

**MINISTRY OF EDUCATION OF THE REPUBLIC OF AZERBAIJAN  
KHAZAR UNIVERSITY**

**SCHOOL OF SCIENCE AND ENGINEERING  
DEPARTMENT OF LIFE SCIENCES**

**LIFE SCIENCE  
SYLLABUS**

Academic year and semester  
Fall 2026

**Agreed**

**Approved**

**Head of Department: PhD. Jamala Eldarova**

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| <b>General information</b>                            | Subject                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | MED 315 Life Science                                                                        |
|                                                       | Department                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Life Sciences                                                                               |
|                                                       | Program<br>(Undergraduate, Graduate)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Bachelor                                                                                    |
|                                                       | Term                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Fall 2026/2027                                                                              |
|                                                       | Instructor(s)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Sabina Mehdiyeva                                                                            |
|                                                       | E-mail:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | mora271976@gmail.com                                                                        |
|                                                       | Phone:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 051-352-44-78                                                                               |
|                                                       | Lecture room/Hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 408, 2a, Elshan Mehdiyev St. (Bakikhanov Campus),<br>Room _____<br>Lecture/Seminar session: |
| <b>Prerequisites</b>                                  | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                             |
| <b>Language of instruction</b>                        | English                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                             |
| <b>Course type<br/>(compulsory,<br/>elective)</b>     | Compulsory                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                             |
| <b>Textbooks and<br/>supplementary<br/>literature</b> | <p><b>Core textbooks:</b></p> <ol style="list-style-type: none"> <li>1. Betts, J.G., Young, K.A., Wise, J.A., et al. Anatomy and Physiology 2e. Houston, TX: OpenStax, Rice University, 2022.</li> <li>2. Haddow, G.D., Bullock, J.A., &amp; Coppola, D.P. Introduction to Emergency Management. 8th ed. Elsevier, 2024. ISBN 9780443237010.</li> <li>3. Ciottone, G.R. (Ed.). Ciottone's Disaster Medicine. 3rd ed. Elsevier, 2024. 1080 pp. ISBN 9780323809320.</li> <li>4. Austin, M., Crawford, R., Klaassen, B., et al. First Aid Manual: The Authorised Manual of St John Ambulance, St Andrew's First Aid and the British Red Cross. 11th ed. London: Dorling Kindersley, 2021. 296 pp.</li> <li>5. Kumar, V., Abbas, A.K., Aster, J.C., &amp; Deyrup, A.T. Robbins &amp; Kumar Basic Pathology. 11th ed. Elsevier, 2023. 840 pp.</li> <li>6. Goetsch, D.L. Occupational Safety and Health for Technologists, Engineers, and Managers. 10th ed. Pearson, 2023 (copyright 2024).</li> </ol> <p><b>Supplementary resources:</b></p> <ol style="list-style-type: none"> <li>1. World Health Organization &amp; International Committee of the Red Cross. Basic Emergency Care: Approach to the Acutely Ill and Injured. Geneva: WHO, 2018.</li> <li>2. World Health Organization. Mass Casualty Management Systems: Strategies and Guidelines for Building Health Sector Capacity. Geneva: WHO, 2007.</li> <li>3. U.S. Occupational Safety and Health Administration (OSHA). Emergency Preparedness and Response resources.</li> </ol> |                                                                                             |
| <b>Course description</b>                             | <p>This course covers issues related to human life safety, including fundamentals of medical knowledge, occupational safety, and civil defense.</p> <p><b>Fundamentals of medical knowledge</b></p> <p>This section addresses the medical foundations of life safety; normal human anatomy and physiology; first aid and patient care in emergencies, poisoning, and illness; general concepts of disease; diseases of major organ systems; pre-medical assistance and prevention; and medical support during accidents and disasters.</p> <p><b>Occupational safety</b></p> <p>This section covers general safety issues in the workplace, harmful and hazardous factors in the human living and working environment, safety procedures, and life safety during fires and explosions.</p> <p><b>Civil defense</b></p> <p>This section covers emergencies and their characteristics; assessment of emergency situations and population protection; operational resilience of facilities; communication and warning systems; organization of life safety; and public preparedness for protection from emergencies.</p>                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                             |

