

**Odessa National Medical University**

**Faculty of Dentistry**

**Department anesthesiology, intensive care medicine and emergency conditions**

**Silabus of the course  
"Emergency and emergency medical care "**

<b>Amount</b>	106 hours (3 , 5 credits)
<b>Semester, year of study</b>	IX - X semesters, 5 years of study
<b>Days, time, place</b>	The discipline is conducted according to the approved schedule Clinical bases of the department - Odessa Regional Clinical Hospital, Odessa Clinical Hospital № 11 , Odessa Regional Children's Clinical Hospital , Center for Reconstructive and Reconstructive Medicine (University Clinic)
<b>Teacher (s)</b>	Candidate of Medical Sciences , Associate Professor Igor Leontiyovich Basenko Candidate of Medical Sciences , Associate Professor Kirpichnikova Kateryna Petrovna Candidate of Medical Sciences , Associate Professor Salekh Olena Mykolayivna Candidate of Medical Sciences , Associate Professor Mykola Petrovich Yuzvak Candidate of Medical Sciences , Assistant Hrychushenko Inna Serhiivna Candidate of Medical Sciences , Assistant Ivan Valeryevich Tverdovsky Assistant Didenko Yevhen Borysovych Assistant Hrushevskaya Anna Alexandrovna Assistant Sukhonos Roman Yevhenovych Assistant Potapchuk Yuriy Oleksandrovych Assistant Danilova Anna Alexandrovna Assistant Suslov Alexander Sergeevich Assistant Volodych is in Denis S. Assistant Bugaenko Eugene Petrovich Assistant Beglyarov Alexander Alexandrovich
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<b>Working space</b>	Odessa Regional Clinical Hospital, Odessa Clinical Hospital № 11 , Odessa Regional Children's Clinical Hospital , Center for Reconstructive and Reconstructive Medicine (University Clinic)
<b>Consultations</b>	The schedule of consultations is posted on the website of the department Online consultations are conducted using the platform M s Teams , Zoom

## COMMUNICATION

Depending on the form of study (distance or classroom) communication with students will be carried out using E-mail , social networks, telephone, face-to-face meetings

## COURSE ANNOTATION

### Description of the discipline

**The subject of** study of the discipline "Emergency and emergency medical care" is: the organization and provision of medical care for mass injuries in emergencies ; organization of ambulance and emergency medical care in Ukraine ; procedure for emergency assistance and ambulatormom taking a dentist ; emergencies in obstetrics and gynecology, pediatrics; acute poisoning ; emergencies in pathology of the cardiovascular system; comatose states ; emergency care for complications of local anesthesia.

## **Interdisciplinary connections**

" Emergency and emergency medical care " as a discipline:

a) based on students' study of preclinical disciplines: human anatomy, physiology, pathomorphology, pathophysiology, pharmacology, etc. and a number of clinical disciplines - therapeutic and surgical dentistry, internal medicine, pediatrics, clinical pharmacology, emergency medicine and integrates with these disciplines;

b) lays the foundations of theoretical knowledge and practical skills in organizing and conducting medical evacuation, sanitary and anti-epidemic measures and the provision of emergency medical care in critical conditions, including emergencies, the formation of skills and practical skills in the process of further training and professional activity of a dentist.

## **The purpose and objectives of the discipline**

The purpose of teaching the discipline "Emergency and emergency medical care" is to master the skills of organizing and planning medical care in emergencies in peacetime, defining the basic principles of assessing the medical consequences of emergencies of man-made and natural nature, defining the basic provisions of regulations determine the organization and functioning of the State Disaster Medicine Service, determine the content and basic principles of the organization of medical and evacuation support of the population in emergency situations, mastering the skills of first aid and first aid.

**The main objectives of the study thesis subject matter " Emergency and urgent medical care "are:**

1. To master the organization and provision of medical care in case of mass casualties in emergency situations.
2. To master the organization of ambulance and emergency medical care in Ukraine.
3. Know the procedure for providing emergency medical care at an outpatient dentist.
4. Master the stages of cardiopulmonary and cerebral resuscitation.
5. Demonstrate the technique of maintaining airway patency, artificial lung ventilation and closed heart massage, electrical defibrillation.
6. Master the basics of pathogenesis, diagnosis and intensive care of emergencies in pathology of the cardiovascular system.
7. Learn the basics of pathogenesis, diagnosis and intensive care of comatose states.
8. Assimilate the pathogenesis, diagnosis and intensive care of emergencies in neurological, psychiatric, endocrine pathologies, in pathology of the respiratory organs and abdominal cavity.
9. Be able to assess the severity of the patient's condition with trauma, plan tactics for providing care to patients with combined injuries .
10. To learn the principles of assessment of severity , monitoring and

providing care to patients with traumatic brain injury, thoracic and skeletal injuries.

