination. The prominent scientists in forensic medicine in Russia and abroad, their contribution to the development of theory and practice of forensics. The structure of the forensic medicine in Russia.</p> <p>Particular module - The rights and responsibilities of a forensic expert. Types of forensic expertise. Objects of forensic medical examination. Forensic medical examination at the preliminary investigation and in court. Forensic documentation.</p> <p>Particular module - General issues of the cadaver examination on the accident scene (examination order, organization, stages and kinds of the examination of the accident scene). The task of forensic medical expert and the order of a cadaver examination on the accident scene. Procedural documentation of accident scene. The features of a cadaver examination in different kinds of death. The features of an unknown person examination. The features of examination of large-scale catastrophe scene.</p>
2.	Module 2. Forensic thanatology	<p>Particular module - The definition of death. Terminal conditions. The definition of clinical and biological death. Establishing of the time of death. Diagnostics of death. Early cadaveric changes. Late cadaveric changes. Natural conservation of a cadaver. Artificial embalming of a cadaver. The destruction of a cadaver by insects, animals and plants. Deliberate destruction of a cadaver. Methods of body restoration. Forensic significance of cadaveric changes. The definition of cause of death. Competitive causes of death. Category of death, genus of death; violent death: murder, suicide, accident death.</p> <p>Particular module - Establishing of the time of death.</p>
3.	Module 3 Forensic medical examination of the damage caused by blunt solid objects.	<p>Particular module – General issues of forensic traumatology. The main issues to be solved during the forensic medical examination of mechanical damage.</p> <p>Particular module -forensic medical diagnostics of the lifetime and prescription of the injury</p> <p>Particular module - forensic medical examination of injuries caused by blunt hard objects.</p> <p>Particular module-forensic examination of falling from height.</p> <p>Particular module - transport injury.</p>

		<p>Particular module - Forensic examination of injuries caused by sharp tools</p> <p>Particular module - Forensic medical examination of gunshot injuries.</p>
4	<p>Module 4.</p> <p>Forensic-medical examination of living people. Forensic medical examination of the gravity of the health damage.</p>	<p>Particular module – Forensic medical examination of living persons. Legal qualification of the gravity of health damage (severe, medium, light). Ways to cause damage to health (beating, torment, torture). The examination of general and professional ability loss. Forensic documentation.</p> <p>Particular module – Forensic medical examination of sexual crimes, examination of former pregnancy, childbirth.</p> <p>Particular module- Forensic medical examination in criminal and civil cases of professional offenses of medical workers.</p> <p>Professional and official crimes of medical workers.</p> <p>Commission and complex forensic medical examinations.</p>
5.	<p>Module 5.</p> <p>Forensic medical examination (the examination of a cadaver).</p>	<p>Particular module - The reasons for forensic medical examination of a cadaver. The tasks of the forensic medical examination of a cadaver in case of violent death. Guidelines and instructions on the organization and proceeding of the examination. Rules and technique of autopsy. Exhumation and examination of exhumed cadavers. Taking the samples of biological material for laboratory research. The documentation of forensic medical examination. Principles of construction of a forensic medical diagnosis and conclusions based on forensic medical examination of a cadaver. The design of a death certificate.</p> <p>Particular module – Definition of sudden death. Forensic medical diagnostics and causes of sudden death. Sudden death caused by physical strain and emotional stress. Laboratory methods of examination in case of sudden death.</p>
6.	<p>Module 6.</p> <p>Laboratory methods in forensic medicine. Forensic personal identification</p>	<p>Particular module-Examination of physical evidence of biological origin (blood, semen, saliva, hair). Methods of identification, removal and packaging of traces and physical evidence of biological origin.</p> <p>Particular module - Methods of personal identification. Identification of the person in emergency situations (disasters).</p> <p>Particular module - medical and forensic identification of the injury instrument.</p>
7.	<p>Module 7.</p> <p>Forensic medical examination in case of mechanical asphyxia. The examination of a newborn baby cadaver</p>	<p>Particular module – General characteristic of lifetime mechanical asphyxia. Signs of asphyxia in external and internal cadaver examination. Classification of mechanical asphyxia.</p> <p>Particular module – Hanging. Strangulation with a loop. Strangulation with hands. Compression of chest and abdomen. Obturative asphyxia: closing of nostrils and mouth, closing of airways by alien bodies, powder-like substances, vomit, blood. Drowning and its types. Changes in the body caused by water and the estimation of the duration of its stay in water. Death in spaces of limited volume.</p> <p>Particular module - The examination of a newborn baby cadaver. Its reasons. The definition of infanticide. Features a forensic medical examination of a cadaver. The questions to be solved due to such examination. Birth trauma. Active and passive infanticide.</p>
8.	<p>Module 8.</p> <p>Forensic medical examination of poisonings</p>	<p>Particular module – General toxicology: Poisons and poisonings. The condition for the action of poisons. Classification of poisons. Laboratory methods of investigation used in case of poisoning. Forensic chemical examination in case of poisoning and the assessment of its results.</p> <p>Particular module - Particular toxicology: Poisoning with acids,</p>