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| <b>Course objectives</b>                          | To provide students with knowledge of the anatomical and physiological characteristics of the human body and common diseases; occupational safety issues; civil-defense measures; principles of first aid medical activity in emergencies; and the organization and provision of first aid.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                             |                       |
| <b>Learning outcomes</b>                          | <b>By the end of the course, students should be able to:</b> <ol style="list-style-type: none"> <li>1. Explain the basic patterns of human growth and development.</li> <li>2. Describe the general concepts of health and disease.</li> <li>3. Explain the causes and course of selected typical pathological processes, including cell injury, disorders of microcirculation and peripheral circulation, inflammation, and fever.</li> <li>4. Describe the anatomical and physiological features of major organ systems, recognize common disorders, and explain appropriate first-aid measures.</li> <li>5. Explain how life safety is ensured in workplaces and identify factors that may endanger people.</li> <li>6. Describe the investigation of occupational accidents.</li> <li>7. Classify emergencies and explain their causes.</li> <li>8. Describe emergency warning types and means, and methods used to communicate emergency behavior rules to the population.</li> <li>9. Explain the principles and methods of population protection in emergencies and provide basic first aid to injured persons.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |                       |
| <b>Teaching methods</b>                           | Practical sessions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                             | X                     |
|                                                   | Group discussion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             | X                     |
|                                                   | Practical assignments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                             | X                     |
|                                                   | Case analysis                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                             | X                     |
| Assessment                                        | <b>Components</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Date/Deadline</b>        | <b>Percentage (%)</b> |
|                                                   | Quizzes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 4 times during the semester | 10                    |
|                                                   | Practical Assignments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | During the semester         | 10                    |
|                                                   | Activity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | At the end of the semester  | 5                     |
|                                                   | Attendance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Every class                 | 5                     |
|                                                   | Midterm examination                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | TBA                         | 30                    |
|                                                   | Final examination                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | TBA                         | 40                    |
|                                                   | <b>Total</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                             | 100                   |
| <b>Policies<br/>(Teaching policy and conduct)</b> | <b>Course organization</b><br>General course information will be presented during lectures. During practical sessions, new topics will be discussed in greater detail using relevant visual materials, and students will develop practical skills. In each practical class, students will be asked questions related to the previous topic, and their participation will be assessed cumulatively at the end of the semester. Students' level of learning will be checked through quizzes before the midterm and final examinations. At the beginning of the semester, presentation topics from different sections of the course will be assigned. Students are expected to present their prepared presentations during the relevant classes.<br><b>Generative Artificial Intelligence (GenAI) Usage Policy</b><br>In accordance with Khazar University's Rules for the Use of Generative Artificial Intelligence, partial use of GenAI is permitted in this course. Permitted tasks/stages and purposes are as follows: <ol style="list-style-type: none"> <li>1. Students may use GenAI tools to plan the structure of presentations, organize sections in a logical sequence, and improve the overall design.</li> <li>2. GenAI may be used as a supporting tool to enrich the main text of a presentation, generate additional ideas related to the topic, and consider different approaches.</li> <li>3. However, the final content, key ideas, conclusions, and interpretations of the presentation must reflect the student's own knowledge, analysis, and critical thinking.</li> <li>4. Students may use GenAI as a supportive learning tool when preparing for quizzes, the midterm, and the final examination, including for topic explanations, review, generation of sample questions, and practice tests.</li> <li>5. The use of GenAI tools is prohibited while completing quizzes, midterm and final examinations, and other in-class assessment tasks.</li> </ol> |                             |                       |

