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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**

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### **MEDICAL CRIMINALISTICS**

course title

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

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**31.05.01 General Medicine**

field of studies / speciality code and title

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

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**General Medicine**

higher education programme profile/specialisation title

## 1. COURSE GOAL(s)

The goal of the course «Medical Criminalistics» is to build up student's professional competencies based on knowledge of theoretical and practical issues of forensic medical examination, mastering additional knowledge in the field of forensic medicine and its modern capabilities for the successful fulfillment of the duties of a specialist on the instructions of investigative authorities in the implementation of the tasks of Russian healthcare contributing to further improvement of therapeutic and prophylactic healthcare quality.

## 2. LEARNING OUTCOMES

Mastering the course (module) « Medical criminalistics» is expected to contribute to the following competences (parts of the competences): GPC-11, GPC-5.

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

<b>Competence code</b>	<b>Competence</b>	<b>Competence indicators</b>
GPC-11	Being able to prepare and apply scientific, research, development and production, design, organizational, management and regulatory documentation in the healthcare system.	GPC-11.2. Being able to apply scientific, research, development and production, design, organizational, management and regulatory documentation within the framework of their professional activities.
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.

## 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 study results*

<b>Competence code</b>	<b>Competence</b>	<b>Previous Disciplines*</b>	<b>Subsequent Disciplines*</b>
GPC-5	Being able to assess morpho-functional,	Biochemistry; Normal physiology;	Phthisiology; Maxillofacial surgery;

<b>Competence code</b>	<b>Competence</b>	<b>Previous Disciplines*</b>	<b>Subsequent Disciplines*</b>
	physiological conditions and pathological processes in the human body to solve professional tasks	General Surgery; Obstetrics and gynecology; Biology; Microbiology, virology; Pathophysiology, clinical pathophysiology; Molecular genetic methods; Methods of microbiological diagnosis; Propaedeutics of internal diseases; Immunology; Pathological anatomy, clinical pathological anatomy; Radiation diagnostics; Medical Elementology; Ophthalmology; Methods of cell biology and histology; Chemistry; Pharmacology; Bioorganic chemistry; Anatomy; Histology, embryology, cytology; Topographic anatomy and operative surgery; Otorhinolaryngology; Pediatrics;	Dissection course;
GPC-11	Being able to prepare and apply scientific, research, development and production, design, organizational, management and regulatory documentation in the healthcare system	Public health and healthcare, health economics; Fundamentals of research work; Evidence-based medicine; Hygiene; Latin language; Anatomy;	

\* To be filled in according to the competence matrix of the higher education programme.

#### **4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES**

The total workload of the course is 1 credit (36 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			
Contact academic hours	17	17			
including:					
Lectures (LC)	0	0			
Lab work (LW)	17	17			
Seminars (workshops/tutorials) (S)	0	0			
Self-studies	19	19			
Evaluation and assessment (exam/passing/failing grade)	0	0			
Course workload	academic hours	36	36		
	credits	1	1		

## 5. COURSE CONTENTS

Table 5.1. Course contents and academic activities types

Course module title	Course module contents (topics)	Academic activities types
Estimating the time of death. Biophysical methods for estimation of the time of death.	<p><b>Topic 1.1.</b> Introduction to thanatology: the concept of death, the process of dying, probable and reliable signs of death. Supravital reactions and tissue survivability. Methods of time of death estimation. Early cadaveric changes. Late cadaveric changes.</p> <p><b>Topic 1.2.</b> Modern biophysical methods for estimation of the time of death. Principles of biophysical methods for estimation of time of death: the method of electronic paramagnetic resonance, chemiluminescent method.</p> <p><b>Topic 1.3.</b> Introduction to the research work of the department: “The use of the method of fluorescence spectroscopy in situ for estimating the time of death.”</p>	LW
Forensic toxicology	<p><b>Topic 2.1.</b> Poisoning with sibutramine, methadone, tetrahydrocannabinol derivatives, ethanol. Clinical and morphological signs of poisoning with sibutramine, methadone, tetrahydrocannabinol derivatives, ethanol.</p> <p><b>Topic 2.2.</b> Basic principles of screening of psychotropic and narcotic drugs in saliva, blood, urine, hair of living persons. Basic principles of screening and quantitative determination of narcotic and psychotropic drugs in blood, urine, internal organs, nails and hair of a corpse.</p>	LW

	<b>Topic 2.3.</b> Preparation of samples for forensic chemical analysis. The main methods of forensic chemical analysis: chromatography in a thin layer of sorbent, gas chromatography, liquid chromatography, high-performance liquid chromatography.	
Forensic medical examination of mechanical damages	<b>Topic 3.1.</b> The concepts of group and individualizing personality traits <b>Topic 3.2.</b> Methods of establishing sex, age, race, body type, body length, signs of congenital and acquired diseases, injuries from skeletal remains. <b>Topic 3.3.</b> Cranio- and osteometry techniques (using skull, teeth and postcranial skeleton). Interpretation of results. Methods of statistical data processing using the StatSoft Statistica software.	LW

\* - to be filled in only for **full**-time training: *LC* - lectures; *LW* - lab work; *S* - seminars.