		alkalis, destructive, haemotropic and functional poisons. The poisoning with ethyl alcohol and its surrogates. Drugs poisonings. Bacterial and non-bacterial food poisoning.
9	Module 9. Forensic medical examination of death due to the influence of physical factors	Particular module - Damage from the action of high temperature Particular module - Damage from the action of low temperature. Particular module - Damage from the action of electricity. Particular module - Radiation trauma and damage from changes in barometric pressure.
10	Module 10. Forensic medical diagnostics in cases of sudden death	Particular module – the pathogenesis of sudden death. Particular module – diseases of the cardiovascular system, central nervous system, respiratory and digestive diseases.

5.2. Sections of disciplines and types of classes

№	Name of the section of discipline	L	PT	LR	S	IW	Total hours
1	The subject and contents of forensic medicine. Procedural and institutional issues of forensic medical examination.	-	6	-	-	4	10
2	Forensic thanatology. Examination of a cadaver at the crime scene.	-	7	-	-	4	11
3	Forensic medical examination (the examination of a cadaver).	-	8	-	-	4	12
4	Forensic medical examination of the damage caused by blunt solid objects. Falling from height. Forensic medical examination of transport injury.	-	7	-	-	4	11
5	Forensic medical examination of the injuries caused by sharp weapons. Forensic medical examination of gunshot injuries.	-	7	-	-	4	11
6	Forensic medical examination of sudden death.	-	7	-	-	4	11
7	Forensic medical examination of mechanical asphyxia. Forensic medical examination of a newborn baby cadaver.	-	7	-	-	4	11
8	Forensic medical examination of poisonings.	-	7	-	-	4	11
9	Forensic-medical examination of living persons. Forensic medical examination of the gravity of health damage. Medical ethics and deontology	-	6	-	-	4	10
10	Laboratory research methods in forensic medicine. Forensic human identification.	-	6	-	-	4	10

6. Laboratory research – not provided

7. Practical training.

№	№ discipline section	Name of a practical training	Workload (hours)
1.		The subject and contents of forensic medicine. Procedural and institutional issues of forensic medical examination.	4
2.		Forensic thanatology. Examination of a cadaver at the crime scene.	4
3.		Forensic medical examination (the examination of a cadaver).	8
4.		Forensic medical examination of the damage caused by blunt solid objects. Falling from height. Forensic medical examination of transport injury.	4
5.		Forensic medical examination of the injuries caused by	4

		sharp weapons. Forensic medical examination of gunshot injuries.	
6.		Forensic medical examination of sudden death.	4
7.		Forensic medical examination of mechanical asphyxia. Forensic medical examination of a newborn baby cadaver.	4
8.		Forensic medical examination of poisonings.	4
9.		Forensic-medical examination of living persons. Forensic medical examination of the gravity of health damage. Medical ethics and deontology	4
10.		Laboratory research methods in forensic medicine. Forensic human identification.	4

8. Material and technical support of the discipline:

1. Classrooms (3 rooms), equipped with multimedia projectors, personal computers;
2. Computer classes of the medical faculty, PFUR's information library center with access to the electronic library system of the PFUR and the Internet;
3. Educational posters, tables (according to the topics of laboratory classes);
4. A set of videos on the topics of laboratory classes:
 - a) examination of the corpse at the place of its discovery
 - b) forensic medical examination of transport injury
 - c) forensic medical examination of sudden death
 - d) forensic medical examination of sexual crimes
 - e) forensic autopsy
 - f) forensic histology
5. Multimedia presentations;
6. Autopsy room (5 autopsy tables), autopsy tables, refrigerators, «forensic expert's case», anatomical sets (according to the agreement on the organization of practical training of students from 13.01.2017, SBOH MR «Bureau of forensic medical expertise»)
7. Sets of autopsy tools;
8. Microscopes, microtomes for histological examination and histomorphometry;
9. Sets of histological microscopic slides in accordance with the topics of laboratory studies;
10. Wet mounts, wax models and bone specimen in accordance with the topics of laboratory classes
11. Collection of museum bone specimen (420 in total).

