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**Federal State Autonomous Educational Institution of Higher Education  
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA named after**

**Patrice Lumumba  
RUDN University**

**Institute of Medicine**

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educational division (faculty/institute/academy) as higher education programme developer

**COURSE SYLLABUS**

**FORENSIC MEDICINE**

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course title

**Recommended by the Didactic Council for the Education Field of:**

**31.05.01 General Medicine**

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field of studies / speciality code and title

**The course instruction is implemented within the professional education  
programme of higher education:**

**General Medicine**

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higher education programme profile/specialisation title

## 1. COURSE GOAL(s)

The goal of the course "Forensic Medicine" is to equip students with the 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. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course (module) «Forensic medicine» is aimed at the development of the following competences /competences in part: **General Professional Competences: (GPC)-1, 5, Professional Competences: (PC)-4**

*Table 2.1. List of competences that students acquire through the course study*

Competence code	Competence descriptor	Competence formation indicators (within this course)
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.

## 3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course refers to the core/variable/elective\* component of (B1) block of the higher educational programme curriculum.

\* - Underline whatever applicable.

Within the higher education programme students also master other (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the course study.

*Table 3.1. The list of the higher education programme components/disciplines that contribute to the achievement of the expected learning outcomes as the course*

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
GPC-1	Being able to implement moral and legal norms, ethical and deontological principals in professional activity; being able to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks	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
GPC-5	Being able to assess morpho-functional, physiological conditions and pathological processes in the human body to solve professional tasks	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

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	Neurology Medical genetics Neurosurgery	Polyclinic therapy
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#### 4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course "Forensic Medicine" is 3 credits (108 academic hours).

*Table 4.1. Types of academic activities during the periods of higher education programme mastering (**full-time training**)\**

Type of academic activities		Total academic hours	Semesters/training modules
			11
Classroom learning , <i>ac.h.</i>		68	68
Lectures ( <b>Lec</b> )		-	-
Practical/seminar classes ( <b>S</b> )		68	68
Lab work ( <b>Lab</b> )		-	-
Self-studies, academic hours		40	40
<b>Total workload of the discipline</b>	ac. h.	<b>108</b>	<b>108</b>
	credits	<b>3</b>	<b>3</b>

#### 5. COURSE CONTENTS

*Table 5.1. Course contents and academic activities types*

Course module title	Course module contents (topics)	Academic activities types
<b>Module 1</b> Procedural and institutional issues of forensic medical examination. Examination of the scene of crime and cadaver examination on the	1. 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. 2. The rights and responsibilities of a forensic expert. Types of forensic expertise. Objects of forensic medical examination. Forensic medical	<b>S</b>

accident scene	<p>examination at the preliminary investigation and in court. Forensic documentation.</p> <p>3. 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>	
<b>Module 2.</b> Forensic thanatology	<p>1. 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>2. Estimating the time of death.</p>	<b>S</b>
<b>Module 3</b> Forensic medical examination of the damage caused by blunt solid objects and sharp objects	<p>1. General issues of forensic traumatology. The main issues to be solved during the forensic medical examination of mechanical damage.</p> <p>2. Forensic medical diagnostics of the lifetime injury</p> <p>3. Forensic medical examination of injuries caused by blunt objects.</p> <p>4. Forensic examination of falling from height.</p> <p>5. Vehicle injury.</p> <p>6. Forensic examination of injuries caused by sharp tools</p> <p>7. Forensic medical examination of gunshot injuries.</p>	<b>S</b>
<b>Module 4.</b> Forensic-medical examination of living people. Forensic medical examination of the gravity of the health damage.	<p>1. 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). 2. The examination of general and professional loss of working ability. Forensic documentation.</p> <p>3. Forensic medical examination of sexual crimes, examination of former pregnancy, childbirth.</p> <p>4. Forensic medical examination in criminal and civil cases of professional offenses of medical</p>	<b>S</b>

	<p>workers.</p> <p>5. Professional and official crimes of medical workers.</p> <p>6. Board and complex forensic medical examinations.</p>	
<p><b>Module 5.</b> Forensic medical examination (the examination of a cadaver).</p>	<p>1. 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>2. 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>	<b>S</b>
<p><b>Module 6.</b> Laboratory methods in forensic medicine. Forensic personal identification</p>	<p>1. Examination of the evidences of biological origin (blood, semen, saliva, hair). Methods of identification, removal and packaging of traces and physical evidence of biological origin.</p> <p>2. Methods of personal human identification.</p> <p>3. Identification of the person in emergency situations (disasters).</p> <p>4. Forensic identification of the injury weapon.</p>	<b>S</b>
<p><b>Module 7.</b> Forensic medical examination in case of mechanical asphyxia. The examination of a newborn baby cadaver</p>	<p>1. General characteristic of lifetime mechanical asphyxia. Signs of asphyxia in external and internal cadaver examination. Classification of mechanical asphyxia.</p> <p>2. 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.</p> <p>3. 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>4. 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>	<b>S</b>
<p><b>Module 8.</b> Forensic medical</p>	<p>1. General toxicology: Poisons and poisonings. The condition for the action of poisons.</p>	<b>S</b>