## 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)
Lab work	An auditorium for laboratory work, individual consultations, current control and interim certification, equipped with a set of specialized furniture and 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.

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Computer lab	A computer classroom for conducting classes, group and individual consultations, current control and interim certification, equipped with personal computers (1), a blackboard (screen) and multimedia presentation equipment.	
Seminar	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	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.	A set of specialized furniture, ASUS VivoBook M533IA-BN289T laptop, medical instruments, mannequin for simulation of critical conditions

\* The premises for students' self-studies are subject to **MANDATORY** mention

## 7. RESOURCES RECOMMENDED FOR COURSE STUDY

### *Main readings:*

1. Methods of radiation diagnostics during the examination of living persons : textbook / E.H.

Barinov, A.R. Bashirova, V.K. Dadabaev [et al.]; edited by E.H. Barinov, D.V. Sundukov. - Electronic text data. - Moscow : RUDN, 2023. - 165 p. : ill.- ISBN 978-5-209-11430-7. 54 copies.

[https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=510032&idb=0](https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Rudn_FindDoc&id=510032&idb=0)

2. Forensic medicine: textbook / Yu.I. Pigolkin, M.A. Kislov, E.M. Kildyushov, G.V. Zolotenkova; edited by Yu.I. Pigolkin. - 4th ed. , reprint. and additional ; Electronic text data. - Moscow : GEOTAR-Media, 2022. - 592 p. - ISBN 978-5-9704-6313-0.

[https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link\\_FindDoc&id=508294&idb=0](https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link_FindDoc&id=508294&idb=0)

3. 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. 42 copies.

[https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link\\_FindDoc&id=495755&idb=0](https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link_FindDoc&id=495755&idb=0)

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. 76 copies.

[https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link\\_FindDoc&id=487077&idb=0](https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link_FindDoc&id=487077&idb=0)

5. Forensic medical examination of skeletal remains: an educational and methodological manual / D.V. Sundukov, E.H. Barinov, A.V. Smirnov. - Electronic text data. - M. : RUDN, 2018. - 46 p. : ill. - ISBN 978-5-209-08805-9. 71 copies.

[https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Rudn\\_FindDoc&id=468678&idb=0](https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Rudn_FindDoc&id=468678&idb=0)

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

[https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link\\_FindDoc&id=460121&idb=0](https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link_FindDoc&id=460121&idb=0)

#### *Additional readings:*

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

[https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link\\_FindDoc&id=476811&idb=0](https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link_FindDoc&id=476811&idb=0)

2. Identification of a person by the peculiarities of the structure of teeth and dentition: a 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.

[https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link\\_FindDoc&id=481405&idb=0](https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link_FindDoc&id=481405&idb=0)

3. 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. - M. : RUDN, 2018. - 46 p. - ISBN 978-5-209-08632-1.

[https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link\\_FindDoc&id=470319&idb=0](https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link_FindDoc&id=470319&idb=0)

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

[https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link\\_FindDoc&id=464010&idb=0](https://lib.rudn.ru:443/MegaPro/UserEntry?Action=Link_FindDoc&id=464010&idb=0)

#### *Internet sources*

1. Electronic libraries with access for RUDN students:

- Electronic library system of RUDN – ELS RUDN  
<http://lib.rudn.ru/MegaPro/Web>

- ELS "University Library online" <http://www.biblioclub.ru>
- ELS «Yurayt» <http://www.biblio-online.ru>
- ELS "Student Consultant" [www.studentlibrary.ru](http://www.studentlibrary.ru)
- ELS "Lan" <http://e.lanbook.com/>
- ELS "Trinity Bridge"

## 2. Databases and search engines:

- Electronic fund of legal and regulatory and technical documentation [http://docs.cntd.ru /](http://docs.cntd.ru/)
- Yandex search engine <https://www.yandex.ru/>
- Google search engine [https://www.google.ru /](https://www.google.ru/)
- SCOPUS database <http://www.elsevier.com/locate/scopus/>

## **8. EVALUATION TOOLKIT AND SCORE RATING SYSTEM FOR ASSESSMENT OF LEARNING OUTCOMES**

Evaluation toolkit and score rating system for assessment of learning outcomes of the course “Medical criminalistics” can be found in the Appendix to this document.

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

1. The set of lectures on the course “Medical criminalistics”
2. The laboratory workshop (if any) on the course “Medical criminalistics” \_
3. The guidelines for writing a course paper / project (if any) on the course “Medical criminalistics”.
4. ....

\* 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-11, GPC-5) 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:**

Teaching assistant,  
Department of Forensic Medicine

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position, department




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signature

Bashirova A.R.

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name and surname

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Head of the Department  
of Forensic Medicine

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position, department

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signature

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Sundukov D.V

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name and surname

**HEAD OF EDUCATIONAL DEPARTMENT:**

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**of Forensic Medicine**

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name of department

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signature

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Sundukov D.V

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name and surname

**HEAD  
OF HIGHER EDUCATION PROGRAMME:**

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**Head of the Department of  
General  
Medical Practice**

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position, department

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signature

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Sturov N.V

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name and surname