9. Information support of the discipline:

- a) Software: for laboratory (clinical) classes Microsoft Office 2012 software is currently being used.
- b) Databases, reference and search systems:
 1. Electronic Library System (ELS) of the RUDN University and third-party ELS, to which university students have access on the basis of concluded contracts:
 - ELS RUDN <http://lib.rudn.ru/MegaPro/Web>
 - TTIS RUDN <http://esystem.rudn.ru>
 - ELS «Юрайт» <http://www.biblio-online.ru>
 - ELS «Консультант студента» www.studentlibrary.ru
 - ELS «Лань» <http://e.lanbook.com/>
 2. Databases and search engines:
 - Яндекс search system <https://www.yandex.ru/>
 - Google search system <https://www.google.com/>
 - SCOPUS database <http://www.elsevierscience.ru/products/scopus/>
 - WHO database <http://whodc.mednet.ru/>

10. Educational and methodical support of the discipline:

a) Main literature

1. Sudebno-medicinskaya ekspertiza zhivyyh lic: uchebnoe posobie / D.V. Sundukov, E.H. Barinov, P.O. Romodanovskij. - Moscow: RUDN, 2021. - 121 p.: il. - ISBN 978-5-209-10211-3 : 87.69 (3 copies).
2. Sudebno-medicinskaya ekspertiza pri spornyh polovyh sostoyaniyah i polovyh prestupleniyah: uchebno-metodicheskoe posobie / E.H. Barinov, P.O. Romodanovskij, E.N. Cherkalina. - Moscow: RUDN, 2020. - 67 p.: il. - ISBN 978-5-209-10378-3 : 70.53. (3 copies).
3. Sudebnaya medicina: kratkij kurs: Uchebnoe posobie / E.H. Barinov. – Moscow, RUDN, 2017. - 288 p.: il. - ISBN 978-5-209-07480-9 : 105.19. 58.1 - S 89, (75 copies).
4. Barinov E.H., Sundukov D.V., Kovalev A.V., Romanova O.L. Sudebno-medicinskie ekspertizy v grazhdanskom processe. – Moscow, RUDN, 2019.
5. Barinov E.H., Sundukov D.V., Romodanovskij P.O., Romanova O.L., Cherkalina E.N. Ugolovnaya otvetstvennost' za prestupleniya, svyazannye s narusheniem medicinskimi rabotnikami professional'nogo dolga. – Moscow, RUDN, 2020.
6. Sundukov D.V., Barinov E.H., Bogomolov D.V., Putincev V.A., Romanova O.L., Smirnov A.V. Sudebno-medicinskaya ekspertiza mekhanicheskoy asfiksii. – Moscow, RUDN, 2019.
7. Sundukov Dmitriy Vadimovich. Sudebno-medicinskaya ekspertiza skeletirovannyh ostankov: Uchebno-metodicheskoe posobie / D.V. Sundukov, E.H. Barinov, A.V. Smirnov. - Moscow: RUDN, 2018. - 46 p.: il. - ISBN 978-5-209-08805-9 : 73.17. 58 - S 89, (84 copies).
8. Sundukov D.V. Sudebno-medicinskaya ekspertiza pri otravlenii ugarnym gazom [Elektronnyj resurs] : Uchebno-metodicheskoe posobie / D.V. Sundukov, E.H. Barinov, O.L. Romanova. - Moscow: RUDN, 2018. - 46 p. - ISBN 978-5-209-08632-1.
9. Sundukov Dmitriy Vadimovich. Istoriya sudebnoj mediciny v zarubezhnyh stranah: Uchebno-metodicheskoe posobie / D.V. Sundukov, E.H. Barinov, A.V. Smirnov. – Moscow: RUDN, 2017. - 62 p. - ISBN 978-5-209-07964-4 : 86.41. 58 (89 copies)
10. Barinov Evgenij Hristoforovich. Sudebno-medicinskaya ekspertiza trupa i sudebno-medicinskaya dokumentaciya: Uchebnoe posobie dlya studentov medicinskih vuzov / E.H. Barinov, D.V. Sundukov, P.O. Romodanovskij. - Moscow: RUDN, 2015. - 77 p. - ISBN 978-5-209-05768-0: 42.37. 58.1 - B24 (5 copies)
11. Barinov Evgenij Hristoforovich. Sudebnaya medicina: Uchebnoe posobie dlya studentov lechebnyh fakul'tetov / E.H. Barinov, P.O. Romodanovskij, D.V. Sundukov. - Moscow: RUDN, 2015. - 467 p. - ISBN 978-5-209-05767-3 : 212.04. 58.1 - B24 (5 copies)
12. Sudebnaya medicina: Uchebnik / Pod red. YU.I. Pigolkina. - 3-e ed. - Moscow: GEOTAR-Media, 2015. - 496 p. - ISBN 978-5-9704-3340-9.

