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Khanty-Mansiysk Autonomous Okrug-Ugra  
 "Surgut State University"

Approved by  
 Deputy Rector for Academic Affairs  
 \_\_\_\_\_E.V. Konovalova  
 June 11, 2025, Record No. 5

### Disaster Medicine

#### Syllabus

Department	<b>Surgical diseases</b>
Curriculum	s310501-ЛечДелоИн-25-6.pli.xml
Specialty	31.05.01 General Medicine
Qualification	<b>General Practitioner</b>
Form of education	<b>Full-time</b>
Total (in credits)	<b>5</b>

Total academic hours	180	Control: Exam, 12 <sup>th</sup> term
including:		
Classes	72	
Self-study	71	
Control hours	27	

#### Course outline in terms

Academic year	11 (6.1)		12 (6.2)		Total	
(Term)						
Weeks	17 2/6		18 4/6			
Types of classes	Cur	Syl	Cur	Syl	Cur	Syl
Lectures	16	16			16	16
Practical	32	32	48	48	80	80
Interactive	8	8			8	8
Contact	48	48	48	48	96	96
Self-study	24	24	33	33	57	57
Control hours			27	27	27	27
Total	72	72	108	108	180	180

The Syllabus is compiled by:

*PhD, Associate Professor, Zorkin A.A.; Senior Lecturer, Amiragyan D.M.*

The Syllabus

**Disaster Medicine**

Developed in accordance with Federal State Educational Standard:

Federal State Educational Standard of higher education in the specialty 31.05.01 General medicine (Order of the Ministry of Education and Science of the Russian Federation on February 9, 2016 No. 95)

Based on the Curriculum:

31.05.01 GENERAL MEDICINE

Specialization: General Medicine

Approved by the Academic Council of Surgut State University, June 11, 2025, Record No. 5

The Syllabus was approved by the department

**Surgical diseases**

Head of Department, Doctor of Medicine, Professor Darwin V.V.

## 1. COURSE OBJECTIVES

The aim of the Disaster Medicine course is to foster a culture of safety, readiness, and the ability of graduates to work in emergency situations during both peacetime and wartime.

The objectives of mastering the course of Disaster Medicine are:

- to understand the risks caused by the impact of damaging factors in various types of emergency situations;
- to acquire theoretical knowledge about the nature and development of emergency situations, disasters, accidents, as well as the structural components of the Russian system of emergency prevention and response;
- to gain knowledge of the medical and sanitary provision system for the population in emergency situations and the ability to organize medical care for the population during such events;
- to develop readiness to participate in measures to protect the population and medical personnel during emergency situations;
- to develop the ability and readiness to organize medical and sanitary services for the population during the recovery phase of emergency situations;
- to develop the ability to provide reasoned justification for decisions made from a security perspective;
- to foster the motivation and independent decision-making skills of specialists in organizing medical and sanitary services during the recovery process after an emergency.

## 2. COURSE OVERVIEW

Course code (in curriculum)	B1.Б
<b>2.1</b>	<b>Assumed background</b>
2.1.1	Clinical practice (hospital physician assistant)
2.1.2	Life safety
2.1.3	Clinical practice aimed at acquiring professional skills and experience in medical activities (assistant ward nurse)
2.1.4	Clinical practice aimed at acquiring professional skills and experience in medical activities (assistant to the procedural nurse and paramedic).
2.1.5	Bioethics
2.1.6	General surgery, radiology
2.1.7	Educational clinical practice (care for a therapeutic patient, care for a surgical patient).
<b>2.2</b>	<b>Post-requisite courses and practice</b>
2.2.1	Anaesthesiology, Resuscitation, Intensive care
2.2.2	Clinical surgery

