Federal State Autonomous Educational Institution of Higher Education
PEOPLES' FRIENDSHIP UNIVERSITY OF RUSSIA
NAMED AFTER PATRICE LUMUMBA
RUDN University

Institute of Medicine

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

COURSE SYLLABUS

DISASTER MEDICINE

course title

Recommended by the Didactic Council for the Education Field of:

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:

General Medicine

higher education programme profile/specialisation title

2026

1. COURSE GOAL(s)

The discipline “Disaster Medicine” is part of the specialist program “General Medicine” in the direction 31.05.01 “General Medicine” and is studied in the 11th and 12th semesters of the 6th year. The discipline is implemented by the Department of Disaster Medicine. The discipline consists of 6 sections and 25 topics and is aimed at studying the principles of working in emergency situations of wartime and peacetime, as well as preparing for practical performance of functional duties in specialized clinics and general medical institutions.

The purpose of mastering the discipline is to train students studying in the specialty of General Medicine in higher professional medical education to provide medical assistance to the affected population in emergency situations.

2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the course “Disaster Medicine” is aimed at forming the following competencies (parts of competencies) in students: OPC-6, PC-1.

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

Competence code	**Competence descriptor**	**Competence formation indicators** (within this course)
OPC-6	He is able to organize patient care, provide primary health care, ensure the organization of work and make professional decisions in emergency conditions at the pre-hospital stage, in emergencies, epidemics and in the centers of mass destruction	OPC-6.1 Knows the algorithm for providing first medical aid in emergency situations, including in extreme conditions and mass casualty areas; OPC-6.2 Is able to identify conditions requiring emergency medical care, including clinical signs of sudden cessation of blood circulation and breathing; OPC-6.3 Is able to provide emergency medical care to patients in conditions posing a threat to life, including clinical death (cessation of vital functions of the human body (blood circulation and/or breathing))
PC-1	Able to provide medical care to a patient in emergency or urgent forms	PC-1.1 Is able to assess the patient’s condition requiring medical care in urgent or emergency forms; PC-1.2 Is able to recognize conditions arising from sudden acute diseases, exacerbation of chronic diseases without obvious signs of threat to the patient’s life and requiring medical care in urgent form; PC-1.3 Is able to provide urgent medical care to patients with sudden acute diseases, conditions, exacerbation of chronic diseases without obvious signs of threat to the patient’s life; PC-1.4 Is able to recognize conditions posing a threat to the patient’s life, including clinical death (cessation of vital functions of the human body (blood circulation and/or breathing)), requiring emergency medical care; PC-1.5 Is able to provide emergency medical care to patients in conditions posing a threat to life, including clinical death (cessation of vital functions of the human body (blood circulation and/or breathing)); PC-1.6 Is able to use medications and medical devices when providing medical care in emergency or urgent forms

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

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
OPC-6	Capable of organizing patient care, providing primary healthcare, ensuring work organization and professional decision-making in emergency situation at the pre-hospital stage, during emergencies, epidemics, and in mass casualty areas	General surgery; Topographic Anatomy and Operative Surgery; Epidemiology; Infectious diseases; Life safety; Introductory practice for obtaining primary professional skills and abilities: patient care (simulation center); Practice in emergency medical manipulations (simulation center);	
PC-1	Capable of providing medical care to patients in emergency or urgent situations	Practice in emergency medical manipulations (simulation center); Surgical Practice: Assistant Surgeon; Assistant to a Physician of a Therapeutic Profile: Assistant to a General Practitioner; Practice to obtain primary professional skills and professional experience: assistant procedural nurse; Obstetrics and gynecology practice: obstetrician's assistant; Obstetrics and gynecology practice: assistant gynecologist; Practice of the diagnostic profile: assistant of the ward a nurse; General medical practice: assistant pediatrician; General surgery; Neurology, Medical Genetics, Neurosurgery; Faculty Surgery; Hospital therapy; Emergency medicine for life-threatening conditions; Faculty	

		Therapy; Obstetrics and Gynecology; Infectious diseases; Pediatrics; Outpatient therapy; Hospital surgery, pediatric surgery; Ophthalmology; Propaedeutics of internal diseases; Traumatology, orthopedics; Urology;	

* 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 2 credits (72 academic hours).