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|  | <p>6. Whenever GenAI is used, the student must clearly disclose the tool used and the purpose for which it was used in the submitted work.</p> <p>7. Students are responsible for verifying the accuracy and reliability of information obtained through GenAI and for ensuring that the final work complies with academic integrity requirements.</p> <p><b>Declaration example:</b><br/> <i>"In preparing this work, [name and version of the GenAI tool] was used for [purpose]. All ideas, arguments, and conclusions were independently formulated by the author."</i></p> <p><b>General rules</b></p> <p><b>Attendance</b><br/> Attendance at all classes is important. Students who miss classes for valid reasons (illness, family circumstances, etc.) must submit relevant information to the faculty dean's office. Students who miss more than 25% of classes will not be admitted to the examination.</p> <p><b>Late arrival</b><br/> Students who arrive more than 10 minutes late will be marked absent, but they will still be allowed to enter the classroom and attend the lesson.</p> <p><b>Quiz</b><br/> A student who misses a quiz for a reason reported in advance to the instructor and dean's office may take the quiz the following week.</p> <p><b>Examinations</b><br/> The faculty administration resolves all issues related to examination attendance or absence. Absence from an examination is permitted only with authorization from the dean's office. Absence from examinations due to public activities is not allowed. Examinations are cumulative. The scope of the midterm and final examinations is communicated to students in advance. Most questions on the final examination are based on material covered after the midterm examination.</p> <p><b>Course completion</b><br/> A student who earns 60% or more is considered to have completed the course. Otherwise, the student must retake the course.</p> <p><b>Violations of examination rules</b><br/> If examination rules are violated (attempted cheating, cheating, disruption of the examination process, or other unauthorized actions), the student's examination paper will be invalidated.</p> <p><b>Classroom conduct</b><br/> Students must contribute to an appropriate academic environment during class. Unauthorized talking, unnecessary movement, and other inappropriate behavior are not permitted. Students should participate actively, ask questions when necessary, and engage in discussions.</p> <p><b>The use of mobile phones and other electronic devices during class is strictly prohibited unless specifically authorized for an instructional activity.</b></p> |
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### Tentative Schedule

| Week | Planned date | Topics                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Textbook / Assignments                                                                                                                                   |
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| 1.   | Week I       | <p><b>Civil Defense</b><br/> <b>Concept of civil defense. Emergencies and their characteristics.</b><br/> Characteristics and consequences of natural and technological emergencies that may occur in the Republic of Azerbaijan. Characteristics of military-related emergencies. Causes of nuclear explosions; damaging effects on living organisms and destructive effects on buildings and structures. Thermal/light radiation and the resulting fire hazards.</p> | <p><i>Core textbooks: [2, 3]</i><br/> [2] Ch. 1, pp. 1–38; Ch. 2, pp. 39–112; Ch. 9, pp. 555–626.<br/> [3] Ch. 75, pp. 473–480; Ch. 79, pp. 492–497.</p> |

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| 2. | Week II  | Radioactive contamination zones and their consequences; effects of ionizing radiation on the human body, instruments, and equipment. Chemical contamination zones and their characteristics. Toxic and highly hazardous substances and their effects on the human body. Biological contamination zones, their characteristics and effects on humans, and the use of quarantine and observation regimes.                                                                                                                                                                                                                                                                                                                                                                                     | <i>Core textbook: [3]</i><br>Ch. 79, pp. 492–497; Ch. 81, pp. 502–510; Ch. 82, pp. 511–519; Ch. 85, pp. 537–544; Ch. 86, pp. 545–550.                                  |
| 3. | Week III | <b>Assessment of the situation during emergencies.</b><br>General concepts of radiological, chemical, and fire situations; reconnaissance related to these situations; assessment of the actual situation based on reconnaissance data; forecasting and assessment of probable conditions. General information on nuclear explosions and radiation levels.                                                                                                                                                                                                                                                                                                                                                                                                                                  | <i>Core textbooks: [2, 3]</i><br>[2] Ch. 2, pp. 39–112; Ch. 4, pp. 189–252.<br>[3] Ch. 25, pp. 147–156; Ch. 42, pp. 281–289; Ch. 43, pp. 290–294.                      |
| 4. | Week IV  | Radioactive contamination; determination of radiation dose and persistence of toxic substances in contaminated zones; determination of safe duration of stay. Determining the duration of work and the time that workers, employees, the public, and emergency teams may remain in protective equipment. Assessment of the resistance of facilities and equipment in contaminated areas. Introduction to radiological and chemical reconnaissance. Dosimetric instruments: classification, main characteristics, and use. Chemical detection devices used by medical services: purpose and structure.                                                                                                                                                                                       | <i>Core textbooks: [3, 6]</i><br>[3] Ch. 49, pp. 323–329; Ch. 79, pp. 492–497; Ch. 81, pp. 502–510; Ch. 86, pp. 545–550.<br>[6] Ch. 21 (Radiation Hazards).            |
| 5. | Week V   | <b>Protection of the population during emergencies.</b><br>Role and forces of Civil Defense in emergencies, their duties and organization. The state emergency management system and its principal tasks. Basic principles and methods of population protection. Civil-defense protective structures: purpose and classification. Shelters: space planning, structural and engineering equipment, and operating modes. Simple shelters and radiation-protection shelters and ways to improve their protective capacity. Maintenance and peacetime use of protective structures. Personal and medical protective equipment in emergencies: classification and rules of use. Protective operating regimes for facilities and the population; organization of dosimetric and chemical control. | <i>Core textbooks: [2, 3]</i><br>[2] Ch. 3, pp. 113–188; Ch. 4, pp. 189–252; Ch. 6, pp. 317–418.<br>[3] Ch. 34, pp. 215–230; Ch. 41, pp. 275–280; Ch. 49, pp. 323–329. |
| 6. | Week VI  | <b>Operational resilience of facilities during emergencies (with discipline-specific application).</b><br>Concept and meaning of operational resilience; influencing factors and assessment of resilience. Standards used in planning civil-defense engineering and technical measures and their implementation. Methods for improving the operational capacity of facilities during emergencies. (Quiz)                                                                                                                                                                                                                                                                                                                                                                                    | <i>Core textbooks: [2, 6]</i><br>[2] Ch. 3, pp. 113–188; Ch. 7, pp. 419–494.<br>[6] Ch. 25; Ch. 27; Ch. 31.                                                            |
| 7. | Week VII | <b>Elimination of the consequences of emergencies (with discipline-specific application).</b><br>Theoretical foundations of consequence management; types of recovery work; sequence, priority, and stages of operations. Forces and resources involved in emergency consequence management. Purpose, composition, and features of rescue and other urgent operations. Tactical methods of rescue and urgent operations; grouping of forces and resources for eliminating the consequences of industrial accidents and disasters. Support of civil-defense units during                                                                                                                                                                                                                     | <i>Core textbooks: [2, 3]</i><br>[2] Ch. 6, pp. 317–418; Ch. 7, pp. 419–494.<br>[3] Ch. 44, pp. 295–301; Ch. 55, pp. 359–363; Ch. 63, pp. 410–414.                     |