## 3. COMPETENCES UPON COMPLETION OF THE COURSE (MODULE)

**GCC-4: ability to act in non-standard situations, to take social and ethical responsibility for decisions**

**GCC-7 readiness to apply first aid and protection techniques in emergency**

**GPC-11: readiness to apply medical devices approved for medical procedures**

**PC-13: readiness to provide medical care in emergency, including medical evacuation**

**PC-19: ability to provide emergency medical care including medical evacuation**

**By the end of the course students must:**

<b>3.1</b>	<b>know:</b>
3.1.1	the basics of the legislation of the Russian Federation, and main regulatory and technical documents on the protection of the health of children, women and adults;
3.1.2	the basics of safety and regulatory legal documents on life safety of the population.
3.1.3	the main environmental factors affecting the livelihoods of the population;
3.1.4	the concept of national security of the Russian Federation.
3.1.5	goals and objectives of mobilization preparedness of healthcare.
3.1.6	regulatory and legal documents on mobilization preparedness of healthcare.
3.1.7	tasks and organizational structure of specialized health divisions.
3.1.8	tasks and organizational structure of the Russian Disaster Medicine Service.
3.1.9	medical forces and facilities designed to provide medical care to the affected population in emergency situations.
3.1.10	bases of organizing medical and evacuation measures in emergency situations.
3.1.11	the basics of providing various types of medical care to the affected population.
3.1.12	features of organizing medical care in emergency situations and during disasters in peacetime and wartime.

3.1.13	features of first aid and resuscitation of victims of road injuries, drowning, electrical injuries, strangulation asphyxia, and methods to restore the patency of the upper respiratory tract.
3.1.14	ways and means of protecting patients, medical personnel, and property of medical institutions in emergency situations.
3.1.15	the basics of organizing medical and psychological support for the population, healthcare workers, and rescue workers in emergency situations.
3.1.16	features of developing neuropsychiatric disorders among the population, medical personnel, and rescuers in emergency situations.
3.1.17	bases of organizing and conducting sanitary and anti-epidemic measures in emergency situations.
3.1.18	protection of the population in cases of deteriorating radiation environments and natural disasters.
3.1.19	goals, objectives, and basic concepts of toxicology and medical protection.
3.1.20	characteristics of chemical and radiation-affected areas.
3.1.21	the basis for assessing the chemical and radiation environment.
3.1.22	pathology, clinical picture, and treatment of affected areas exposed to toxic chemicals and ionizing radiation.
3.1.23	medical means of prevention and medical care for those affected by ionizing radiation, toxic, and biological agents.
3.1.24	the basics of organizing and implementing special treatment measures for the population and territory.
3.1.25	radiation damage resulting from external and internal exposure.
3.1.26	principles of organizing radiation and chemical reconnaissance, radiometric and dosimetric monitoring.
3.1.27	the tasks and organizational structure of medical forces and civil defense means; organization and methods of protection against the damaging factors of weapons of mass destruction.
3.1.28	medical forces and facilities intended to provide medical care to the affected population in wartime.
3.1.29	the order of interaction between medical divisions and institutions in the process of rectifying consequences in affected areas.
3.1.30	the basics of organizing medical and evacuation activities in wartime.
3.1.31	the basis for organizing medical supply units and institutions designed to eliminate the consequences of emergencies.
<b>3.2</b>	<b>be able to:</b>
3.2.1	select an individual type of assistance for treating a patient according to the situation: primary care, ambulance, hospitalization.
3.2.2	apply various methods of drug administration (using a syringe or tube), and make a preliminary diagnosis.
3.2.3	provide first aid in emergency situations, including first medical aid to victims in affected areas during emergencies.
3.2.4	perform their functional duties when working as part of divisions and institutions of the disaster medicine service.
3.2.5	carry out basic measures to protect the population, patients, medical personnel, and property from the damaging factors of various types of weapons and in emergency situations.
3.2.6	use medical protective means and equipment.
3.2.7	carry out sanitary hygienic and anti-epidemic measures in affected areas.
3.2.8	identify hazardous and harmful environmental factors affecting the safety of the population.
3.2.9	assess the chemical and radiation environment.
3.2.10	use medical and other property of divisions and institutions of the Disaster Medicine Service.