Type of academic activities	Total academic hours		Semesters/training modules	
			11	12
Contact work, ac.c.	*66*		*34*	*32*
Lectures (**LC**)	0		0	0
Laboratory work (**LW**)	66		34	32
Seminar (**S**)	0		0	0
Self-studies	*60*		*29*	*31*
Evaluation and assessment (exam/passing/failing grade)	*18*		*9*	*9*
Total workload of the discipline	**ac.ch.**	***144***	*72*	*72*
	credit units	***4***	*2*	*2*

5. COURSE CONTENTS

Table 5.1. Course contents and academic activities types

Course module title	Course module contents (topics)	Academic activities types
Section 1 Modern state of development of emergency surgery in Russia and the world	1.1 History of emergency surgery and its connection with surgical and therapeutic specialties Basic stages of formation and development of emergency surgery. Development of concepts of purulent infection. Contribution of domestic and foreign scientists to the development of surgery of purulent diseases. Role of antiseptics and aseptics. Interdisciplinary connections of emergency surgery with clinical medical specialties.	**LW**

	1.2 Method of active surgical treatment of purulent wounds Concept of active surgical treatment of purulent wounds. Principles of surgical tactics in purulent infection. Indications for surgical treatment. Main stages of surgical treatment of purulent wounds. Methods of drainage and sanitation of purulent foci.	**LW**
	1.3 Features and principles of treatment of patients with wounds and surgical infections arising during natural and man-made disasters Features of traumatic injuries in emergency situations. Main types of wound infections. Principles of staged medical care for victims. Organization of surgical care in mass casualty situations.	**LW**
	1.4 Concept of surgical treatment of a purulent focus. Definition and objectives of surgical treatment of purulent focus. Main stages of surgical intervention. Methods of removing necrotic tissues. Principles of sanitation of purulent cavity and drainage.	**LW**
	1.5 Differences between surgical treatment of purulent focus and primary surgical treatment of wounds in traumatology. Preoperative management of patients Concept of primary surgical treatment of wounds. Indications for primary and secondary surgical treatment. Main differences in indications, technique and objectives of surgical intervention.	**LW**
	1.6 Selection of preparation for local treatment depending on the phase of wound process. Features of local treatment of burn wounds Phases of wound process. Principles of local wound treatment. Application of antiseptic, antibacterial and wound-healing preparations. Features of local treatment of burn wounds.	**LW**
Section 2 Provision of First Aid, Emergency and Urgent Medical Care at the Pre-Hospital Stage. Circulatory Arrest Basic CPR	2.1 Professional Standards and Qualification Requirements for Doctors of Various Specialties in Terms of Providing Emergency and Urgent Medical Care Legal and regulatory framework for providing emergency medical ca re. Professional competencies of medical workers. Basic requirement s for organizing medical care in emergency conditions.	**LW**
	2.2 Basic Cardiopulmonary Resuscitation and Automated External Defibrillation in Adults. BLS and AED Algorithm Concept of circulatory arrest. Basic cardiopulmonary resuscitation al gorithm. Compression technique of the chest and artificial respiration . Indications and procedure for using an automated external defibrilla tor.	**LW**
	2.3 Types of Circulatory Arrest (Asystole, Electromechanical Dissociation, Ventricular Fibrillation, Ventricular Tachycardia without Pulse) Classification of circulatory arrest types. Asystole, electromechanical dissociation, ventricular fibrillation, ventricular tachycardia without pulse. Basic principles of diagnosis and emergency care.	**LW**
	2.4 Techniques for Performing Basic and Advanced Resuscitation by One or Two Providers (Medical Workers) in Adults and Children Algorithms for basic and advanced cardiopulmonary resuscitation. Fe atures of performing resuscitation measures in adults and children. Or ganization of work of the resuscitation team.	**LW**
	2.5 Methods of Temporary Ensuring Airway Patency Causes of airway obstruction. Methods of restoring airway patency.	**LW**