b) Additional literature

1. Situacionnye zadachi i testovye zadaniya po sudebnoj medicine, Moscow: GEOTAR-Media, 2015, 121 p.
2. E.H. Barinov, P.O. Romodanovskij, D.V. Sundukov. Sudebnaya medicina: Uchebnoe posobie. – Moscow, 2015. - 468 p.
3. P.O. Romodanovskij, E.H. Barinov, D.V. Sundukov, E.V. Gridasov, A.V. Ajrapetov, P.A. Salmanov, A.V. Skrebnev, V.A. Spiridonov, D.V. Sundukov, N.A. Miheeva. Sudebno-medicinskaya dokumentaciya kodirovanie prichin smerti s ispol'zovaniem programmnoho obespecheniya). Uchebno-metodicheskoe posobie, Moscow, 2014, 68 p.
4. Sudebnaya medicina i sudebno-medicinskaya ekspertiza: Nacional'noe rukovodstvo. / ed. YU.I. Pigolkina. – Moscow: GEOTAR–Media, 2014. -728 p.
5. Pigolkin YU.I. , Romodanovskij P.O., Kil'dyushov E.M., Dubrovin I.A., Sundukov D.V. Uchebnik «Sudebnaya medicina», 3-e ed., - Moscow: GEOTAR-Media, 2012, 496 p.
6. Sudebnaya medicina: Uchebnik / Ed. V.N. Kryukova. – 5th ed. - Moscow: Medicina, 2006. - 448 p.: il. - ISBN 5-225-04233-3 : 0.00. 58.1 - S89 (204 copies)

11. Guidelines for students on the development of the discipline

In accordance with the requirements of the GEF HPE teaching of the discipline «Forensic medicine» provides competence approach in the educational process, which is based on innovative psychological and pedagogical technologies aimed at improving the efficiency and quality of the formation of students' professional skills. The main forms of teaching are: practical classes (clinical course) conducted both in the classroom and in the autopsy rooms and an independent work of a student.

During the practical classes in the autopsy room, students consistently study techniques of autopsy used when examining various types of violent and nonviolent death. The main purpose of practical classes is the study of autopsy techniques as well as mastering practical skills: - conducting an external examination of the corpse, including description of clothes, shoes, and other items; - performing autopsy cuts with access to cavities and organs; - carrying out the extraction of complex of the visceral organs using various methods; - withdrawing the biological samples and making out directions to their laboratory examination. Student is also required to be able to write the «Forensic diagnosis and expert testimony», as well as to fill in the «Medical death certificate» according to the ICD. Therefore, visiting the laboratory classes and working with biological samples and forensic medical documentation is mandatory. Missed classes should be worked out. Independent work of students in extracurricular hours can take place both in the autopsy room and in the Forensic Medical Museum, which presents forensic bone specimen and wet mounts, as well as wax models representing all types of violent death.

Out-of-class independent work of the students includes:

- Studying textbooks, manuals and forensic Atlas; self-study of wax models, bones and wet mounts in the Forensic Medical Museum of the Department.
- Working in the information and educational environment with accessible databases dealing with forensic medicine issues.
- Writing the Educational research work («УИРС») or (course work) using the autopsy findings.

During the study of forensic medicine special attention should be paid to the fact that the acquisition of knowledge of the basics of autopsy techniques, methods of corpse examination and the ability to use them in practice are the integral parts of medical education, which also include the acquisition of skills for recognizing the morphological manifestations of injuries, diseases, pathological processes and conditions, as well as the establishment and justification of the cause of death, drawing up a forensic diagnosis and expert conclusions. The listed competencies contribute to the growth of professional knowledge, increase the level of medical thinking and allow one to assess the degree of preparation of the future doctor for the independent work. The development of the General professional competencies is much more effective when students participate in the work of scientific seminar and student scientific society (CHO) created at the Department. The most important task of these public associations – the early inclusion of the student into the professional medical environment and familiarization with scientific activities, creating conditions for cooperation of students with competent professionals, as well as for motivating them for a deep and comprehensive mastery of the profession of General medical practitioner.

12. Fund of estimated means for the interim assessment of students in the discipline

Materials for assessing the level of mastering the educational material of the discipline "Forensic Medicine "(evaluation materials), including a list of competencies indicating the stages of their formation, a description of indicators and criteria for evaluating competencies at various stages of their formation, a description of assessment scales, standard control tasks or other materials necessary for assessing knowledge, skills, skills and (or) experience of activity that characterize the stages of competence formation in the process of mastering the educational program, methodological materials defining the procedures for evaluating knowledge, skills, skills and (or) experience of activity that characterize the stages of competence formation are fully developed and are available to students on the discipline page in the TUIS RUDN.

The program is compiled in accordance with the requirements of the FSES HE.

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