4. STRUCTURE AND CONTENTS OF THE COURSE (MODULE)							
Class Code	Topics /Class type	Term / Academic year	Academic hours	Competences	Literature	Inter active	Notes
1.	<b>Unit 1.</b> <b>Tasks, organizational structure and governing bodies of the Russian Disaster Medicine Service. /Lec/</b>	11	4	GCC-4 PC -19	L1.1		
1.1	Tasks, organizational structure and governing bodies of the Russian Disaster Medicine Service. /Practice/	11	8	GCC-4 PC -19	L1.1	1	
1.2	Tasks, organizational structure and governing bodies of the Russian Disaster Medicine Service. /Self-study/	11	6	GCC-4 PC -19	L1.1		
2.	<b>Unit 2.</b> <b>Fundamentals of medical and evacuation support of the population in emergency situations in peacetime and wartime. /Lec/</b>	11	4	GCC-4 GPC-11 PC -13 PC -19	L1.1		
2.1	Fundamentals of medical and evacuation support of the population in emergency situations in peacetime and wartime. /Practice/	11	8	GCC-4 GPC-11 PC -13 PC -19	L1.1	1	
2.2.	Fundamentals of medical and evacuation support of the population in emergency situations in peacetime and wartime. /Self-study/	11	6	GCC-4 GPC-11 PC -13 PC -19	L1.1		
3.	<b>Unit 3.</b> <b>Medical and sanitary provision of the population in response to the aftermath of emergencies of chemical and radiation origin./Lec/</b>	11	4	GCC-4 GCC-7 GPC-11 PC -13 PC -19	L1.1, L2.1, L3.1		
3.1	Medical and sanitary provision of the population in response to the aftermath of emergencies of chemical and radiation origin. /Practice/	11	8	GCC-4 GCC-7 GPC-11 PC -13 PC -19	L1.1, L2.1, L3.1	2	
3.2	Medical and sanitary provision of the population in response to the aftermath of emergencies of chemical and radiation origin./Self-study/	11	6	GCC-4 GCC-7 GPC-11 PC -13 PC -19	L1.1, L2.1, L3.1		
4.	<b>Unit 4.</b> <b>Medical and sanitary provision of the population during the rectification of emergency situations of natural and man-made origin. /Lec/</b>	11	4	GCC-7 GPC-11 PC -13 PC -19	L1.1, L2.1, L3.1		
4.1	Medical and sanitary provision of the population during the rectification of emergency situations of natural and man-made origin. /Practice/	11	8	GCC-7 GPC-11 PC -13 PC -19	L1.1, L2.1, L3.1	2	
4.2	Medical and sanitary provision of the population during the rectification of emergency situations of natural and man-made origin. /Self-study/	11	6	GCC-7 GPC-11 PC -13 PC -19	L1.1, L2.1, L3.1		
5.	<b>Unit 5.</b> <b>Sanitary and anti-epidemic measures in the process of rectifying emergency situations.</b>						

5.1	Sanitary and anti-epidemic measures in the process of rectifying emergency situations. /Practice/	12	12	GCC-7 GPC-11 PC -13 PC -19	L1.1, L2.1, L3.1	2	
5.2	Sanitary and anti-epidemic measures in the process of rectifying emergency situations. /Self-study/	12	17	GCC-7 GPC-11 PC -13 PC -19	L1.1, L2.1, L3.1		
6.	<b>Unit 6. Organization of medical supplies in emergency situations.</b>						
6.1	Organization of medical supplies in emergency situations. /Practice/	12	18	GCC-4 PC -13 PC -19	L1.1, L2.1, L3.1		
6.2	Organization of medical supplies in emergency situations. /Self-study/	12	16	GCC-4 PC -13 PC -19	L1.1, L2.1, L3.1		
7.	Final class/ Training in the simulation center. /Practice/	12	18	GCC-7 GPC-11	L1.1, L2.1, L3.1		
7.1	Final class/ Training in the simulation center. /Self-study/	12	0	GCC-7 GPC-11	L1.1, L2.1, L3.1		Control test
8.	Exam	12	27	GCC-4 GCC-7 GPC-11 PC -13 PC -19	L1.1, L2.1, L3.1		Exam

## 5. ASSESSMENT TOOLS

### 5.1. Assessment tools for midterm assessment

Presented by a single document

### 5.2. Assessment tools for diagnostic testing

Presented by a single document

## 6. COURSE (MODULE) RESOURCES

### 6.1. Recommended literature

#### 6.1.1. Core

	Authors	Title	Publisher, year	Quantity
L1.1	Garkavi A.V., Kavalersky G.M.	Disaster medicine	Moscow: GEOTAR-Media, 2019. Access: electronic resource	1

#### 6.1.2. Supplementary

	Authors	Title	Publisher, year	Quantity
L2.1	Levchuk I.P.	Life Safety in Medicine	Moscow: GEOTAR-Media, 2018. Access: electronic resource	1

#### 6.1.3. Methodical development

	Authors	Title	Publisher, year	Quantity
L3.1	I. P. Levchuk, M. V. Kostyuchenko, A. P. Nazarov	First Aid in Case of Accidents and Emergency Situations: course book	Moscow: GEOTAR-Media, 2017. Access: electronic resource	1