	Use of airways, laryngeal masks, and other devices. Basics of trachea l intubation.	
	2.6 Simulation-Based Training in Clinical Scenarios Using Standard Medical Equipment and Improvised Means for Immobilization and Transportation Simulation of clinical situations in simulated environment. Practicing algorithms for providing first and emergency aid. Use of medical eq uipment and immobilization means. Organization of patient transport ation.	**LW**
Section 3 Reconstructive and Plastic Surgery in Purulent Surgery. Autodermoplasty. Wound Plastic Surgery Using Local Tissues	3.1 Classification of Reconstructive and Plastic Surgery Basic principles of reconstructive and plastic surgery. Classification of tissue restoration methods. Indications for reconstructive interventions.	**LW**
	3.2 Autodermoplasty: Types, Techniques, Indications Concept of autodermoplasty. Types of skin grafts. Indications and contraindications for surgery. Basic stages of surgical technique.	**LW**
	3.3 Wound Plastic Surgery Using Local Tissues: Types, Techniques, Indications Methods of plastic closure of wound defects using local tissues. Types of skin and musculocutaneous flaps. Features of surgical technique and indications for application.	**LW**
	3.4 Classification of flaps Main types of tissue flaps. Classification by blood supply type, tissue composition, and method of transfer.	**LW**
	3.5 Reconstructive and Plastic Surgery in the Treatment of Deep Pressure Ulcers Pathogenesis and stages of pressure ulcers. Indications for surgical tr eatment. Methods of plastic closure of soft tissue defects.	**LW**
	3.6 Microsurgical Transplantation of Tissue Complexes: Types, Techniques, Indications. Traumatic Injuries of Teeth and Maxillofacial Region Basics of microsurgery. Types of tissue complex transplantation. Indi cations for microsurgical techniques. Basic stages of surgery.	**LW**
Section 4 General Concepts in Disaster Medicine. Medical triage. Desmurgy	4.1 Problems and prospects for the development of disaster medicine. Types of care, medical triage of victims, medical evacuation of victims. Main objectives and organizational principles of disaster medicine. Structure of the system of medical care in emergency situations. Types of medical care provided to victims. The concept of medical triage, its goals, objectives, and principles. Classification of triage categories. Organization of medical evacuation of victims.	**LW**
	4.2 Medical evacuation support for victims in emergency situations. The concept of desmurgy. Concept of medical evacuation support. Staged provision of medical care. Organization of medical units in emergency situations. Basic concepts of desmurgy. Classification of dressings and rules for	**LW**

	applying dressings in various injuries.	
	4.3 Simulation-based training using clinical scenarios with standard medical equipment and improvised means for hemorrhage control. Simulation of clinical situations related to first aid. Training in algorithms for stopping external bleeding. Use of standard medical equipment and improvised means. Development of practical skills in applying tourniquets, pressure dressings, and other temporary bleeding control methods.	**LW**
Section 5 Potent and Toxic Substances	5.1 Basic concepts of toxicology. Subject and objectives of toxicology. Classification of toxic substances. Main mechanisms of toxic effects of chemical substances on the human body. Routes of entry of toxic substances into the body. Clinical manifestations of acute poisoning.	**LW**
	5.2 Organization of medical care for victims exposed to hazardous chemicals (at the site and outside the contaminated zone). Characteristics of hazardous chemicals. Features of injuries caused by toxic substances. Organization of medical care at the site of chemical contamination and during medical evacuation stages. Main measures for providing first aid and medical care to victims.	**LW**
Section 6 Pharmaceutical Safety	6.1 Concept of pharmaceutical and drug safety. Regulatory legal acts. Concept of pharmaceutical safety. Basic principles of safe handling of medicinal products. State regulation of drug circulation. Key regulatory legal documents governing pharmaceutical activities.	**LW**
	6.2 Features of medical waste disposal. Classes of medical waste and sorting. Concept of medical waste. Classification of medical waste. Requirements for collection, storage, transportation, and disposal of medical waste. Rules for waste segregation in healthcare institutions. Sanitary and epidemiological requirements for handling medical waste.	**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 coursestudy** (if necessary)