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|                     |           | natural disasters and industrial accidents; protection and decontamination of food and industrial goods; moral and psychological preparedness for rescue and urgent operations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                       |
| 8.                  | Week VIII | <b>Communication and warning in emergencies and organization of life safety. Organization of communication and warning systems at facilities and in cities.</b><br>Emergency management and command posts: purpose and location. Types of management; communication and warning systems in civil defense; their functions, organizational principles, and warning/communication tools.                                                                                                                                                                                                                                                                                          | <i>Core textbooks: [2, 3]</i><br>[2] Ch. 5, pp. 253–315;<br>Ch. 6, pp. 317–418.<br>[3] Ch. 41, pp. 275–280;<br>Ch. 45, pp. 302–306.                                                   |
| <b>Midterm exam</b> |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                       |
| 9.                  | Week IX   | Procedures for issuing warning signals; organization and planning for the population, management bodies, and response forces; principles, methods, and forms of training.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <i>Core textbooks: [2, 3]</i><br>[2] Ch. 4, pp. 189–252;<br>Ch. 5, pp. 253–315.<br>[3] Ch. 34, pp. 215–230;<br>Ch. 45, pp. 302–306; Ch. 64, pp. 415–420.                              |
| 10.                 | Week X    | <b>Public preparedness for protection against emergencies.</b><br>Public education for emergency protection as one of the main tasks of civil defense. Preparedness of management bodies and response forces for emergencies. Organization, planning, and delivery of civil-defense education for employed and non-employed populations. Preparation of facility-level civil-defense training plans, orders of the facility civil-defense leader, and annual calendars of civil-defense activities.                                                                                                                                                                             | <i>Core textbooks: [2, 3]</i><br>[2] Ch. 4, pp. 189–252.<br>[3] Ch. 28, pp. 167–170;<br>Ch. 34, pp. 215–230; Ch. 64, pp. 415–420.                                                     |
| 11.                 | Week XI   | <b>Fundamentals of Medical Knowledge</b><br><b>The Life Science course (life safety and fundamentals of medical knowledge) and its objectives.</b><br>Adaptation of the human body to different conditions; environmental factors and their effects on the human body. Concepts of health and disease. Selected typical pathological processes (cell injury and inflammation). Fundamentals of epidemiology. Disinfection, disinsection, and deratization. Medical support for the population and organization of medical services in emergencies. First aid and its organization. First aid for heatstroke.<br><b>Anatomical and physiological foundations of medical aid.</b> | <i>Core textbooks: [1, 3, 4, 5]</i><br>[1] Ch. 1, 3–4.<br>[5] Ch. 1–3.<br>[3] Ch. 2, pp. 6–11; Ch. 3, pp. 12–18; Ch. 59, pp. 388–392.<br>[4] Sections 1–3 and 8 (heatstroke, p. 185). |
| 12.                 | Week XII  | <b>Anatomical and physiological foundations of medical aid.</b><br>Structural and functional characteristics of human cells and tissues. Blood and lymphatic systems. Blood groups and Rh factor. Blood donation and blood preparation. Blood coagulation. Classification of bleeding. Morphological and functional characteristics and common disorders of the respiratory, digestive, musculoskeletal, cardiovascular, nervous, sensory, and endocrine systems. Body temperature, pulse, and arterial blood pressure: measurement and evaluation.                                                                                                                             | <i>Core textbooks: [1, 5]</i><br>[1] Ch. 3–4, 6–13, 17–23, 25.<br>[5] Ch. 8–13, 18–21.                                                                                                |