11. Know emergency care for traumatic and hemorrhagic shocks.

12. Know and demonstrate understanding of the etiology and pathogenesis of critical conditions associated with allergic reactions. Demonstrate the ability to provide urgent care for a patient with anaphylactic shock.

13. Master the pathogenesis, diagnosis and intensive care of emergencies in acute poisoning.

14. Master the pathogenesis, diagnosis and intensive care of emergencies in obstetrics and gynecology.

15. Know and demonstrate understanding of the etiology and pathogenesis of critical conditions in pediatrics. Master the principles of intensive care.

The discipline provides students with the acquisition of **competencies**:

➤·*integrated* :

the ability to solve common and complex specialized tasks and problems in the field of health for the specialty " Dentistry " in professional activities or in the process of learning , which involves carrying out studies and / or implementation of innovation and characterized by complexity and uncertainty of the conditions and requirements ;

➤·*general* :

1. ability to abstract thinking , analysis and synthesis

knowledge and understanding of the subject area , understanding of professional activity ;

2. ability to apply knowledge in practical activities ;

3. ability to communicate in the state language both orally and in writing ;

4. ability to communicate in English ;

5. skills of using information and communication technologies ;

6. ability to search, process and analyze information from various source

7. ability to adapt and act in a new situation ;

8. ability to identify , pose and solve problems ;

9. ability to be critical and self-critical ;

10. ability to work in a team ;

11. the desire to preserve the environment ;

12. ability to act socially responsibly and consciously ;

13. ability to act socially responsibly and consciously;

14. the ability to exercise their rights and responsibilities as a member of society, to realize the values of civil (free democratic) society and the need for its sustainable development, the rule of law, human and civil rights and freedoms in Ukraine;

15. ability to preserve and increase moral, cultural, scientific values and achievements of society based on understanding the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology and technology, use different types and forms of motor activities for active recreation and a healthy lifestyle.

➤ *special (professional , subject ):*

1. the ability to collect medical information about the patient and analyze clinical data;
2. ability to interpret the result of laboratory and instrumental research;
3. ability to diagnose: determine the preliminary, clinical, final, concomitant diagnosis, emergencies;
4. ability to perform medical manipulations;
5. ability to organize and conduct medical and evacuation measures;
6. ability to determine tactics, methods and provide emergency medical care;
7. ability to maintain regulatory medical records;
8. processing of state, social and medical information;
9. ability to provide legal support for one's own professional activity;
10. ability to provide home care according to the protocols of tactical medicine.

Detailing of competence and according to NQF descriptors in the form of " Competence Matrix ".

**Learning outcomes :**

***Integrative final program learning outcomes , the formation of which is facilitated by the discipline :***

- to diagnose emergencies under any circumstances (at home, on the street, in a medical institution), in an emergency, martial law, lack of information and limited time;
- to organize medical and evacuation measures among the population, servicemen, in the conditions of an emergency situation , including martial law, during the detailed stages of medical evacuation, taking into account the existing system of medical and evacuation support;
- determine the tactics of emergency medical care, using the recommended algorithms, under any circumstances on the basis of a diagnosis of emergency in a limited time;
- perform emergency medical care manipulations using standard schemes, under any circumstances based on a diagnosis of emergency in a limited time

**Learning outcomes for the discipline :**

**Know:**

Diagnosis, treatment tactics and emergency medical care in accordance with existing protocols for emergency medicine:

1. asphyxia
2. hypertensive crisis
3. acute respiratory failure
4. acute heart failure
5. acute poisoning
6. "acute abdomen"
7. electric shock