Lab-work	Classroom for conducting laboratory works, individual consultations, current control and intermediate certification, equipped with specialized furniture and equipment	Simulation class for conducting classes, group and individual consultations, current control and intermediate certification, equipped with mannequins, mats, Ambu bags, splints, stretchers, tourniquets, dressing materials, board (screen) and multimedia presentation equipment. Microsoft products (OS, office suite)
Seminar	Classroom for conducting seminar-type classes, group and individual consultations, current control and intermediate certification, equipped with specialized furniture and multimedia presentation equipment	Laboratory and diagnostic equipment of clinical bases of departments
Self-studies	Classroom for independent work of students (can be used for conducting seminar classes and consultations), equipped with specialized furniture and computers with access to EIOS	-

* - the classroom for independent work of students is **MANDATORY!**

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Reference readings:

1. Levchuk I. P., Tretyakov N. V. Disaster Medicine: Textbook. - Moscow: GEOTAR-Media, 2021. - 288 c. URL: https://lib.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=508150&idb=0

2. Burlakov A. A. Osnovy bezopasnosti zhiznedeyatel'nosti: uchebnoe posobiye [Fundamentals of life safety: a textbook]. - Electronic text data. - Moscow: GEOTAR-Media, 2023. - 176 c.
URL: https://lib.rudn.ru/MegaPro/UserEntry?Action=Link_FindDoc&id=508356&idb=0

Further reading:

1. Educational and methodological manual for ECG diagnostics of emergency conditions in children. Author: Professor of the Department of Emergency Conditions Borodina V.I. // DO portal,
Module of the Department of Emergency Conditions.

2. Emergency pediatrics protocols. Authors: staff of the Department of Emergency Conditions under the guidance of Doctor of Medical Sciences Borodina M.A. // Portal of DO, module of the Department
emergency conditions.

3. Methodical Recommendations of the European Resuscitation Council on
Basic and Advanced Life Support, 2015 (translated by the National Resuscitation Council, 2015, 2020).

4. Koshelev A. A. Disaster Medicine. Theory and Practice: Textbook / A. A. Koshelev. - 3rd ed., stereotype. - St. Petersburg. : Лань, 2016. - 320 p. - (Textbooks for universities. Special literature). - ISBN 978-5-8114-2091-9:550.00.54.5-K 76. 50 pcs.

5. Kavalersky G.M. Emergency Medicine. Surgery of Catastrophes [Text] Textbook / G.M. Kavalersky, A.V. Garkavy. - Moscow: Medical Information
Agency, 2015. - 376 p.: ill. - ISBN 978-5-9986-0235: 840.00. 54.58 - K 12 - 60 NIS

6. ERC Guideline, 2020, on the topics "Basic Life Support"; Extended Resuscitation Complex"
(«AdvancedCardiovascularLifeSupport»). www. erc.org

Resources of the information and telecommunication network "Internet":

1. RUDN University EBS and third-party EBS to which university students have access on the basis of concluded contracts
   - RUDN University Electronic Library System – RUDN University Electronic Library System
http://lib.rudn.ru/MegaPro/Web
   - Electronic Library "University Library Online" http://www.biblioclub.ru
   - EBS «Yurait» http://www.biblio-online.ru
   - EBS "Student Consultant" www.studentlibrary.ru
   - EBS "Troitsky Bridge"
2. Databases and search engines
   - Electronic fund of legal and regulatory and technical documentation
http://docs.cntd.ru/
   - Yandex search engine https://www.yandex.ru/
   - search system Google https://www.google.ru/
   - SCOPUS abstract database
http://www.elsevierscience.ru/products/scopus/

Educational and methodological materials for independent work of students in the mastering the discipline/module:*

1. A course of lectures on the discipline "Disaster Medicine".

* - all educational and methodological materials for independent work of students are posted in accordance with the current procedure on the discipline page **in TUIS!**

DEVELOPERS:

Associate professor, Department of		Paskhalova Yu. S.

Disaster Medicine		
position, deparment	signature	Name

Head of the Department:

of Disaster Medicine		Mitish V.A.
Department	signature	Name

HEAD OF THE HIGHER EDUCATION PROGRAM:

Deputy Director of Institute of Medicine for the field of studies General Medicine		N.V. Sturov
Position, department	signature	Name