examination of poisonings	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. 2. Poisoning with acids, alkalis, destructive, haemotropic and functional poisons. The poisoning with ethyl alcohol and its surrogates. Drugs poisonings. Bacterial and non-bacterial food poisoning.	
<b>Module 9.</b> Forensic medical examination of death due to the influence of physical factors	1. Damage from the action of high temperature 2. Damage from the action of low temperature. 3. Damage from the action of electricity. 4. Radiation trauma and damage from changes in barometric pressure.	<b>S</b>
<b>Module 10.</b> Forensic medical diagnostics in cases of sudden death	1. The pathogenesis of sudden death. 2. Diseases of the cardiovascular system, central nervous system, respiratory and digestive diseases.	<b>S</b>

## 6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

*Table 6.1. Classroom equipment and technology support requirements*

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Seminar (№ 139, 145,142)	Classroom for seminars, group and individual consultations, monitoring and mid-term assessment, equipped with a set of specialized furniture and multimedia presentation equipment.	A set of specialized furniture; mannequin for simulation of critical conditions; medical instruments; dummies, anatomical specimens; dry bones; microscopic slides; microscopes Микмед-1 вар. 1; Lenovo ThinkBook 15 G2 ITL 20VE00G6RU laptop; projector 3D ViewSonic PJD5234; multimedia presentations; educational copies of forensic reports, materials of criminal and civil cases.
Self-studies		A set of specialized furniture,

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
(№ 142)	Classroom for self-studies (can be used for seminars and consultations), equipped with a set of specialized furniture and computers with stable wireless Internet connection.	ASUS VivoBook M533IA-BN289T laptop, medical instruments, mannequin for simulation of critical conditions

## 7. RESOURCES RECOMMENDED FOR COURSE STUDY

### *Main readings:*

1. Forensic medical examination of live persons : textbook / D.V. Sundukov, E.H. Barinov, P.O. Romodanovsky [et al.]. - Electronic text data. - Moscow : RUDN, 2021. - 121 p. : ill. - ISBN 978-5-209-10211-3 - 3 copies.

2. Forensic medical examination in cases of death from exposure to technical and atmospheric electricity: textbook / E.H. Barinov, D.V. Sundukov, P.O. Romodanovsky [et al.]. - Electronic text data. - Moscow : RUDN, 2021. - 107 p. : ill. - ISBN 978-5-209-10455-1 - 75 copies.

3. Criminal liability for crimes related to the violation of professional duty by healthcare professionals: textbook / E.H. Barinov, D.V. Sundukov, P.O. Romodanovsky [et al.]. - Electronic text data. - Moscow : RUDN, 2020. - 88 p. - ISBN 978-5-209-09665-8 - 5 copies.

4. Forensic medical examination in controversial sexual conditions and sexual crimes: an educational and methodological manual / E.H. Barinov, P.O. Romodanovsky, E.N. Cherkalina [et al.]. - Electronic text data. - Moscow: RUDN, 2020. - 67 p. : ill. - ISBN 978-5-209-10378-3 - 3 copies.

5. Forensic medical examinations in civil proceedings: textbook / E.H. Barinov, D.V. Sundukov, A.V. Kovalev, O.L. Romanova. - Electronic text data. - Moscow : RUDN, 2019. - 104 p. : ill. - ISBN 978-5-209-08875-2 - 73 copies.

6. Forensic medical examination of mechanical asphyxia: an educational and methodical manual for students, clinical residents and postgraduates / D.V. Sundukov, E.H. Barinov, D.V. Bogomolov [et al.]. - Electronic text data. - Moscow : RUDN, 2019. - 82 p. : ill. - ISBN 978-5-209-09592-7.

7. Forensic medical examination of skeletal remains: an educational and methodical manual / D.V. Sundukov, E.H. Barinov, A.V. Smirnov. - Electronic text data. - Moscow : RUDN, 2018. - 46 p. : ill. - ISBN 978-5-209-08805-9 - 84 copies.

8. Forensic medical examination in case of carbon monoxide poisoning : an educational and methodological manual / D.V. Sundukov, E.H. Barinov, O.L.

Romanova. - Electronic text data. - Moscow: RUDN, 2018. - 46 p. - ISBN 978-5-209-08632-1.

9. Forensic medical examination of poisoning : an educational and methodical manual / D.V. Sundukov, E.H. Barinov, O.L. Romanova. - Electronic text data. - Moscow: RUDN, 2017. - 58 p. - ISBN 978-5-209-07965-1 - 10 copies.

10. The history of forensic medicine in foreign countries: an educational and methodological manual / D.V. Sundukov, E.H. Barinov, A.V. Smirnov. - Electronic text data. - Moscow: RUDN, 2017. - 62 p. - ISBN 978-5-209-07964-4 - 10 copies.

11. Forensic medicine: a short course: textbook / E.H. Barinov, P.O. Romodanovsky, D.V. Sundukov, O.L. Romanova. - Electronic text data. - Moscow : RUDN, 2017. - 288 p. : ill. - ISBN 978-5-209-07480-9 - 75 copies.