8. fainting
  9. external , internal bleeding
  10. cessation of blood circulation and respiration
  11. collapse
  12. coma
  13. burns and frostbite
  14. drowning
  15. shocks
  16. convulsions
  17. physiological childbirth
  18. bone injury
  19. laryngeal edema, Quincke's edema
  20. complications of local anesthesia
21. Urgent medical care at an outpatient dentist. In the program included emergency conditions , which require the implementation of appropriate protocol of medical emergency states :

***Be able to :***

1. Revision and cleaning of the oral cavity by manual and hardware methods. Use of an oropharyngeal tube, ventilation of the patient through a mask with use of the manual device for artificial ventilation of lungs (Ambu), supply of oxygen.
2. The use of the nasopharyngeal tube. Indications and technique of intubation of the patient.
3. The use of alternative methods to ensure airway patency with a laryngeal mask, laryngeal tube, combi tube .
4. Heimlich's reception .
5. Fixing the tongue.
6. Diagnosis of sudden death.
7. Classification and assessment of heart rate.
8. Technology of cardiopulmonary resuscitation in ventricular fibrillation, ventricular tachycardia, pulseless electrical activity, asystole. Diagnosis of causes of cardiac arrest that can be eliminated.
9. Technique of express registration of electrocardiogram during resuscitation.
10. Defibrillation technique.
11. Technique of indirect heart massage.
12. Implementation of temporary cessation of external bleeding.
13. Gastric lavage, intestines.
14. Carrying out injections of medicinal substances ( intravenous, intravenous jet and drip, intravenous).
15. Measurement of blood pressure.
16. Ventilation of the child's lungs with a breathing bag.
17. Indirect heart massage in children.

## 18. Assessment of the condition of the newborn on the Apgar scale .

### COURSE DESCRIPTION

#### *Forms and methods of teaching*

The course will be presented in the form of lectures (12 hours) and seminars (\_\_\_\_\_ hours) / practical (24 hours) / laboratory classes (\_\_\_\_\_ hours), organization of independent work of students (70 hours).

**Types of educational activities of students according to the curriculum are:** lectures, practical classes, independent work (IW) with active consultation of the teacher.

#### **Content, scope and structure of the discipline "Emergency and emergency medical care "**

#### **Thematic plan of lectures**

1. Organization and provision of medical care for mass casualties in emergencies .
2. Organization of ambulance and emergency medical care in Ukraine .
3. The procedure for providing emergency medical care at an outpatient dentist .
4. Emergencies in obstetrics and gynecology .
5. Emergencies in pediatrics .

#### **Thematic plan of practical classes**

1. Cardiopulmonary resuscitation .
2. Emergencies in pathology of the cardiovascular system .
3. Comatose states and emergencies in neurological pathology .
4. Emergencies in respiratory pathology .
5. Emergency care for complications of local (injection) anesthesia .
6. Emergencies in acute poisoning
7. Emergencies in obstetrics .
8. Emergencies in pediatrics .
9. Differential credit: control of theoretical training, IW, practical training

#### *List of recommended reading*

##### **Basic literature**

1. Morgan JE, Mikhail MS Clinical anesthesiology. McGraw-Hill Education| Medical ; 6 th Edition, 2018
2. Paul G.Barash, Bruce F. Cullen Clinical anesthesia. LWW; 8 th Edition, 2017
3. Advanced Trauma Life Support Student Course Manual. Copyrightc 2018 American College of Surgeons 633 N. Saint Clair Street Chicago, IL 60611-3211

## **Additional literature**

1. Jean- Louis Vincen, Edward Abraham Textbook of critical care. Elsevier; 7 th Edition, 2017
2. Edward Scarth Drugs in anesthesia and intensive care. 5 th Revised Edition, 2016
3. Joseph Parrillo R. Phillip Dellinger. Critical Care Medicine: 5th Edition, 2019

## **Information resources :**

1. <https://moz.gov.ua/> - Ministry of Health of Ukraine , medical register technological documents
2. <http://www.nbuu.gov.Ua/> - National Library of Ukraine named after VI Vernadsky
3. <http://www.euroanesthesia.org> - European Association of Anesthesiologists
4. <http://www.esicm.org>
5. <https://www.cochrane.org> - Cochrane - Library: Cochrane Reviews Kokreynivska Database of Systematic Reviews
6. <http://www.nlm.nih.gov/> US National Library of Medicine (NLM) and Resources for Researchers / Biomedical Literature
7. [https://www.ncbi.nlm.nih.gov-](https://www.ncbi.nlm.nih.gov/) NCBI- National Center for Biotechnology Information
8. <http://www.pubmed.gov> I PubMed is an electronic database of medical and biological publications
9. <http://www.library.gov.ua/> National Scientific Medical Library of Ukraine
10. <http://testcentr.org.ua/> Testing center of the Ministry of Health of Ukraine
11. [www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov) . com / English text database of medical and biological publications
12. <https://emedicine.medscape.com/> English-language web resource for physicians and other professional health care .