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| 13.               | Week XIII | <p><b>Assistance to injured persons in emergencies and medicines used.</b><br/>Soft-tissue contusions; sprains and tears of ligaments, tendons, and muscles; dislocations and fractures; first aid and immobilization/splinting. First aid for myocardial infarction, acute cardiac failure (cardiac asthma, pulmonary edema), and acute vascular insufficiency (syncope, collapse). Closed-chest cardiac massage/CPR. Principles of topical, subcutaneous, intramuscular, and intravenous administration. Closed and open injuries. Traumatic shock. Overview of medicines affecting cardiac function, vasodilators and antispasmodics, agents affecting blood coagulation, and antimicrobial agents. (Quiz)</p>                                                                                                                                                                                                                    | <p><i>Core textbooks: [1, 4, 5]</i><br/>[4] Sections 4, 6–7, 10–11; wounds/bleeding pp. 106–129; bone, joint and muscle injuries pp. 130–167; medical conditions from p. 208.<br/>[5] Ch. 3, 8–9, 19–20.</p>                                                                                   |
| 14.               | Week XIV  | <p><b>Pre-medical first aid and general patient care for poisoning and illness in emergencies. First aid for infectious diseases in biological contamination zones. Medical aid during accidents and disasters.</b><br/>Drowning and its types. First aid for mechanical asphyxia. Rescue of drowning persons and first aid. Artificial respiration. Intestinal infections. Viral hepatitis. Organization of first aid in acute poisoning and food poisoning. Concept of the “acute abdomen”; acute peritonitis: signs and first aid. Tetanus and gas gangrene. Burns, frostbite, and electrical injuries: first aid. Wounds. Surgical infection, antisepsis and asepsis. Desmurgy/bandaging. Urine quantity, composition, and properties. Catheterization.</p>                                                                                                                                                                      | <p><i>Core textbooks: [3, 4, 5]</i><br/>[4] Respiratory problems pp. 88–104 (drowning p. 100); wounds and bleeding pp. 106–129; heat/cold injuries pp. 168–189; poisoning, bites and stings pp. 190–207; medical conditions from p. 208.<br/>[3] Ch. 59, pp. 388–392; Ch. 60, pp. 393–398.</p> |
| 15.               | Week XV   | <p><b>Occupational Safety</b><br/><b>General issues of life safety in the workplace.</b><br/>Forms of human activity, the concept of hazard, and the role of preventive measures in ensuring safe work.<br/><b>Negative factors in the human living and working environment.</b><br/>Microclimatic/meteorological parameters and their effects on the human body; protective measures; instruments used to measure harmful environmental parameters; comfortable working conditions.<br/><b>Safety procedures and life safety, including electrical safety and safe operation of technological equipment.</b><br/>Role of reliability and strength of installations, devices, and equipment in safety. Personal protective clothing and equipment and their role in safety.<br/><b>Fire and explosion hazards and life safety. Investigation of the presence of flammable and combustible substances in rooms and buildings.</b></p> | <p><i>Core textbook: [6]</i><br/>Ch. 2, 8, 14–25, 27.</p>                                                                                                                                                                                                                                      |
| <b>Final exam</b> |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                |

This syllabus provides complete information about the course. Students will be notified in advance of any changes.