### 6.2. Internet resources

1. New England Journal of Medicine. <http://www.nejm.org/>
2. FREE MEDICAL JOURNALS. <http://www.freemedicaljournals.com/>

#### 6.3.1 Software

6.3.1.1	Microsoft Windows Operational System, Microsoft Office applied programs pack
6.3.1.2	Internet access (Wi-Fi)
<b>6.3.2 Information Referral systems</b>	
6.3.2.1	E-data bases: RGB, Orbicon, Medline.
6.3.2.2	Student Consultant <a href="http://www.studmedlib.ru">http://www.studmedlib.ru</a>

<b>7. MATERIAL AND TECHNICAL SUPPORT OF DISCIPLINE (MODULE)</b>	
7.1	Classroom: No. 539, equipped for lecture-type classes: a set of specialized classroom furniture, a marker (chalk) board. Number of seats - 64. Technical training aids for presenting educational information: a set (stationary/portable) of multimedia equipment - computer, projector, and projection screen. Software used: Microsoft Windows, and the Microsoft Office suite.
7.2	Classroom: designed for conducting seminar-type (practical) classes, group and individual consultations, ongoing monitoring, and midterm assessments; equipped with a set of specialized classroom furniture, a marker (chalk) board. Additionally, rooms intended for providing medical care to patients—including those related to medical interventions—are also used. These rooms are equipped with specialized equipment and/or medical products, such as a tonometer, stethoscope, phonendoscope, thermometer, medical scales, height meter, anti-shock kit, emergency and therapeutic kits, electrocardiograph, bactericidal irradiator, artificial lung ventilation apparatus, inhaler, portable pulse oximeter, automatic syringe drug dispenser, infusion pump, mobile resuscitation trolley, portable resuscitation kit, changing table, measuring tapes, spiograph, nebulizer, peak flow meter, equipment for maintaining vital body functions, tools, and consumables – sufficient quantities to enable students to acquire the necessary skills and competencies for professional activity. Number of seats: 12. Technical training aids for presenting educational information: multimedia projector, screen, computer. Software used: Microsoft Windows and the Microsoft Office suite. Software used: Microsoft Windows and the Microsoft Office suite.
7.3	Tables, posters, diagrams, drawings: Classification of bleeding. Approximate indicators of blood loss. Methods of stopping bleeding (No. 1–16) Methods and means of pain relief (local, regional, general anesthesia) (No. 1–25) Videos: Transport immobilization. Desmurgy. Methods of stopping bleeding. Burn disease. Emergency situations: life-threatening conditions, cardiopulmonary resuscitation. Anaerobic infection of soft tissues. Accident at a nuclear power plant. Flood zone scenarios. Tsunami. Earthquake. Chemical plant accident. Auditoriums of the MI simulation center: Equipped with mannequins and simulation equipment, laboratory instruments, and consumables in sufficient quantities. Equipment includes: Multimedia projector: BenQ. Mannequin MegaCodeKid (7-year-old child for resuscitation, with the possibility of defibrillation and cardiac stimulation). BabyAnn (newborn, foreign body in the larynx) Mannequin for practicing CPR skills: ResusciBaby Manikin for practicing practical CPR skills ResusciJunior Manikin NursingKid – (a 7-year-old child with modifiable physiology for practicing therapeutic and diagnostic procedures) Digital stethoscope manikin for heart and lung auscultation Z990 Digital auscultation simulator for heart and lung sounds UN/DGN-V Zoll defibrillator "Head for intubation" trainer Trainer for subcutaneous and intramuscular injections Trainer for intravenous injections Nursingkid, Nursingbaby trainers Sphygmomanometer, stethoscope Electrodes for electrocardiograph Ambu bag with set of face masks Oxygen mask Intubation kit Set of endotracheal tubes Infusion system Syringe set Cuffed catheters Fixation tape Simulators of medicinal drugs Suction device Laryngeal mask Conditions created for training people with disabilities Air compressor Vacuum aspirator Linenomat (airway management device) Mechanical ventilator Gastric tube Nasogastric tube Trainer for enema administration. Esmarch mug Dressing supplies Medical trays Medical furniture Library of laboratory and instrumental research results Roles for standardized patients

	Library of situational exercises Library of clinical scenarios Library of assessment sheets
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