## **EVALUATION**

**Control methods** . Tests of initial and final level of knowledge on the topic of practical training . Oral answer to standardized questions on the material of the current topic, previous topics and lecture material . Solving typical and atypical clinical situational problems.

Control of practical skills . Monitoring the activity of the student during a work in small groups. The ultimate is the average score for all kinds of activities the student during the practical sessions .

## **Forms of control.**

The grade for the discipline is determined on the basis of the sum of grades of current educational activity (arithmetic mean of current performance) and examination grade (traditional grade), which is set when assessing theoretical knowledge and practical skills according to the lists defined by the discipline program.

Current control is carried out in accordance with specific objectives during each of the practical classes and during independent work in the hospital department. For control it is recommended to use the following diagnostic tools for the level of preparation of students: control of practical skills, theoretical training, solving situational problems.

The current assessment of students on relevant topics is carried out according to the traditional 4-point system (excellent, good, satisfactory, unsatisfactory). Assessment of the learning performance of all students is not required in every practical session. However, at least 50% of students must be interviewed in a practical lesson.

At the end of the course, the current performance is calculated as the average score of all grades received by the student on a traditional scale, rounded to two decimal places.

At the last practical lesson, the teacher is obliged to provide information to students about the results of their current academic performance and academic debt (if any), as well as when completing the curriculum in the discipline to fill in the student's record book.

Assimilation of topics of independent work of students, which is provided by the program, is checked during the differential test.

Upon completion of the study of the discipline is a differential test. Students who have completed the program "Emergency and Emergency Medical Care", have no academic debt, received at least 3.00 for current activities and passed a set of practical skills in the discipline according to the list are admitted to the differential test. The grade on the differential consists of the student's answer to 2 theoretical questions from the list of questions provided by the program of the discipline.

Differential credit is assessed on a 4-point (traditional) scale. The student has the right to retake current unsatisfactory grades only in order to achieve a minimum grade point average in the discipline. Reassignment of current unsatisfactory grades or positive grades to increase a student's rating is prohibited. The grade obtained for the answer in the differential test and the score of the average current performance during the study of the discipline is used to calculate the arithmetic mean, which is the overall grade for the discipline. In the student's record book the teacher enters the grade in the discipline on the traditional and 200-point scales.

### ***Independent work of students (IWS)***

#### **Types of independent work of students (IWS) and its control.**

1. Modern means of ensuring airway patency and artificial lung ventilation.

2. Emergencies in psychiatric pathology.
3. Emergencies in endocrine pathology.
4. Emergencies in pathology of the abdominal cavity.
5. Emergency care for traumatic injuries.
6. Urgent articles

### **Tasks for independent work :**

- *preparation for practical classes*
  - theoretical training
  - performance of test tasks
  - solving situational problems
  - Training on implementation of practical skills

## **COURSE POLICY**

The policy on deadlines and rearrangement, the policy on academic integrity, the policy on attendance and delays, mobile devices, behavior in the audience is in accordance with the "Regulations on the organization of the educational process by higher education students in ONMedU", 2019

### ***Deadline and recompilation policy:***

Rearrangement of modules occurs in the presence of valid reasons (for example, hospital).

### ***Academic Integrity Policy:***

Write-offs during testing and solving situational tasks are prohibited (including with the use of mobile devices).

### ***Attendance and lateness policy:***

Attendance at lectures and practical classes is mandatory, delays are not desirable. An important reason for absence from classes is an illness, which is confirmed by a certificate from a doctor (hospital).

### ***Mobile devices:***

Mobile devices are allowed to be used only during online testing and preparation of practical tasks during the lesson.

### ***Audience behavior:***

The course involves teamwork. The communication environment is friendly, creative, open to constructive criticism.

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