

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

Medical Institute

Recommended MCSD

**ACADEMIC COURSE WORKING PROGRAM**

**Course name**

*Forensic Medicine*

**Recommended for the direction of training (specialty)**

**31.05.03 Dentistry**

**Program (profile, specialization)**

**Dentistry**

### 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:

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 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	s	Following disciplines
s			
	GPC-9. Being able to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks	Human anatomy Topographic anatomy	Oral and maxillofacial surgery;

### 3. Requirements to results of studying of the discipline:

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

Competences	Competence Code and Name	Competence Achievement Indicator Code and Name
GPC-9.	Being able to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks	GPC-9.1. Being able to use the algorithm of clinical, laboratory and functional diagnosis in dealing with professional tasks. GPC-9.2. Evaluating the results of clinical, laboratory and functional diagnosis in dealing with professional tasks. GPC-9.3. Determining morpho-functional, physiological states and pathological processes of the human body.

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

- 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 tanathology, 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:**

1. 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.
  2. To possess the methods of unidentified corpse examination, to describe damages caused by various types of external impacts in accordance with conventional schemes.
  3. To determine the severity of the injuries to health in cases of different body damages.
  4. 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.
  5. 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.
  6. To use educational, scientific, popular scientific literature, Internet network in professional activities.
1. 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).
  2. 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.).
  3. 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.
  4. Techniques and methods for comparative identification using the inner characteristics of bones, teeth; dental sex, age and race determination.
  5. 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. Volume of discipline and types of study**

General labour intensity is 2 points of credit.

№	Name of the section of the discipline	L	PT	LR	S	IW	Total hours
11	Procedural and organizational issues of forensic medical examination. Inspection of the scene and the corpse at the scene of his discovery. Forensic thanatology (general and particular)	-		-	-		11
22	Forensic examination of the corpse. Forensic diagnostics in cases of sudden death	-		-	-		1
33	General issues of forensic medical examination of mechanical damage (thanatogenesis of death due to different mechanical impacts). Injuries caused by blunt solid objects. Falling from height. Traffic accidents.	-		-	-		1

	Peculiar properties of maxillofacial region damages due to different traumatic impacts.						
44	Forensic medical examination of victims, accused persons, etc. Examination of the determination of the loss of general and professional working capacity. Forensic medical examination of professional offenses of medical workers.	-		-	-	4	1
55	Forensic medical examination in case of damages by sharp objects. Gunshot wounds	-		-	-		11
66	Forensic identification in dentistry Laboratory research methods in forensic medicine.	-		-	-	4	1
	<b>Total:</b>						

## 5. Contents of the discipline.

### 5.1. The content of the discipline sections

№ п/п	Name of the section of discipline	Contents of the section
1.	Module 1 Procedural and institutional issues of forensic medical examination. Forensic thanatology (general and particular aspects)	<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 expertises. Objects of forensic medical examination. Forensic medical examination at the preliminary investigation and in court. Forensic documentation.</p> <p>Particular module - The definition of death. Terminal conditions. The definition of clinical and biological death. Diagnostics of death. Establishing of the time 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.</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 medical examination (the examination of a cadaver). Forensic diagnostics in cases of sudden death	<p>Particular module - The reasons for forensic medical examination of a cadaver. 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 – Forensic medical examination in case of sudden death.</p>
3.	Module 3 General issues of forensic medical examination of	<p>Particular module – General forensic traumatology. The main issues to be solved by forensic medical expert in case of mechanical damage.</p> <p>Particular module – Injuries caused by blunt solid objects.</p>

	mechanical damage (thanatogenesis of death due to different mechanical impacts). Injuries caused by blunt solid objects. Falling from height. Traffic accidents. Peculiar properties of maxillofacial region damages due to different traumatic impacts.	Particular module – Transport trauma. The mechanism of injury and morphological signs of injuries caused by cars and other vehicles.
4.	Module 4. Laboratory methods in forensic medicine. Forensic medical identification	Particular module - Forensic examination of the evidences of biological origin (blood, sperm, saliva, hair). Particular module – Estimating the sex and age of a victim by teeth
5.	Module 5. Forensic medical examination in case of damages by sharp objects. Gunshot wounds	Particular module – The mechanism of injury and morphological signs of injuries caused by sharp objects and firearms. Peculiar properties of maxillofacial region damages due to different traumatic impacts.
6.	Module 6. Forensic medical examination of living persons. Forensic medical examination of the gravity of the health damage. Forensic medical examination of criminal and civil cases of medical practitioners' professional violations.	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. Commission and complex forensic examinations. Particular module – Forensic medical 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.

### Practical training.

№ п/п	Subject of a laboratory training	
1.	The subject and contents of forensic medicine. Procedural and institutional issues of forensic medical examination.	7
2.	Forensic medical examination (the examination of a cadaver). Demonstrational autopsy.	8
3.	Forensic medical examination of the damage caused by blunt solid objects. Falling from height. Peculiar properties of maxillofacial region damages due to different traumatic impacts.	8
4.	Forensic medical examination in case of damages by sharp objects. Gunshot wounds	8

5.	Forensic medical examination of living persons. Forensic medical examination of the gravity of the health damage.	7
6.	Forensic medical identification	7

## 7. Laboratory training (*is not provided*)

### 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 microslides 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](http://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 spornyyh polovyyh sostoyaniyakh i polovyyh prestupleniyakh : 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. 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.
6. 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)
7. Sudebnaya medicina: Uchebnik / Pod red. YU.I. Pigolkina. – 3<sup>rd</sup> ed. - Moscow: GEOTAR-Media, 2015. - 496 p. - ISBN 978-5-9704-3340-9.
8. 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)
9. Sundukov D.V. Sudebno-medicinskaya ekspertiza pri otravlenii ugarnym gazom: Uchebno-metodicheskoe posobie / D.V. Sundukov, E.H. Barinov, O.L. Romanova. - Moscow: RUDN, 2018. - 46 p - ISBN 978-5-209-08632-1.
10. 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 - S 89 (10 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. Romodanovskij Pavel Olegovich. Sudebnaya medicina: Uchebnoe posobie dlya studentov stomatologicheskikh fakul'tetov medicinskih vuzov / P.O. Romodanovskij, E.H. Barinov. - Moscow: RUDN, 2012. - 239 p.: il. - ISBN 978-5-209-03628-9 : 200.00. 58.1 - R70 (6 copies)
13. Uchebnik dlya studentov stomatologicheskikh fakul'tetov medicinskih vuzov / G.A. Pashinyan; Pod red. G.A.Pashinyana, G.M.Harina. - Moscow: GEOTAR-MED, 2001. - 320 p.: il. - (21 vek). - ISBN 5-9231-0099-1 : 165.00. 58.1 - S89 (30 copies)

#### 6) Additional literature

1. 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.
2. Romodanovskij Pavel Olegovich. Sudebnaya medicina v skhemah i risunkah : Uchebnoe posobie / P.O. Romodanovskij, E.H. Barinov. - Moscow: Prospekt, 2019. - 576 p.: il. - ISBN 978-5-392-29340-7 : 800.00. 58.1 - R70 (5 copies)
3. 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)
4. 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)
5. 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)
6. Sudebnaya medicina: Uchebnik / Pod red. V.N. Kryukova. – 5<sup>th</sup> 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 course work.

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.

### Developers:

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