12. Forensic medical examination of a corpse and forensic medical documentation: a textbook for students of medical universities / E.H. Barinov, D.V. Sundukov, P.O. Romodanovsky. - Electronic text data. - Moscow : RUDN, 2015. - 77 p. - ISBN 978-5-209-05768-0 - 5 copies.

13. Forensic medicine : textbook / edited by Yu.I. Pigolkin. - 3rd ed., reprint. and additional - M. : GEOTAR-Media, 2015. - 496 p. - ISBN 978-5-9704-3340-9

*Additional reading:*

1. Forensic osteology : educational and methodical manual: in 2 parts. Part 2 / D.V. Sundukov, E.H. Barinov, A.V. Smirnov. - Electronic text data. - Moscow : RUDN, 2020. - 65 p. : ill. - ISBN 978-5-209-10384-4. - ISBN 978-5-209-09590-3 - 53 copies.

2. Forensic medicine in diagrams and drawings: textbook / P.O. Romodanovsky, E.H. Barinov. - Electronic text data. - Moscow : Prospect, 2019. - 576 p. : ill. - ISBN 978-5-392-29340-7 - 5 copies.

3. Identification of a person by the features of the structure of teeth and dentition: textbook / E.H. Barinov, A.I. Manin, P.O. Romodanovsky [et al.]. - Electronic text data. - Moscow : RUDN, 2019. - 124 p. : ill. - ISBN 978-5-209-09407-4 - 3 copies.

4. Forensic osteology: educational and methodical manual : in 2 parts. Part 1 / D.V. Sundukov, E.H. Barinov, A.V. Smirnov. - Electronic text data. - Moscow : RUDN, 2019. - 64 p. : ill. - ISBN 978-5-209-09591-0. - ISBN 978-5-209-09590-3 : 93.49. - 87 copies.

5. Forensic medicine: a textbook for students of medical faculties / E.H. Barinov, P.O. Romodanovsky, D.V. Sundukov. - Electronic text data. - Moscow: RUDN, 2015. - 467 p. - ISBN 978-5-209-05767-3 - 5 copies

6. Forensic medicine : textbook / P.O. Romodanovsky, E.H. Barinov. - M. : RUDN, 2012. - 239 p. : ill. - ISBN 978-5-209-03628-9 - 12 copies

7. Forensic medicine : textbook / Edited by V.N. Kryukov. - 5th ed., reprint. and additional - M. : Medicine, 2006. - 448 p. : ill. - (Educational literature for students of medical universities). - ISBN 5-225-04233-3 - 45 copies.

***Internet (based) sources***

- 1. Electronic libraries with access for RUDN students:  
-Electronic library network of RUDN – ELN RUDN <http://lib.rudn.ru/MegaPro/Web>

- ELN «University Library online» <http://www.biblioclub.ru>
- ELN Urait <http://www.biblio-online.ru>
- ELN «Student Advisor» [www.studentlibrary.ru](http://www.studentlibrary.ru)
- ELN «Lan» <http://e.lanbook.com/>

• 2. Databases and search engines:

- electronic fund of legal and regulatory and technical documentation <http://docs.cntd.ru/>
- search system Yandex <https://www.yandex.ru/>
- search system Google <https://www.google.ru/>
- abstract database SCOPUS <http://www.elsevierscience.ru/products/scopus/>

*Learning toolkits for self-studies during the development of the discipline*

1. Lectures Synopsis on the discipline "Forensic medicine".
2. Methodological guidelines for the implementation and execution of control and independent work on the discipline "Forensic medicine"

\* - All teaching materials for self-studying of students are placed in accordance with the current procedure on the discipline page in the RUDN LMS TUIS.

*Training toolkit for self- studies to master the course \*:*

1. The set of lectures on the course "Forensic medicine"
2. The laboratory workshop (if any).on the course "Forensic medicine"
3. The guidelines for writing a course paper / project (if any) on the course "Forensic medicine".

\* The training toolkit for self- studies to master the course is placed on the course page in the university telecommunication training and information system under the set procedure.

## **8. ASSESSMENT TOOLKIT AND GRADING SYSTEM\* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL UPON COURSE COMPLETION**

The assessment toolkit and the grading system\* to evaluate the competences formation level (GPC-1, 5; PC-4) upon the course study completion are specified in the Appendix to the course syllabus.

\* The assessment toolkit and the grading system are formed on the basis of the requirements of the relevant local normative act of RUDN University (regulations / order).

### **DEVELOPERS:**

Head of the Department of  
Forensic Medicine

position, department

D.V. Sundukov

signature

name and surname

Teaching assistant of the  
Department of Forensic  
Medicine

position, department

A.R. Bashirova

signature

name and surname

**HEAD OF EDUCATIONAL DEPARTMENT:**

of Forensic Medicine

D.V. Sundukov

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name of department

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name and surname

**HEAD  
OF HIGHER EDUCATION PROGRAMME:**

First Deputy Director of MI for  
Academic Affairs

Iv.V. Radysh

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position, department

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signature

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name and surname